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Research Department

Recent Market Developments and Outlook
for Primary Commodities

Prepared by the Staff of the Commodities Division

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Summary

This paper provides an analysis of recent developments relating to the prices of non-oil primary commodities and an assessment of the near-term outlook. The recovery--which occurred after the 1981-82 recession--in the index of U.S. dollar prices of the 30 commodities under consideration in this paper ended in mid-1984. This recovery had reversed only part of the 25 percent decline experienced in 1981-82: prices in the first half of 1984 averaged some 15 percent below their 1980 level. In the second half of 1984 the index of U.S. dollar prices fell by 8 percent, followed by a further 5 percent decline in the first half of 1985. By mid-1985 the price declines brought the index below the trough reached in 1982. The decline, which accompanied the appreciation of the U.S. dollar through the first quarter of 1985, has continued in spite of the depreciation of the U.S. dollar which began in the second quarter of 1985. Since mid-1984 the index of real commodity prices (U.S. dollar commodity prices deflated by U.S. dollar unit values for manufactured exports) has shown a similar, albeit smaller, decline. In 1985, however, the index of real commodity prices has remained considerably above the level of 1982, though some 10 percent below the pre-recession level of 1980.

Several major factors are responsible for the erosion of commodity prices since mid-1984. On the demand side, the economic recovery in the industrial countries has decelerated significantly in 1985. In particular, the rate of increase in economic activity in the United States and Japan has declined and the recovery in European countries--which are relatively large importers of primary commodities--has remained weak. Inflation in the industrial countries has remained low in 1985 and in some countries has decelerated further. A decline in the price of petroleum occurred in the period; petroleum is not only an important component in the production and distribution of most goods and services, but also a major input in the production of synthetic substitutes for some primary commodities. Nevertheless, the substantial absolute decline in commodity prices beginning mid-1984 must be attributed more to supply factors than demand factors. The increases in total commodity production in 1984 (5.9 percent) and total commodity supply (production plus stocks) (3.9 percent) were the largest increases recorded in the indices computed for the period since the late 1960s; this situation resulted in excess supply for a number of commodities. Substantial increases in production, although lower in most cases than in 1984 are anticipated for 1985.

For 1985 as a whole, nominal commodity prices are estimated to fall by about 10 percent below their 1984 level and, because of a smaller decline in the price of manufactured exports, real prices in 1985 are also expected to fall. A modest increase in U.S. dollar commodity prices, of about 4 percent, is projected for 1986 on the basis of the slowdown in growth of commodity production and of continued growth in the economic activity in industrial countries. The increase in prices could be greater should the rate of inflation accelerate or the U.S. dollar depreciate. As manufactures prices in 1986 are projected to increase somewhat faster than commodity prices, real commodity prices may fall further.

The weakness in commodity prices since mid-1984 has been observed with respect to all four groups of commodities: food commodities, beverages, agricultural raw materials, and metals. The paper provides detailed information on developments concerning these commodity groups and the major commodities included in the groups.

Introduction

This paper provides an analysis of recent developments relating to the major non-oil primary commodities (hereafter referred to as commodities) entering international trade. Particular attention is given to market price movements (which are expressed in U.S. dollars, unless otherwise indicated) from mid-1984 to mid-1985 and the factors underlying these movements. In this period commodity prices fell considerably, both in terms of U.S. dollars and in real terms. Supply factors as well as changes in world economic activity, inflation, and exchange rates are discussed in the context of their contribution to the movements in commodity prices.

Section I provides an overview of developments in commodity markets with the discussion centered around price movements as measured by the IMF overall commodity price index. Sections II through V provide assessments of developments relating to individual commodities. Section II covers food commodities, Section III beverages, Section IV agricultural raw materials, and Section V metals.

I. Commodity Market Developments and Prospects

1. Commodity price movements

For the purposes of providing an overview of the movements in commodity prices, the past quarter century is divided into three periods: prior to 1972, 1972-80, and after 1980. The same periods are used for the discussion of prices of other goods entering international trade (Chart 1).

a. 1960-71

In the 1960s and through the beginning of the 1970s commodity prices were relatively stable. There was no significant trend either upwards or downwards in the IMF overall commodity price index measured in U.S. dollars and the average annual change in the index was only 4 percent (Table 1). Petroleum prices, as measured by the dollar unit values of oil exports of the major fuel exporting countries, were also relatively stable in this period, apart from a 23 percent increase from a low base in 1971. The index of dollar unit values of manufactured exports of industrial countries was also stable throughout the 1960s; annual changes averaged less than 2 percent. However, in 1970 this index increased by 5 percent and in 1971 by 7 percent. The real prices of commodities, measured by the IMF index of commodity prices deflated by the index of unit values of manufactured exports, was relatively stable in the period 1960-70 but fell by 11 percent in 1971.

Table 1. Commodity Prices in Relation to Export Unit Values
of Petroleum and Manufactures

(Indices: 1980=100)

Nominal Prices in U.S. Dollars				Real Commodities Prices <u>4/</u>
Commodities <u>1/</u>	Export unit values			
	Petroleum <u>2/</u>	Manufactures <u>3/</u>		
1960	31.1	5.3	28.6	108.9
1961	29.9	5.5	29.0	103.1
1962	29.4	5.4	29.1	100.9
1963	31.1	5.4	29.0	107.2
1964	33.1	5.4	29.6	111.8
1965	32.4	5.4	30.4	106.7
1966	33.5	5.3	30.9	108.4
1967	31.5	5.3	31.4	100.3
1968	33.3	5.3	31.3	100.0
1969	33.6	5.3	32.3	103.9
1970	34.8	5.5	34.0	102.2
1971	33.1	6.8	36.4	90.8
1972	37.5	7.4	39.5	95.0
1973	57.5	10.5	45.9	125.4
1974	73.6	34.1	56.1	131.1
1975	59.5	35.8	63.0	94.5
1976	68.3	38.1	63.9	106.9
1977	82.8	41.7	69.0	120.0
1978	79.4	41.9	79.0	100.4
1979	92.3	61.2	90.0	102.6
1980	100.0	100.0	100.0	100.0
1981	84.8	109.9	94.0	90.2
1982	74.3	105.5	92.0	80.8
1983	80.1	92.6	88.0	91.1
1984	82.2	90.8	85.0	96.7
1985 Jan.-July	74.1	88.0 <u>5/</u>	80.9 <u>5/</u>	91.6

Source: Commodities Division.

1/ IMF price index comprising 35 price series for non-oil primary commodities.

2/ Oil exports of major fuel exporting countries; prior to 1968 based on market price for Saudi Arabian petroleum (Ras Tanura).

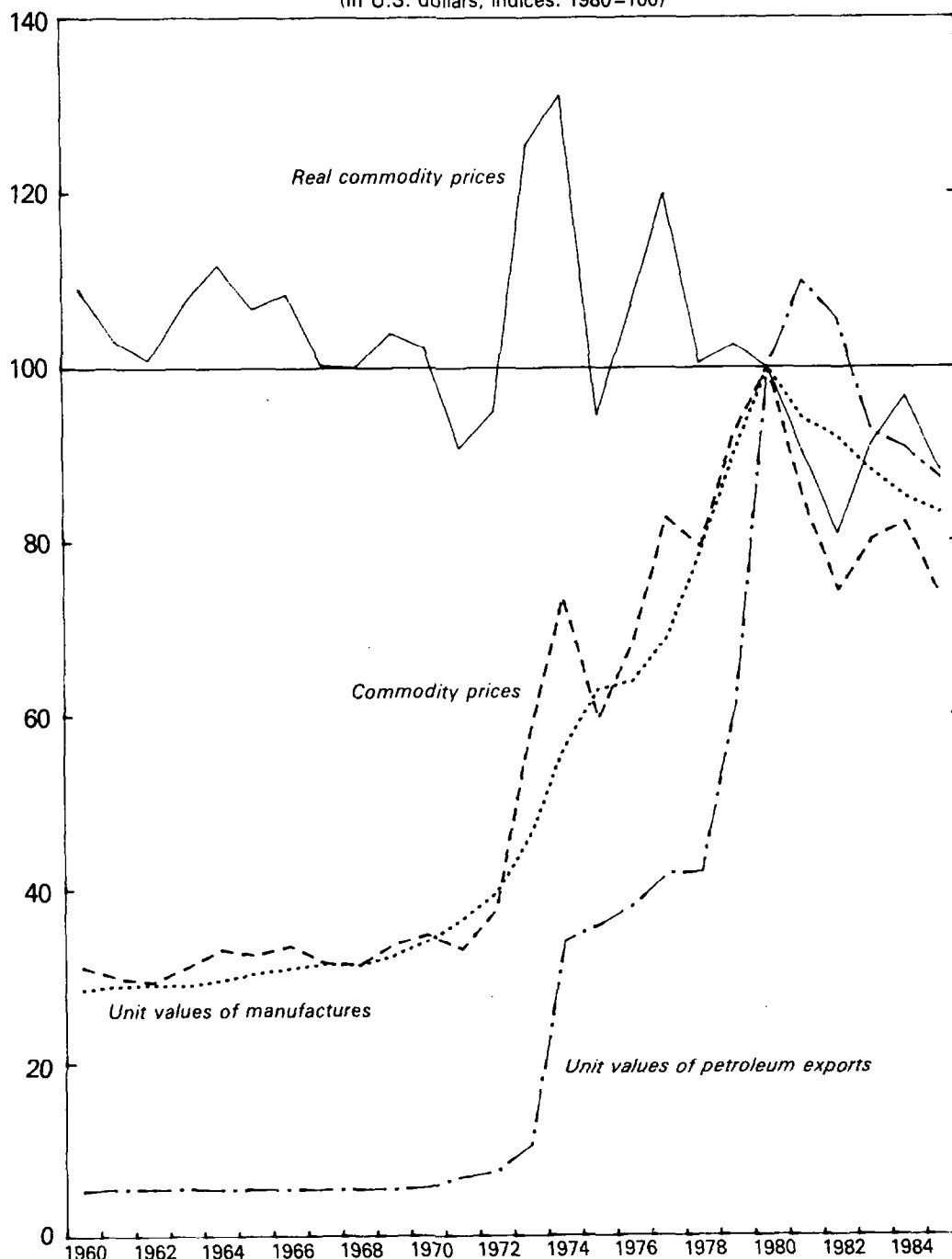
3/ Unit value of manufactured exports of "developed market economies," United Nations, Monthly Bulletin of Statistics (New York), various issues.

4/ Commodity prices deflated by unit values of manufactures.

5/ Partly estimated.

CHART 1
COMMODITY PRICES AND EXPORT UNIT VALUES OF
PETROLEUM AND MANUFACTURES

(In U.S. dollars, indices: 1980=100)



1

2



b. 1972-80

From 1972 through 1980, a period of comparatively high inflation in most countries, commodity prices moved sharply upwards in an irregular fashion. While commodity prices increased considerably in terms of all major currencies and in terms of SDRs, the increase was particularly marked in terms of U.S. dollars on account of the depreciation of the dollar (Table 2). The rate of increase in the dollar price index was 13 percent per annum and the average annual change in the index was nearly 20 percent. The largest annual increase, in excess of 50 percent, occurred in 1973, a year of very high growth in economic activity in industrial countries, low growth in agricultural production, increasing inflation, and sharply rising petroleum prices. Commodity prices increased every year in this period, except 1975 and 1978. In 1975 there was a 19 percent decline in the dollar index of commodity prices at the time of recession in world economic activity, and in 1978 there was a 4 percent decline, mainly attributable to the fall in coffee and cocoa prices following the record high prices for these two commodities in the previous year. The rate of increase in dollar unit values for petroleum exports was 39 percent per annum in this period, with the increases concentrated in a 361 percent rise over the two-year period 1973-74 and a 239 percent increase over the two-year period 1979-80. The unit value of manufactured exports in dollar terms also increased every year from 1972 to 1980; the rate of increase was 12 percent per annum. Because of the higher rate of increase for commodity prices than for manufactured exports, real commodity prices on average were higher in this period than in 1960-71, but they were also more variable (Chart 1).

c. 1981-85

The persistent upward trends in dollar prices of commodities that characterized much of the 1970s ended in 1980. The index of dollar prices of commodities fell by more than 25 percent over the two-year period 1981-82, during the latest world economic recession. Although the index increased in 1983 and 1984, in 1984 it was still nearly 18 percent below its 1980 level and in the first half of 1985 it fell back to its 1982 level. Following the large oil price increases in 1979-80, dollar oil unit values increased by 10 percent in 1981 but fell each year thereafter to reach a level, in the second quarter of 1985, which was 9 percent below its 1980 level. The dollar unit values of manufactured exports fell by 6 percent in 1981 and declined each year thereafter, although at a slower rate. By the first quarter of 1985 the index of unit values of manufactured exports was 21 percent below its 1980 level. The pattern of movement in prices measured in U.S. dollars was similar for most individual commodities and commodity groups apart from beverages (Chart 2 and Table 3). ^{1/}

^{1/} The movements in the price indices for commodity groups and for the commodities comprising these groups are examined in greater detail in Sections II through V.

Table 2. Commodity Prices in Selected Currencies

	U.S. Dollar	Pound	Mark	Franc	Yen	SDR	SDR/ U.S. Dollar Exchange Rate
	(Indices: 1980=100)						(Rate)
1960-71	32.1	28.1	69.5	38.5	50.8	41.7	1.000
1972	37.5	34.9	65.8	44.8	50.1	44.9	.921
1973	57.5	54.6	84.6	60.7	68.9	62.8	.839
1974	73.6	73.2	104.8	83.9	94.8	79.7	.832
1975	59.5	62.5	80.5	60.4	77.9	63.8	.824
1976	68.3	88.3	94.6	77.2	89.3	77.0	.866
1977	82.8	110.3	105.7	96.2	98.0	92.3	.857
1978	79.4	96.2	87.7	84.7	73.6	82.5	.799
1979	92.3	101.2	93.1	93.0	89.2	93.0	.774
1980	100.0	100.0	100.0	100.0	100.0	100.0	.768
1981	84.8	98.1	105.5	109.1	82.5	93.6	.848
1982	74.3	98.9	99.2	115.6	81.6	87.6	.906
1983	80.1	122.9	112.6	144.6	84.0	97.6	.935
1984	82.2	143.6	128.7	169.9	86.1	104.3	.976
1984 I	85.7	138.9	127.5	168.5	87.3	106.4	.953
II	85.8	142.8	127.9	169.1	86.9	106.8	.956
III	79.8	142.9	128.1	169.2	85.6	102.6	.988
IV	77.4	147.9	130.0	171.4	83.9	101.3	1.006
1985 I	74.9	156.3	134.3	176.7	85.1	100.9	1.034
II	74.2	137.1	125.9	165.1	82.0	97.3	1.008
July	71.7	121.0	115.0	150.6	76.4	91.5	0.980

Source: Commodities Division.

CHART 2 PRICES FOR GROUPS OF COMMODITIES

(In U.S. dollars, indices: 1980=100)

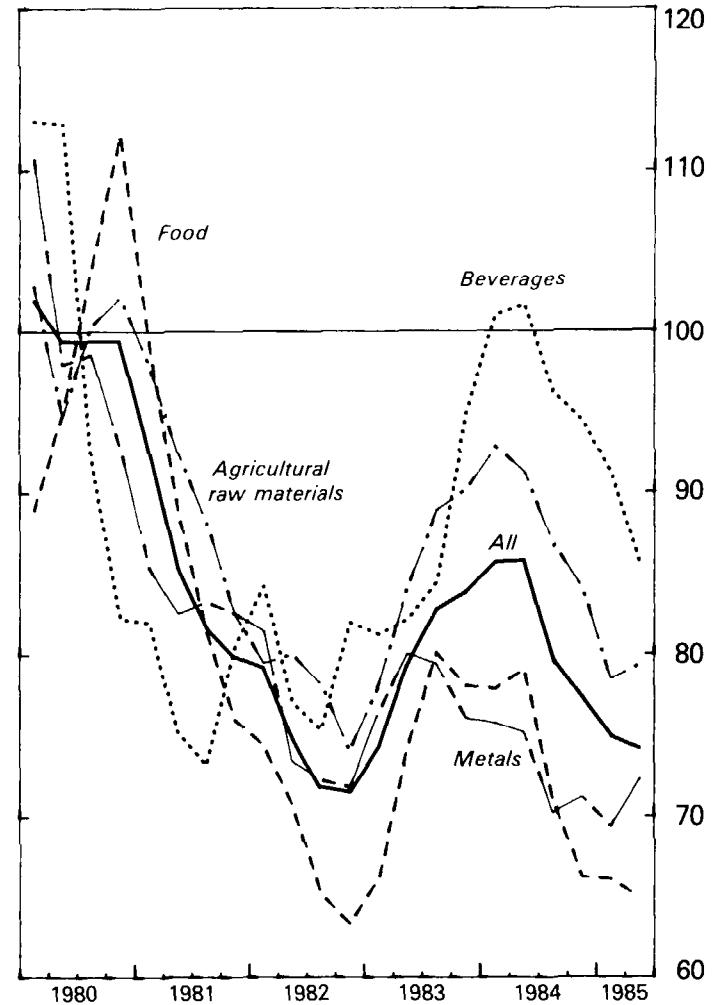
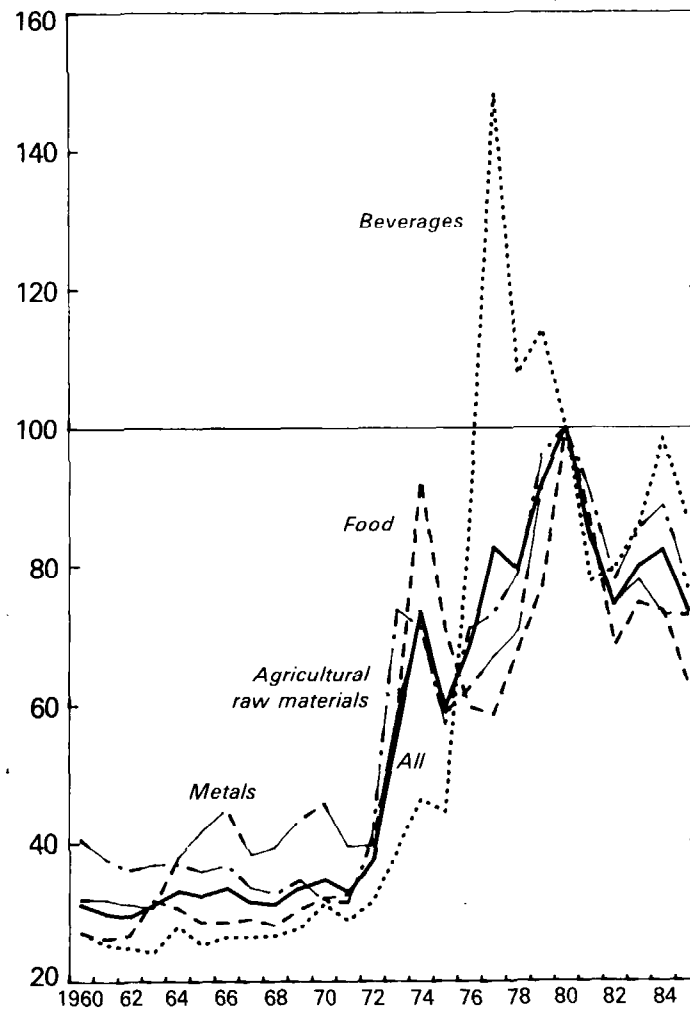




Table 3. Indices of Prices for Groups of Commodities

(In U.S. dollars; indices: 1980=100)

	Overall	Food	Beverages	Agricultural Raw Materials	Metals
1960-71	32.1	27.3	26.8	35.5	38.1
1972	37.5	37.4	31.5	41.7	39.7
1973	57.5	57.9	38.9	73.8	58.3
1974	73.6	92.4	46.5	71.2	72.8
1975	59.5	70.7	44.7	57.1	58.7
1976	68.3	59.7	85.6	71.0	62.3
1977	82.8	58.6	148.3	73.2	66.9
1978	79.4	67.8	107.6	78.8	70.5
1979	92.3	76.9	113.9	96.0	91.9
1980	100.0	100.0	100.0	100.0	100.0
1981	84.8	86.4	77.8	90.3	83.4
1982	74.3	68.4	79.7	77.9	74.7
1983	80.1	74.6	85.7	85.4	78.0
1984	82.2	73.6	98.3	88.8	73.1
1984 I	85.7	77.9	101.0	92.9	75.8
II	85.8	79.1	101.7	91.3	75.2
III	79.8	71.0	96.2	86.8	70.2
IV	77.4	66.2	94.5	84.1	71.2
1985 I	74.9	66.1	91.2	78.5	69.4
II	74.2	64.9	85.6	79.3	72.3
July	71.7	61.6	79.7	79.4	71.9

Source: Commodities Division.

Real commodity prices fell considerably in 1981 and 1982 as the decline in commodity prices exceeded the decline in unit values of manufactured exports (Chart 1 and Table 1). However, much of this decline in real commodity prices was reversed in 1983 and 1984 when commodity prices increased, while the prices of manufactured exports continued to decline. Real commodity prices, however, have declined substantially to date in 1985 as commodity price decreases have exceeded the decrease in the unit values of manufactured exports by a considerable margin. Real commodity prices in 1981-85 averaged 10 percent below the level of 1980 and 15 percent below the average for 1960-80.

The persistent weakness in the U.S. dollar prices during the 1980s was accompanied by an appreciation of the U.S. dollar vis-a-vis other currencies. ^{1/} Because of this appreciation, commodity prices measured in terms of SDRs and in terms of most other major currencies used in international transactions have not shown the same downward tendency in the 1980s as prices measured in U.S. dollars (Chart 3 and Table 2). In terms of SDRs, commodity prices in the first half of 1984 were at record high levels, and despite subsequent declines through August 1985, the average for the first seven months of 1985 was only 2 percent below the peak annual level of 1980. The difference in the behavior of commodity prices in SDRs and in U.S. dollars is explained by the 33 percent appreciation of the U.S. dollar vis-a-vis the SDR over the period from 1980 to the first half of 1985, in contrast with the depreciation of the 1970s.

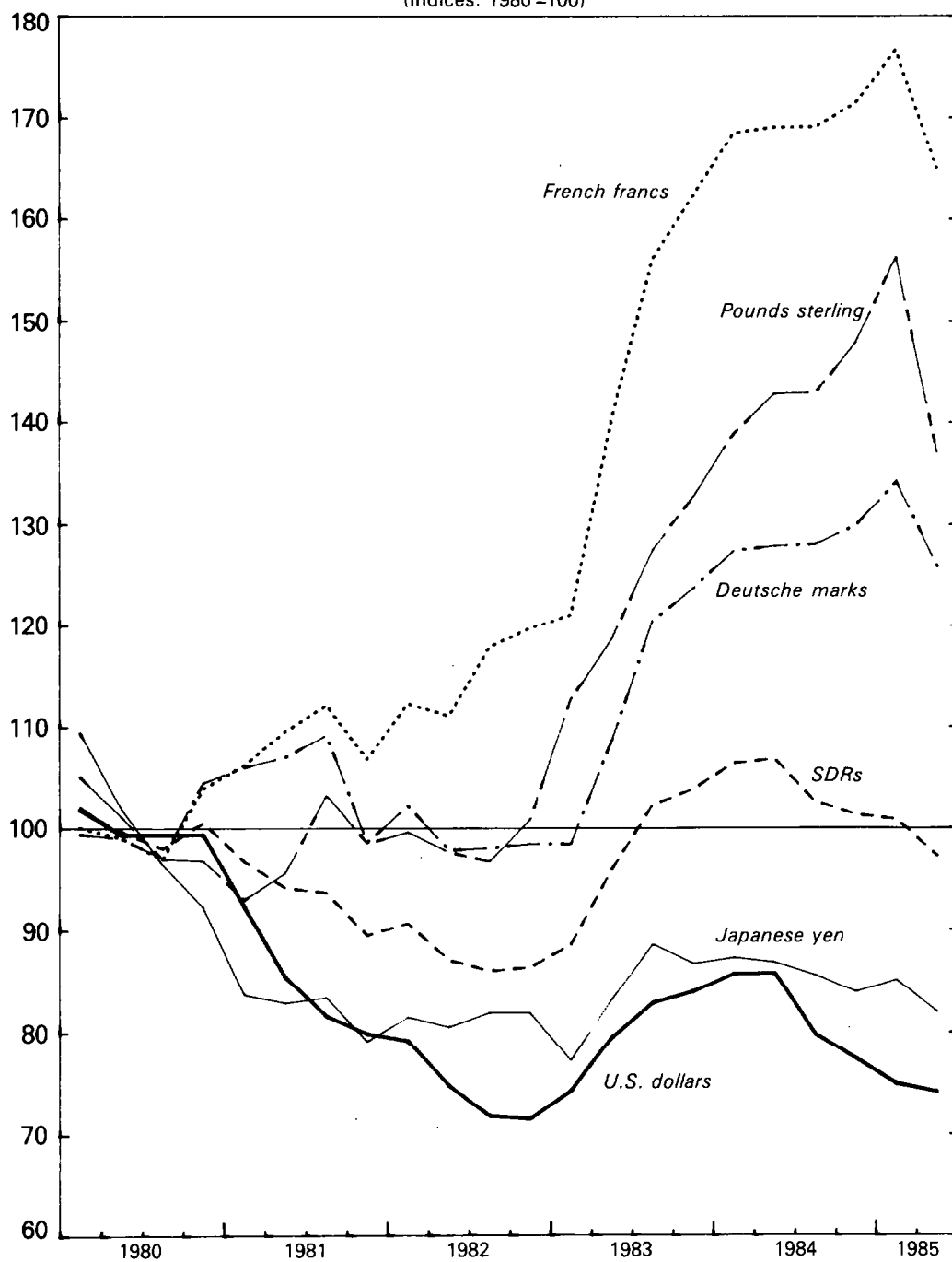
The trends in commodity prices in the 1980s, measured in terms of three of the other major currencies, show little change from those of the 1970s (Table 3). From 1980 until the second quarter of 1985 commodity prices, measured in terms of French francs, deutsche mark, and pounds sterling, all moved persistently upward reflecting the depreciation of these currencies vis-a-vis the U.S. dollar and, to a lesser extent, the Japanese yen (Chart 3). Since 1980 the pattern of movement of commodity prices measured in terms of Japanese yen has been similar to that for prices measured in terms of U.S. dollars. ^{2/}

^{1/} The implications of the appreciation of the U.S. dollar in the 1980s for the dollar prices of commodities and for real commodity prices are examined in World Economic Outlook (IMF, April 1985), pp. 134-138. Based on an analysis of the period from the early 1970s to the early 1980s, the elasticity of dollar prices of primary commodities with respect to the exchange rate of the U.S. dollar vis-a-vis other major currencies was estimated at minus 0.75, but no significant influence of the exchange rate on real commodity prices was found.

^{2/} It should be emphasized that these data relate to a single "basket" of primary commodities and do not reflect differences in the composition of the "basket" of the primary commodities imported by different countries.

CHART 3
COMMODITY PRICES IN TERMS OF SDRs AND
FIVE MAJOR CURRENCIES

(Indices: 1980=100)





2. Main factors underlying commodity price movements

In addition to the movements in exchange rates outlined above, which determine the differences in price movements when measured in different currencies, the factors which have been shown in various studies to have the greatest impact on current commodity prices are the rates of world inflation, the level of economic activity in the major markets for primary commodities, and the supply of the commodities concerned.

a. Inflation in major markets

Econometric studies have shown a positive relationship between commodity prices and inflation. In one study, changes in domestic wholesale prices of the industrial countries were found to have a *significantly positive relationship to commodity prices with an elasticity of about one.* ^{1/} In a follow-up to this study, an effort was made to distinguish between the influence of inflation in exporting countries and inflation in importing countries. ^{2/} The results showed that the prices of agricultural raw materials and metals are affected to a greater extent by inflation in exporting countries, while food and beverage prices are affected more by inflation in importing countries.

There has been a marked deceleration in the rates of inflation in industrial countries in the 1980s (Table 4). The rate of increase in consumer prices in the seven major industrial countries declined from 12.0 percent in 1980 to an estimated 3.9 percent in 1985. A similar movement occurred in the GNP deflator for the seven countries, which declined from 9.2 percent in 1980 to 3.6 percent in 1985. These measures of inflation, when converted to U.S. dollar terms (that is, taking account of the depreciation of the U.S. dollar in the 1970s and the appreciation of the U.S. dollar in the 1980s), show a much greater deceleration. For the GNP deflator, measured in terms of dollars, the average annual increase in the period 1981-85 was 0.7 percent, whereas in the period 1972-80 it was 9.8 percent.

The decline in the rates of increase in domestic prices in major industrial countries has been accompanied, beginning in 1981, by decreases in the prices of manufactured exports and, beginning in 1982, by decreases in the prices of petroleum. The decreases in the prices of petroleum were at least a factor in facilitating the reduction of rates of inflation in industrial countries since 1981. The reduction in the prices of manufactured exports has meant that real commodity prices have not decreased to the same extent as commodity prices measured in nominal U.S. dollar terms. This was the case particularly in 1983 and 1984, when commodity price increases were accompanied by continued declines in the prices of manufactured exports.

^{1/} K. Chu and T. Morrison, "The 1981-82 Recession and Non-Oil Primary Commodity Prices," IMF Staff Papers, Vol. 31 (1), March 1984.

^{2/} K. Chu and T. Morrison, "World Non-Oil Primary Commodity Markets: A Medium-Term Framework of Analysis," IMF, DM/85/52, September 1985.

Table 4. World Inflation and Commodity Prices

(Annual percentage changes)

Commodities	Nominal Prices in U.S. Dollars			Domestic Prices in Seven Industrial Countries				Real Commodity Prices <u>1/</u>
	Export unit values			Consumer price index		GNP deflator		
	Petroleum	Manufactures		Unadjusted	In U.S. dollars	Unadjusted	In U.S. dollars	
1969	7.4	0.6	3.4	4.9	4.7	5.1	4.9	3.9
1970	3.4	3.0	5.1	5.7	6.0	5.9	6.2	-1.7
1971	-4.8	23.4	7.2	4.9	6.1	5.6	6.8	-11.2
1972	13.3	8.8	8.3	4.3	8.5	4.9	9.1	4.6
1973	53.4	41.5	16.2	7.5	12.4	7.3	12.2	32.0
1974	28.0	225.8	22.4	13.3	11.0	11.6	9.2	4.6
1975	-19.2	5.1	12.2	10.7	11.9	10.6	11.7	-28.0
1976	14.8	6.3	1.4	7.8	4.1	7.1	3.5	13.2
1977	21.2	9.4	8.0	7.8	9.5	7.1	8.7	12.2
1978	-4.1	0.4	14.5	6.9	15.1	7.3	15.5	-16.3
1979	16.3	45.9	13.9	9.2	10.9	8.0	9.6	2.1
1980	8.3	63.5	11.1	12.0	12.1	9.1	9.1	-2.5
1981	-15.2	9.9	-6.0	9.8	2.6	8.6	1.4	-9.8
1982	-12.4	-4.0	-2.1	6.9	-0.1	6.7	-0.3	-10.5
1983	7.8	-12.2	-4.3	4.5	1.7	4.5	1.7	12.7
1984	2.5	-2.0	-3.4	4.4	0.4	3.7	-0.3	6.1

Sources: World Economic Outlook and Commodities Division.^{1/} Commodity prices deflated by unit values of manufactures.

b. Economic activity in major markets

In a recent study, industrial production in the seven major industrial countries (used as a proxy for economic activity in consuming countries) was found to be the most important variable explaining short-run changes in real commodity prices, yielding an elasticity estimate of about two. ^{1/}

In the 1980s various measures of the level of economic activity in major industrial economies have registered a deceleration compared with the 1970s. Growth in real GNP in the seven major industrial countries over the period 1980-85 averaged only 2.3 percent per annum compared with an average of 3.5 percent in the 1970s (Table 5). Growth in industrial production in the same countries in the 1980s has averaged 1.8 percent per annum compared with 3.4 percent in the 1970s. The growth in gross domestic investment, which is an important determinant of demand for certain metals and agricultural raw materials, averaged 2.4 percent per annum in these countries in the period 1980-85, compared with 3.5 percent per annum in the 1970s. Furthermore, the lower rates of growth in the 1980s have been most pronounced in European countries which are more dependent on imports of primary commodities than the United States.

When periods of expansion and recession are identified and compared, a similar pattern emerges. There was expansion of economic activity in the early 1970s, recession in 1974-75, expansion in the late 1970s, recession in 1980-82, and modest recovery in 1983-85. The recession of the early 1980s was more prolonged than the recession of the mid-1970s. In addition, the expansion in the recovery periods was progressively weaker. Growth in real GNP in the seven major industrial countries averaged 5.2 percent in 1971-73, 4.4 percent in 1976-79, and 3.6 percent in 1983-85. This deceleration in the level of economic activity has contributed to the weakness of commodity prices in the 1980s, compared with the preceding decade, particularly with reference to commodities used as industrial raw materials. It helps explain why in the 1980s there has been an average decrease in the index of "real" commodity prices of 1.8 percent per annum, whereas in the 1970s there was an average increase of 1.1 percent per annum.

c. Supply of commodities

The year-to-year movements in commodity prices, particularly in the case of agricultural commodities, are greatly influenced by supply factors. An index of commodity supply, defined as annual production plus stocks at the beginning of the year (crop year in the case of agricultural commodities), has been constructed using the same weights for individual commodities as those used in the price index. It shows substantial increases in the period 1981-85 after a period of virtually no change in 1979-80.

^{1/} Chu and Morrison (1984).

Table 5. World Economic Activity, Supply of Commodities and Commodity Prices

(Annual percentage changes)

	Commodity Prices		Economic Activity in Seven Industrial Countries			Supply of Commodities 1/		
	Nominal	Real	Real GNP	Industrial production	Domestic fixed investment	Index of production	Index of stocks 2/	Index of supply 3/
	(In U.S. dollars)							
1969	7.4	3.9	4.6	6.9	6.9	4.5	1.7	2.6
1970	3.4	-1.7	2.3	1.0	1.3	1.6	-4.5	1.4
1971	-4.8	-11.2	3.7	2.0	6.0	4.6	3.8	2.5
1972	13.3	4.6	5.6	7.1	8.6	3.0	0.3	2.0
1973	53.4	32.0	6.3	9.0	7.9	0.9	-1.5	1.1
1974	28.0	4.6	0.2	-1.0	-6.2	3.9	-10.5	0.5
1975	-19.2	-28.0	-0.6	-9.9	-7.5	-2.3	15.9	1.1
1976	14.8	13.2	5.3	8.9	6.2	1.7	16.3	3.4
1977	21.2	12.2	4.4	5.3	7.3	3.5	2.5	1.3
1978	-4.1	-16.3	4.4	4.8	7.0	1.8	7.3	2.5
1979	16.3	2.1	3.5	4.9	4.8	1.8	-7.5	-0.1
1980	8.3	-2.5	1.2	-0.0	-1.9	1.5	-9.3	0.0
1981	-15.2	-9.8	1.9	0.5	1.1	4.4	-0.3	3.7
1982	-12.4	-10.5	-0.4	-4.0	-3.4	-3.1	14.7	0.9
1983	7.8	12.7	2.8	3.7	4.5	0.1	17.9	1.7
1984	2.5	6.1	5.2	8.5	10.2	5.9	-6.8	3.9

Sources: World Economic Outlook and Commodities Division.

1/ Indices constructed using same weights for individual commodities as in price index.

2/ Beginning of year stocks.

3/ Production plus beginning of year stocks.

4/ Projected.

The increase in production, measured as 1.8 percent on the index of commodity production, in both 1978 and 1979, was sufficiently small to result in a substantial decrease in stocks in both years (Table 5). With comparatively low production in 1980--an increase in the index of commodity production of 1.5 percent--and declining stocks, no increase was recorded in the index of commodity supply in the two-year period 1979-80. The failure of the supply of commodities to increase in 1979, coupled with 3.5 percent growth in real GNP in major industrial countries and relatively strong inflationary pressure, was associated with a 16.3 percent increase in the dollar commodity price index and a 2.1 percent increase in real commodity prices. In 1980, although in the major industrial countries growth of real GNP fell to 1.2 percent and industrial production remained at the 1979 level, the absence of growth in commodity supply and inflationary pressure in the wake of the large 1979-80 oil price increase, was associated with an 8.3 percent increase in dollar commodity prices. However, in 1980 real commodity prices fell by 2.5 percent because the increase in the prices of manufactured exports exceeded the increase in the prices of commodities by a considerable margin.

The situation, with reference to supply of commodities, changed considerably in 1981 and 1982. In 1981 the index of commodity production increased by 4.4 percent, the largest increase in ten years. This increase, adjusted for a small decrease in beginning of year stocks, resulted in a 3.7 percent increase in the index of commodity supply. The growth in real GNP in 1981, while higher than in 1980, was low, inflationary pressure was much reduced and the dollar appreciated by 10.5 percent in terms of SDRs. These factors were associated with a decline in 1981 of 15.2 percent in the index of dollar prices of commodities. Because the prices of manufactured exports also declined, the decline in real commodity prices was limited to 9.8 percent. In 1982, at the trough of the 1981-82 recession in the major industrial countries, real GNP fell by 0.4 percent and industrial production fell by 4 percent. The dollar appreciated by 6.7 percent in terms of SDRs, to the extent that the GNP deflator in terms of dollars fell. Despite a 3.4 percent decrease in production, a large carryover of stocks from 1981 led to a 0.9 percent increase in the index of commodity supply. Under these conditions, in 1982 commodity prices fell by 12.4 percent in nominal U.S. dollar terms and by 10.5 percent in real terms.

A somewhat different pattern prevailed in 1983 and through the first half of 1984. The effects of a low increase in supply in 1982 coupled with virtually no increase in commodity production in 1983 resulted in an increase in supply of only 1.7 percent at a time of considerable recovery in real GNP. In the major industrial countries, the movement in real GNP changed from a decrease of 0.4 percent in 1982 to an increase of 2.8 percent in 1983 and of 5.2 percent in 1984 and industrial production changed from a decrease of 4 percent in 1982 to an increase of 3.7 percent in 1983 and 8.5 percent in 1984. Consequently, dollar commodity prices increased by 7.8 percent in 1983.

A large increase in commodity production in 1984 of 5.9 percent, the highest recorded in the period 1969-85, soon put downward pressure on commodity prices at a time when the U.S. dollar was still appreciating. The increase in dollar commodity prices in 1984 was only 2.5 percent and occurred in the first half of the year. The high level of commodity production in 1984 provided considerable carryover of stocks with the result that, although 1985 production is expected to increase by only 1.5 percent, commodity supply is expected to be 2.1 percent higher than the ample level of 1984. With growth in real GNP expected to decline to 2.8 percent in 1985, and in spite of the depreciation of the U.S. dollar beginning in the second quarter of 1985, dollar commodity prices in the first seven months of 1985 averaged 9.8 percent below the level of 1984.

3. Outlook for commodity prices in 1985-86

In the second quarter of 1985 the U.S. dollar fell by 2.5 percent in terms of SDRs, and a similar decline occurred in the month of July alone. Despite this decline, dollar prices of commodities have decreased rather than increased. July 1985 prices were 4.3 percent below the level of the first quarter of 1985. This decline appears to be linked to an increasing commodity supply situation, coupled with more pessimistic estimates and forecasts of the levels of economic activity in the major industrial countries at a time when rates of inflation remain relatively low. Should none of these key variables change, dollar commodity prices should stabilize in the remainder of 1985, to result in a decline of about 10 percent for the year as a whole from the 1984 level. Dollar commodity prices in 1985 would then average more than 25 percent below their peak annual level of 1980. Should the commodity production estimates for 1985 increase, or the estimates and forecasts of levels of economic activity be further reduced, a further decline in commodity prices would be expected. Other things being equal, should the dollar depreciate further or inflation rise, there should be a tendency for dollar commodity prices to increase.

In 1986 some modest increase in commodity prices, in the order of 4 percent, is anticipated on the grounds of somewhat lower increases in commodity production than in 1985 and some modest improvement in the growth of economic activity in industrial countries. This upward tendency would be strengthened should the dollar depreciate further or the rate of inflation accelerate. However, should commodity production in either 1985 or 1986 in major countries be less than anticipated, there may be no increase at all.

As the unit value of manufactured exports in 1985 is currently estimated to decrease by only 2 percent in 1985 and is projected to increase by 6 percent in 1986, real commodity prices are expected to fall sharply (about 8 percent) in 1985 and marginally (2 percent) in 1986.

4. Export earnings

Total earnings, in terms of U.S. dollars, from the exports of the 17 leading non-oil primary commodities grew by 2.5 percent in 1983 and 3.1 percent in 1984 (Table 6). The increase in export earnings in 1983 was more attributable to increases in volumes exported than to increases in export unit values, and in 1984 was more attributable to increases in unit values than to increases in volumes. An index of volume of exports for the 17 commodities, constructed using 1980-85 value weights, shows an increase of 1.5 percent in 1983 and an increase of 0.9 percent in 1984 (Table 7). An index of export unit values for the same commodities using the same weights shows an increase of 1.1 percent in 1983 and of 2.2 percent in 1984. Despite these increases, total export earnings from these commodities in 1984 were 13 percent below the level of earnings in 1980 (Table 6).

Over the period 1979-84 industrial countries accounted for 47 percent of total export earnings from the 17 major primary commodities and dominated in the exports of wheat, maize, soybeans, soybean oil, and aluminum; other countries accounted for the remaining 53 percent of total earnings and dominated in the exports of sugar, palm oil, coffee, tea, cocoa, cotton, rubber, copper, and tin (Table 8).

The decline in export earnings from major commodities from 1980 to 1984 was more pronounced for industrial countries (17 percent) than for other countries (10 percent). In addition, whereas the earnings from exports of the 17 commodities for industrial countries declined by 0.3 percent in 1983 and by 1.5 percent in 1984, for other countries these earnings increased by 5.1 percent in 1983 and by 7.3 percent in 1984. The difference in the pattern of movement in earnings in 1983 and 1984 for the two groups of countries is largely accounted for by the earnings obtained from the beverages, rubber and palm oil--commodities which are not exported by the industrial countries. Market prices for these commodities increased considerably in 1983 and 1984.

The increases in export earnings from commodities in 1983 and 1984 were important factors in the increases in total export earnings of non-oil developing countries in those years. After declining by 4.6 percent in 1982, total export earnings of the non-oil developing countries increased by 3.5 percent in 1983 and 11.8 percent in 1984. ^{1/} The increases in 1983 and 1984 occurred in spite of unit value declines of 2.5 percent and 0.1 percent, respectively, as export volume rose by 6.2 percent and 12.0 percent. The recovery in economic activity of industrial countries and widespread adjustment efforts by non-oil

^{1/} Based on estimates from the Fund's World Economic Outlook.

Table 6. Export Earnings from Major Commodities

(In millions of U.S. dollars)

	Calendar Years					
	1979	1980	1981	1982	1983	1984
<u>Total 17 com-</u> <u>modities</u>	<u>102,620</u>	<u>124,080</u>	<u>117,840</u>	<u>101,980</u>	<u>104,540</u>	<u>107,810</u>
Industrial						
countries <u>1/</u>	44,820	58,830	58,530	49,530	49,400	48,670
Other countries	57,800	65,250	59,310	52,450	55,140	59,140
Cereals						
Wheat	13,300	18,670	20,040	18,130	17,850	17,600
Maize	9,750	11,850	12,230	8,940	9,830	10,920
Rice	3,880	5,050	5,780	4,160	3,610	2,850
Sugar	9,070	14,710	14,750	11,340	10,640	9,380
Vegetable oils and protein meals						
Soybeans	6,900	7,100	7,390	7,030	6,790	6,710
Soybean meal	3,470	4,220	5,050	4,410	5,120	4,280
Soybean oil	1,990	2,000	1,890	1,640	1,810	2,800
Palm oil	1,750	2,020	1,700	1,650	1,750	3,050
Beverages						
Coffee	12,100	11,660	8,060	8,990	9,240	10,630
Tea	1,700	1,770	1,670	1,470	1,720	2,510
Cocoa <u>2/</u>	4,330	3,790	2,830	2,480	2,550	2,960
Agricultural raw materials						
Cotton	6,690	7,820	7,380	6,320	6,570	7,190
Rubber	3,990	4,300	3,320	2,440	3,270	3,330
Metals						
Copper	8,710	10,780	8,430	7,550	8,220	6,350
Iron ore	6,450	7,140	7,480	6,750	6,450	7,500
Tin	2,930	3,220	2,880	2,340	2,090	1,730
Aluminum	5,610	7,980	6,960	6,340	7,030	8,020

Source: See tables on individual commodities in Sections II to V.

1/ Covers 21 countries as defined in the IMF, International Financial Statistics.

2/ Exports of cocoa bean producing countries.

Table 7. Indices of Earnings, Volumes, and Unit Values
for World Exports of Major Commodities

(Indices: 1980=100)

	Earnings Share in Total for 17 Commodities in 1980 (In percent)	Calendar Years					
		1979	1980	1981	1982	1983	1984
Earnings (U.S. dollars)	100.0	82.7	100.0	95.0	82.2	84.3	86.9
Wheat	15.0	71.2	100.0	107.3	97.1	95.6	94.3
Maize	9.5	82.3	100.0	103.2	75.4	83.0	92.2
Rice	4.1	76.8	100.0	114.5	82.4	71.5	56.4
Sugar	11.9	61.6	100.0	100.3	77.1	72.3	63.8
Soybeans	5.7	97.1	100.0	104.0	99.0	95.6	94.5
Soybean meal	3.4	82.2	100.0	119.6	104.5	121.3	101.4
Soybean oil	1.6	99.5	100.0	94.5	82.0	90.5	140.0
Palm oil	1.6	86.6	100.0	84.1	81.6	86.6	150.9
Coffee	9.4	103.7	100.0	69.1	77.1	79.2	91.1
Tea	1.4	96.0	100.0	94.3	83.0	97.1	141.8
Cocoa	3.1	114.2	100.0	74.7	65.4	67.3	78.1
Cotton	6.3	85.5	100.0	94.3	80.8	84.0	91.9
Rubber	3.5	92.7	100.0	77.2	56.7	76.0	77.4
Copper	8.7	80.7	100.0	78.2	70.0	76.2	58.9
Iron ore	5.8	90.3	100.0	104.7	94.5	90.3	105.0
Tin	2.6	90.9	100.0	89.9	72.6	64.9	53.7
Aluminum	6.4	70.3	100.0	87.2	79.4	88.0	100.3
Volumes		93.1	100.0	101.2	101.8	103.3	104.2
Wheat		82.1	100.0	106.1	105.8	112.3	114.8
Maize		95.4	100.0	99.5	87.7	86.8	97.7
Rice		93.7	100.0	103.1	96.1	90.6	85.0
Sugar		96.0	100.0	106.2	112.0	107.2	108.0
Soybeans		94.7	100.0	97.3	107.4	98.5	95.9
Soybean meal		84.2	100.0	112.9	113.4	127.5	120.2
Soybean oil		90.6	100.0	109.3	106.2	115.6	125.0
Palm oil		79.1	100.0	89.4	103.8	109.7	121.4
Coffee		105.0	100.0	101.1	107.8	110.5	114.3
Tea		98.9	100.0	99.1	95.1	108.0	109.1
Cocoa		94.8	100.0	111.0	108.0	111.0	105.9
Cotton		90.8	100.0	89.6	91.2	89.8	90.4
Rubber		102.7	100.0	94.5	93.3	103.3	107.2
Copper		92.8	100.0	96.9	102.8	106.0	93.6
Iron ore		103.7	100.0	97.6	86.2	79.8	94.6
Tin		98.4	100.0	105.3	89.8	81.9	75.5
Aluminum		83.6	100.0	97.9	108.1	118.3	114.3
Unit values (U.S. dollars)		88.8	100.0	93.9	80.7	81.6	83.4
Wheat		86.7	100.0	101.1	91.8	85.1	82.1
Maize		86.3	100.0	103.7	86.0	95.6	94.4
Rice		81.9	100.0	111.1	85.7	78.9	66.4
Sugar		64.1	100.0	94.4	68.8	67.4	59.0
Soybeans		102.5	100.0	106.8	92.1	97.0	98.5
Soybean meal		97.6	100.0	105.9	92.1	95.1	84.3
Soybean oil		109.8	100.0	86.4	78.6	78.2	112.0
Palm oil		109.4	100.0	94.0	78.6	78.9	124.2
Coffee		98.7	100.0	68.3	71.5	71.6	79.7
Tea		97.0	100.0	95.1	87.2	96.0	129.9
Cocoa		120.5	100.0	67.3	60.6	60.6	73.7
Cotton		94.1	100.0	105.4	88.5	93.5	101.6
Rubber		90.2	100.0	81.6	60.7	73.5	72.2
Copper		86.9	100.0	80.7	68.0	71.8	62.9
Iron ore		87.0	100.0	107.2	109.6	113.1	110.9
Tin		92.3	100.0	84.9	80.8	79.2	71.1
Aluminum		84.0	100.0	89.0	73.4	74.3	87.9

Source: See tables for individual commodities in Sections II to V.

Table 8. Average Annual Export Earnings of Industrial and Other Countries, 1979-84

	Average Earnings			Shares	
	Total	Industrial countries	Other countries	Industrial countries	Other countries
	(In millions of U.S. dollars)			(In percent)	
<u>Total 17 commodities</u>	<u>109,810</u>	<u>51,630</u>	<u>58,180</u>	<u>47</u>	<u>53</u>
Cereals					
Wheat	17,600	15,410	2,190	88	12
Maize	10,590	8,580	2,010	81	19
Rice	4,220	1,820	2,400	43	57
Sugar	11,650	2,920	8,730	25	75
Vegetable oils and protein meals					
Soybeans	6,990	5,930	1,060	85	15
Soybean meal	4,420	2,460	1,960	56	44
Soybean oil	2,020	1,380	640	68	32
Palm oil	1,990	90	1,900	5	95
Beverages					
Coffee	10,110	--	10,110	--	100
Tea	1,810	--	1,810	--	100
Cocoa	3,160	--	3,160	--	100
Agricultural raw materials					
Cotton	6,990	2,370	4,620	34	66
Rubber	3,440	--	3,440	--	100
Metals					
Copper	8,340	2,590	5,750	31	69
Iron ore	6,960	3,060	3,900	44	56
Tin	2,530	210	2,320	8	92
Aluminum	6,990	4,810	2,180	69	31

Source: See tables on individual commodities in Sections II to V.

1/ Covers 21 countries as defined in the IMF, International Financial Statistics.

developing countries in 1983 and 1984 contributed significantly to the growth in the volume of exports of non-oil developing countries in these two years. ^{1/}

Reflecting the increases in total export earnings of non-oil developing countries beginning in 1983, fewer individual countries have experienced shortfalls from the medium-term trends in their export earnings. As a result, annual purchases under the Fund's compensatory financing facility (CFF), after averaging SDR 2.7 billion during 1982-83 in the aftermath of the 1981-82 recession, fell to SDR 0.8 billion in 1984 and are expected to be of the same order of magnitude in 1985. Outstanding CFF purchases, which reached a peak of SDR 7.5 billion at the end of 1983, are expected to fall sharply when the large purchases made in 1982-83 become due for repurchase after 1985.

II. Food Commodities

This section provides analyses of market price movements for individual food commodities in the context of changing supply and demand conditions. For the commodities which rank as most important in terms of their value in international trade--wheat, maize, rice, sugar, soybeans and soybean products, and palm oil--the analyses include annual balances of production, consumption and stocks, and estimates of export volumes and earnings in recent years. For other food commodities--copra and coconut oil, groundnuts and groundnut oil, fish meal, beef, lamb, and bananas--brief summaries of market developments are provided.

The most important factor influencing price movements from year to year for food commodities is variations in supplies of these commodities. Demand conditions for these commodities tend to be less variable than supply conditions, although changes in the level of world economic activity and in world inflation rates can greatly augment or diminish, or, in extreme cases, reverse the effects of supply changes.

In the 1960s and early 1970s there was relative stability in the prices of food commodities (Chart 4). In part, this stability was the consequence of comparatively large stocks of food commodities, especially cereals, which dampened price movements (subsection 1). This situation was altered drastically in 1973 when the dollar prices of food commodities increased sharply. In that year the group index of U.S. dollar prices for food commodities increased by nearly 55 percent (Table 9). Both supply and demand factors contributed to this situation.

^{1/} A recent study has shown that export volume of the non-oil developing countries is positively related to economic activity in the industrial countries and inversely related to the real effective exchange rate of the exporting countries. See M. Bond, "Export Demand and Supply for Groups of Non-Oil Developing Countries," IMF Staff Papers (March 1985), pp. 56-77.

Table 9. Food Commodity Prices and Underlying Factors

(Annual percentage changes)

	Food Commodity Prices		Real GNP in Seven Industrial Countries	GNP Deflator (In U.S. dollars)	Supply of Food Commodities ^{1/}		
	Nominal (In U.S. dollars)	Real ^{2/}			Index of pro- duction	Index of stocks ^{3/}	Index of supply ^{4/}
1969	8.3	4.8	4.6	4.9	0.3	6.5	0.9
1970	5.3	0.1	2.3	6.2	2.7	-0.4	2.4
1971	2.0	-4.9	3.7	6.8	4.3	-7.8	2.4
1972	14.4	5.6	5.6	9.1	1.1	3.3	1.1
1973	54.8	33.2	6.3	12.2	1.3	-7.9	0.2
1974	59.7	30.5	0.2	9.2	-0.5	-5.0	-0.5
1975	-23.5	-31.8	-0.6	11.7	5.7	2.2	5.4
1976	-15.6	-16.8	5.3	3.5	8.0	15.1	8.1
1977	-1.8	-9.1	4.4	8.7	-0.6	20.1	1.4
1978	15.8	1.1	4.4	15.5	3.0	6.6	3.4
1979	13.4	-0.5	3.5	9.6	-1.6	8.6	-0.4
1980	30.0	17.0	1.2	9.1	2.5	-1.9	1.2
1981	-13.6	-8.1	1.9	1.4	3.8	-3.2	2.9
1982	-20.8	-19.1	-0.4	-0.3	4.5	12.3	6.0
1983	9.1	14.1	2.8	1.7	-3.2	17.8	-0.5
1984	-1.4	2.0	5.2	-0.3	4.2	-14.1	2.2

Sources: World Economic Outlook and Commodities Division.

^{1/} Indices constructed using same weights for individual food commodities as in price index.

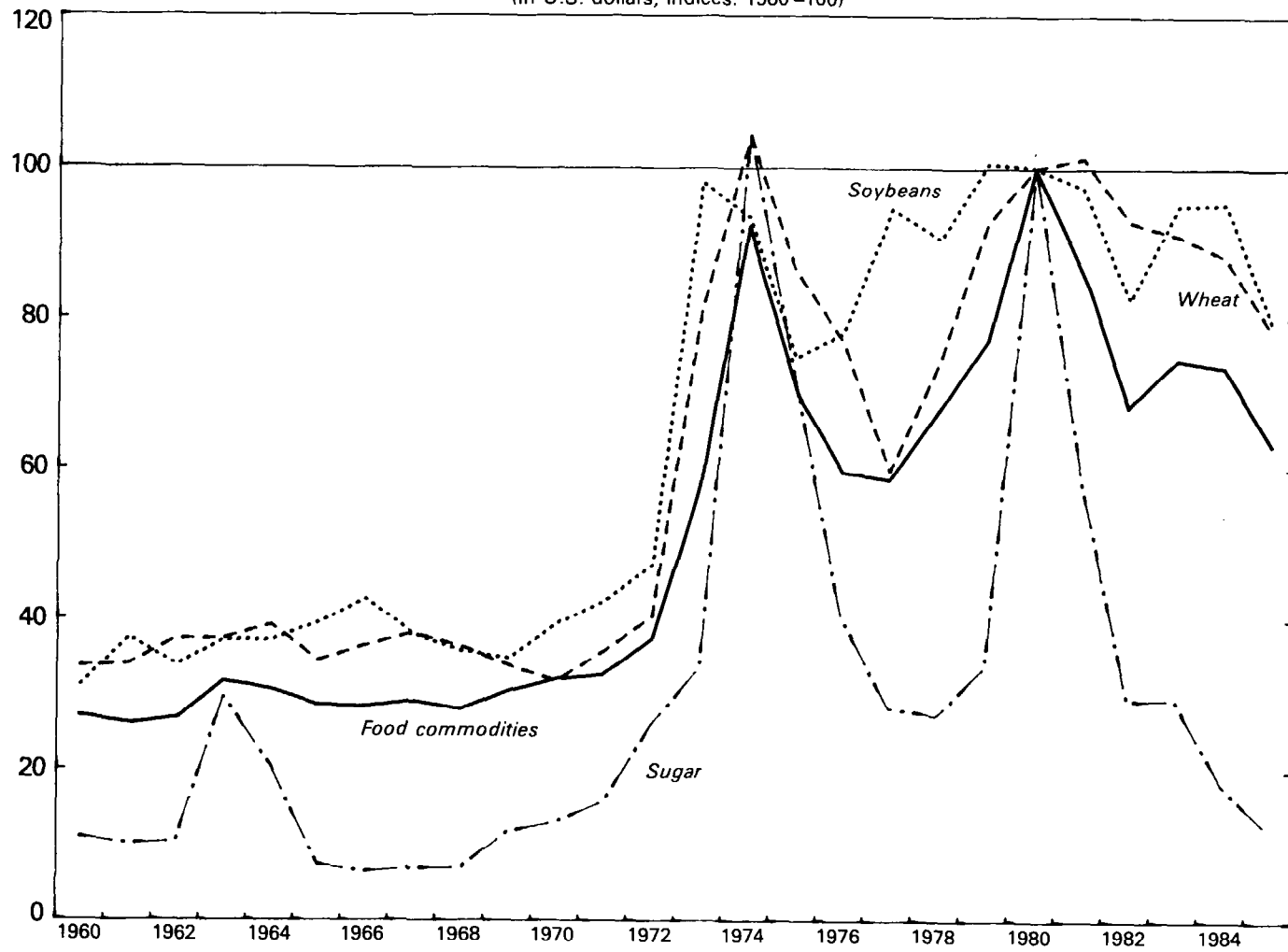
^{2/} Deflated by unit values of manufactured exports.

^{3/} Beginning of (crop) year stocks.

^{4/} Production plus beginning of year stocks.

CHART 4
FOOD COMMODITY PRICES

(In U.S. dollars, indices: 1980=100)



In both 1972 and 1973 the increase in the index of production of food commodities was little more than 1 percent, consumption exceeded production and the level of stocks fell. ^{1/} The increase in the GNP deflator measured in U.S. dollars for the seven major industrial countries accelerated from 6.8 percent in 1971 to 12.2 percent in 1973, reflecting both an increase in inflation rates in these countries and the depreciation of the U.S. dollar. Growth in real GNP in these major industrial countries increased to 5.6 percent in 1972 and further to 6.3 percent in 1973. In 1974 the supply situation was aggravated by a fall in production of food commodities, so that despite the beginning of a world economic recession in that year, the U.S. dollar price index for food commodities registered an increase of nearly 60 percent. However, in 1975 and 1976 large increases in production of food commodities led to large decreases in the food price index.

A second wave of food price increases occurred in the period 1978-80; the index of U.S. dollar prices of food commodities increased by 16 percent in 1978, 13 percent in 1979, and 30 percent in 1980. These increases were linked to lower rates of increase in food production, in particular to a decline of 1.6 percent in 1979, higher inflation rates, and a further depreciation of the U.S. dollar.

Over the period 1981-85, except for 1983, the tendency has been for prices of food commodities to decline. Apart from 1983, when an exceptionally large decrease in production was recorded, year-to-year production increases have been substantial, with the result that production has tended to exceed consumption, causing stocks to accumulate. At the same time, rates of inflation in major industrial countries have fallen sharply and the U.S. dollar has appreciated so that the GNP deflator in dollar terms has been at very low levels compared with the 1970s. As a consequence, despite the 3.2 percent decrease in the production of food commodities in 1983 at a time of recovery in the level of world economic activity, the index of U.S. dollar prices of food commodities in 1983 rose by only 9.1 percent. In 1985 the index is projected to be less than two thirds of its 1980 level.

The movements in U.S. dollar prices of individual food commodities (discussed below) have tended to follow the pattern of the group index. Turning points in the price series for cereals and sugar have tended to coincide in the 1970s and early 1980s; the movements of prices for vegetable oils have been more dependent.

1. Cereals

The prices for wheat, maize, and rice--the three major cereals in world trade--have followed similar patterns (Table 10). From the mid-1950s to the early 1970s, the prices of the major cereals remained

^{1/} The index of production of food commodities was constructed using the same weights for individual commodities as for the price index. Crop year data are used for a number of commodities (e.g., 1973/74 crop year data shown as 1973). The same method is used for the construction of indices of stocks and supply.

Table 10. Prices of Cereals

(In U.S. dollars per ton)

	Wheat <u>1/</u>	Maize <u>2/</u>	Rice <u>3/</u>
1960	58	50	125
1961	59	48	137
1962	64	49	153
1963	64	54	143
1964	68	55	138
1965	59	55	136
1966	63	58	166
1967	66	54	221
1968	63	48	205
1969	58	52	185
1970	55	58	143
1971	62	58	130
1972	70	56	150
1973	140	97	297
1974	180	132	542
1975	149	120	363
1976	133	112	254
1977	103	95	272
1978	128	101	369
1979	160	116	334
1980	173	126	434
1981	175	131	483
1982	160	108	293
1983	157	136	277
1984	152	136	252
1984 I	152	142	254
II	154	147	255
III	152	137	266
IV	152	117	234
1985 I	147	120	222
II	138	118	223
July	129	115	210

Source: Commodities Division.

1/ U.S. No. 1, hard winter wheat, f.o.b. Gulf of Mexico ports.

2/ U.S. No. 2, yellow corn, f.o.b. Gulf of Mexico ports.

3/ Thai milled white rice, f.o.b. Bangkok.

relatively stable, with the exception of the price of rice for a brief period in the late 1960s. Potential price fluctuations in response to year-to-year changes in production were dampened by the large stocks of cereals, held mostly in the major exporting countries. Relatively smaller stocks held by the exporting countries during the 1970s and early 1980s, however, failed to cushion production changes and resulted in significantly higher price instability. A series of poor harvests culminating in a small 1972/73 crop sharply reduced cereal stocks; prices increased by nearly 200 percent over the two-year period 1972/73 and 1973/74. This price movement was reversed by a large 1973/74 crop which helped to replenish stocks and good crops in the years immediately following. The situation changed again over the period 1977/78 through 1980/81 when the growth in world cereal consumption outstripped world production and declining stocks led to a substantial rise in cereal prices. Since 1981/82 there has been a tendency once again for production to exceed consumption, stocks to increase, and prices to decline.

a. Wheat

Two decades of relative stability in wheat prices ended in 1973-74 when prices more than doubled over their 1972 levels. The price of wheat averaged a record \$173 per ton in 1984. ^{1/} The immediate cause of the sharp rise in prices was low production in the 1972/73 crop year (July/June), which reduced world wheat stocks to a level considerably below that of the 1960s. During the following three crop years, as production recovered and stocks were rebuilt, prices declined progressively to \$103 per ton in 1977. A reduction in acreage sown in the United States in the 1977/78 crop year and adverse weather conditions in a number of other producing countries, together with an increase in wheat consumption, caused prices to recover slightly in 1978. In 1978/79 heavy participation in the farmer-owned reserve program in the United States reduced the level of carryover stocks available to the market and, despite a 17 percent increase in world output, prices rose 25 percent in 1979. Market conditions tightened further in 1979/80 due to poor harvests in a number of major producing countries; prices rose by 8 percent in 1980 and by a further 1 percent in the following year.

Since 1981/81, four successive record world wheat crops have kept prices under downward pressure since 1980/81 (Table 11). World wheat output increased from 443 million tons in 1980/81 to 514 million tons in 1984/85. Though world wheat utilization also increased during these crop years, it did not keep pace with production. A steady rise in the ratio of world stocks to utilization from 17.6 percent in 1980/81 to 23.2 percent in 1984/85 led to a decline in wheat prices from \$175 in 1981 to \$152 in 1984.

^{1/} Price quotations refer to the U.S. No. 1 hard red winter wheat, ordinary protein, f.o.b. Gulf of Mexico ports.

Table 11. Wheat: World Commodity Balance, Market Prices, and Exports

(In millions of tons, unless otherwise indicated)

	July/June Years					
	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85
Commodity balance						
Production	424.5	442.8	448.4	479.1	490.4	514.4
China	62.7	54.2	59.6	68.4	81.4	87.7
EC	48.8	55.1	54.4	59.8	59.1	76.2
United States	58.1	64.6	75.8	75.3	65.9	70.6
U.S.S.R.	90.2	98.2	80.0	86.0	79.0	73.0
Other countries	164.7	170.7	178.6	189.6	205.0	206.9
Utilization	444.3	445.7	441.5	467.8	488.4	502.5
China	71.6	67.9	72.8	81.4	91.0	95.2
EC	43.3	43.9	44.5	44.6	49.2	51.9
United States	21.3	21.1	23.1	24.7	30.2	32.3
U.S.S.R.	114.8	116.7	102.0	105.7	99.0	98.0
Other countries	193.3	196.1	199.1	211.4	219.0	225.1
Closing stocks	81.0	78.2	85.1	96.4	98.5	110.4
United States	24.5	26.9	31.5	41.2	38.1	38.2
Others	56.5	51.3	53.6	55.2	60.4	72.2
Calendar Years						
	1979	1980	1981	1982	1983	1984
Market prices ^{1/} (US\$ per ton)	160	173	175	160	157	152
Exports ^{2/}						
Volumes	81.5	99.3	105.4	105.1	111.5	114.0 ^{3/}
Argentina	4.4	4.5	3.8	3.8	10.2	8.0 ^{3/}
Australia	6.9	15.0	10.7	12.4	6.6	14.5 ^{3/}
Canada	12.5	17.4	16.2	19.6	22.2	23.0 ^{3/}
France	9.2	12.0	14.8	12.7	14.7	14.8 ^{3/}
United States	34.7	36.9	45.1	41.6	41.0	41.6 ^{3/}
Other countries	13.8	13.5	14.8	15.0	16.8	12.1 ^{3/}
Unit values ^{4/} (US\$ per ton)	163	188	190	173	160	154
Earnings						
(US\$ millions)	13,300	18,670	20,040	18,130	17,850	17,600 ^{3/}
Industrial countries	11,350	16,630	17,990	16,140	15,240	15,100 ^{3/}
Other countries	1,950	2,040	2,050	1,990	2,610	2,500 ^{3/}

Sources: Data for world commodity balance from U.S. Department of Agriculture, Foreign Agriculture Circular: Grains (Washington), various issues. Data on exports from FAO Trade Yearbook (Rome), various issues.

^{1/} U.S. No. 1, hard winter, f.o.b. Gulf of Mexico ports.

^{2/} Includes wheat flour, measured in wheat equivalent.

^{3/} Staff estimates.

^{4/} Derived.

While the trend in wheat prices since 1980/81 has been downward, there has been some variation in the direction of the price movements; seasonal lows are usually reached in July and seasonal highs in April. In 1983/84 the prospect of a record wheat crop caused prices to decline from \$167 per ton in April 1983 and \$147 per ton in July 1983. However, prices recovered in August and September 1983, when it became clear that the effects of a drought in the United States and large-scale farmer participation in the 1984 U.S. maize program, as well as a poor barley crop in the European Communities (EC), would result in a sharply lower feedgrain harvest. During the third quarter of 1983 and the first quarter of 1984, a very low wheat to maize price ratio caused by comparatively high maize prices, resulted in a sharp increase in wheat fed to livestock and poultry. This helped to sustain the wheat price within a narrow range between \$151 and \$154 per ton. In March and April 1984, when the market focused on the outlook for the 1984/85 crop, prices rose because of continued firmness in maize and soybean prices and uncertainties arising out of successive modifications of the U.S. wheat program for 1984. Forecasts of a 3 million ton increase in the U.S. wheat crop, the prospect of large crops in the EC and Canada, and the likelihood of a sharp increase in feedgrain supplied caused prices to weaken in May 1984. With the onset of the Northern Hemisphere wheat harvesting adding to already substantial carryover stocks and declining maize and soybean prices, wheat prices declined to \$147 per ton by July, virtually the same level as a year earlier.

Prices recovered from their seasonal lows in August 1984 and remained firm through November 1984 due to less favorable crop prospects in Canada and the U.S.S.R. and heavy wheat purchases by the U.S.S.R. However, with the Southern Hemisphere harvest adding to already ample supplies and with a reduction in the rate of U.S.S.R. and Chinese purchases, price competition intensified among the major exporters after December 1984 and by July 1985 prices had declined to an average of \$129 per ton for the month.

The 1984/85 world wheat harvest is estimated to be about 514 million tons or some 5 percent larger than the record 1983/84 crop of 490 million tons. Production in the major exporting countries is estimated to have increased by 7 percent largely because ideal weather conditions and the increasing use of high-yielding wheat varieties boosted yields to record levels in the EC and caused production in that group of countries to increase by over 17 million tons. In the United States, notwithstanding the 1984 wheat program which was designed to reduce output, production increased by 7 percent due to an increase in the area harvested. Despite a record acreage sown to wheat, production in Canada fell by 20 percent as hot, dry weather during July and August lowered yields. The Australian wheat crop in 1984/85, estimated at 18.6 million tons, the second largest ever, was, nevertheless, about 16 percent lower than the record 1983/84 crop. Output in Argentina is estimated to be about 7 percent larger than in 1983/84.

In the major importing countries production increases of 17 percent in Eastern Europe, 8 percent in China and 5 percent in India, more than compensated for an 8 percent decline in the U.S.S.R. wheat crop. Dry weather reduced the 1984/85 U.S.S.R. wheat crop to 73.0 million tons making it the smallest crop since 1975/76.

Increased use of wheat to offset food production shortfalls, especially in Africa, a recovery in consumption in the U.S.S.R. and a further increase in consumption in China contributed to a 3 percent increase in world wheat utilization in 1984/85. A very low wheat to feed grains price ratio during the early part of the crop year resulted in larger amounts of wheat being fed to livestock and poultry, but with the recovery in feedgrain supplies in 1984/85, more typical price relationships are expected to prevail and the feed use of wheat in 1984/85 is expected to be sharply lower than in the previous year.

World trade in wheat (including food aid but excluding intra-EC trade) grew by 3 percent to a record 106.2 million tons in 1984/85 largely because of a 27 percent increase in wheat imports by the U.S.S.R. However, imports by China, the second largest importer, declined slightly due to a further increase in domestic production. Food aid shipments of wheat to help alleviate food shortages in Africa increased during the crop year. Ending stocks, which had increased from 96.4 million tons in 1982/83 to 98.5 million tons in 1983/84, increased by 11 percent to 110.4 million tons by the end of the 1984/85 crop year.

Though the volume of world exports was virtually the same at 105.4 million tons in calendar year 1981 and 105.1 million tons in 1982, total world wheat export receipts declined from \$20.04 billion in 1981 to \$18.13 billion in 1982 because of a 9 percent decline in export unit value. In 1983 the world wheat export volume increased by 6 percent to 111.5 million tons but export receipts declined to \$17.85 billion as prices continued to decline. The volume of world wheat exports in 1984 is estimated to be 114.0 million tons while export receipts are estimated to decline further to \$17.60 billion.

The outlook is for a large 1985/86 world wheat crop. Favorable winter and spring moisture conditions and warm weather in most parts of the Northern Hemisphere enhanced the prospects for a large winter wheat harvest and accelerated the rate of spring wheat plantings. In the United States, although the 1985 wheat program requires less reduction of acreage, the area sown to wheat declined slightly as participation in the program increased due to the low level of wheat prices, but production is expected to remain at about the same level as in 1984/85 due to favorable growing conditions. Total world wheat planted area in 1985 is likely to remain at about the same level as in 1984 because of increased plantings in Canada, the EC, and the U.S.S.R. Assuming normal weather conditions during the rest of the growing season, a greater use of fertilizers and high-yielding varieties is expected to result in increased yields and world production in 1985/86 can be

expected to increase to about 520 million tons. World wheat utilization is also expected to increase but at a slower rate than production, and stocks are expected to rise further. World trade in wheat is expected to be lower than in 1984/85 and competition between the major exporters is likely to intensify. Prices are expected to decline further.

b. Maize

Prices of maize have been strongly influenced by production and policy in the United States which accounts for about 45 percent of world supply and about three fourths of world exports (Table 12). Other large producers are China (16 percent), Brazil (4 percent), and Thailand (4 percent); other major exporters include Argentina, South Africa, and Thailand. The main importers are Japan, the U.S.S.R., the EC, Korea, Spain, and Mexico. While maize is an important staple food in many countries, approximately one half of world maize is used for animal feed, particularly for poultry. Maize is also used for the production of high fructose corn syrup, industrial starch, and other products.

A record crop in the United States in 1979/80, which resulted in an 8 percent increase in world production, caused prices to decline from an average of \$120 per ton in the second half of 1979 to \$106 per ton by January 1980. ^{1/} In the 1980/81 crop year (October/September), drought in both Argentina and the United States, which contributed to a 4 percent decline in world maize production, caused prices to recover to an average of \$130 per ton in 1981. This was followed in 1981/82 by a 22 percent increase in U.S. maize production and a 9 percent increase in world maize output which caused prices to decline to \$108 per ton in 1982. In 1982/83, though world production was virtually the same as in the previous year, prices began to recover, due to increased imports by the U.S.S.R. and a reduction in stocks in the United States due to the movement of maize into farmer-owned reserves.

The introduction of an attractive payment-in-kind (PIK) component in the 1983 U.S. maize program resulted in large scale farmer participation in that program. Reports of intended low levels of planting in the United States, and a sharp reduction in the South African maize crop, caused maize prices to rise to \$134 per ton in the second quarter of 1983. A severe drought in the U.S. maize belt, the worst in 50 years, boosted prices further to \$147 per ton in the third quarter of 1983. Prices remained firm, despite the onset of the Northern Hemisphere harvest, because it was apparent that total available supplies in 1983/84 would be sharply lower than in the previous year. In spite of larger crops in China, the U.S.S.R., and Mexico, global maize production in 1983/84 declined by 21 percent to 346 million tons, because of a 49 percent reduction in maize production in the United States. Total

^{1/} Price quotations refer to U.S. No. 2 yellow corn, f.o.b. Gulf of Mexico ports.

Table 12. Maize: World Commodity Balance, Market Prices and Exports

(In millions of tons, unless otherwise indicated)

	October/September Years					
	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85
Commodity balance						
Production	423.3	404.6	439.2	438.4	345.6	449.7
China	60.0	61.0	59.2	60.3	68.2	72.4
United States	201.7	168.8	206.2	209.2	106.0	194.5
Other countries	161.6	174.8	173.8	168.9	171.4	182.8
Utilization	413.5	413.0	412.7	418.6	409.5	436.6
China	62.0	61.8	60.2	62.8	68.1	69.0
United States	131.9	123.8	127.3	137.7	119.6	133.4
Other countries	219.6	227.4	225.2	218.1	221.8	234.2
Closing stocks	57.5	49.1	76.8	96.6	32.8	45.8
United States	41.1	26.3	55.2	79.3	18.4	30.0
Others	16.4	22.8	21.6	17.3	14.4	15.8
Calendar Years						
	1979	1980	1981	1982	1983	1984
Market prices ^{1/} (US\$ per ton)	<u>116</u>	<u>126</u>	<u>131</u>	<u>108</u>	<u>136</u>	<u>136</u>
Exports						
Volumes	76.1	79.8	79.4	70.0	69.3	78.0 ^{2/}
United States	59.2	63.2	54.9	48.9	47.6	46.3
Other countries	16.9	16.6	24.5	21.1	21.7	31.7
Unit values ^{3/} (US\$ per ton)	<u>128</u>	<u>148</u>	<u>154</u>	<u>128</u>	<u>142</u>	<u>140</u>
Earnings						
(US\$ millions)	9,750	11,850	12,230	8,940	9,830	10,920 ^{2/}
Industrial						
countries	8,320	10,100	9,280	7,000	7,890	8,920 ^{2/}
Other countries	1,430	1,750	2,950	1,940	1,940	2,000 ^{2/}

Sources: Data for world commodity balance from U.S. Department of Agriculture, Foreign Agriculture Circular: Grains (Washington) various issues; data on exports from FAO Trade Yearbook (Rome), various issues.

^{1/} U.S. No. 2 yellow corn, f.o.b. Gulf of Mexico ports.

^{2/} Staff estimates.

^{3/} Derived.

planted acreage in the United States was 26 per cent lower than in 1982/83 largely on account of the PIK program, while yields declined by 28 percent due to the effects of the severe drought.

Despite the sharp drop in world maize production in 1983/84, world maize consumption at 410 million tons was only 2 percent below consumption in the previous year. Import demand for maize remained strong because of production shortfalls in the U.S.S.R. and South Africa. Despite the sharp rise in maize prices, total maize imports in 1983/84 were only 6 percent lower than in the previous year. The result was a large drawdown in stocks from 96.6 million tons at the end of the 1982/83 crop year to 32.8 million tons at the end of the 1983/84 year. Thus, notwithstanding the relatively low wheat prices and a sharp increase in the amount of wheat fed to livestock, the global maize supply situation remained very tight and maize prices in the 1983/84 crop year averaged \$143 per ton or about 15 percent higher than in the 1982/83 crop year.

World maize production is estimated to recover to 450 million tons in 1984/85 as a result of a recovery in U.S. production. The area planted to maize in the United States increased by 33 percent in 1984/85 and yields recovered by 31 percent from the drought-reduced level of 1983/84. As a result, maize production in the United States is expected to recover from 106 million tons in 1983/84 to 195 million tons in 1984/85. Despite the sharp increase in world maize production in 1984/85, ending stocks are expected to recover only partially, to 46 million tons, because world maize consumption is expected to increase by 7 percent in 1984/85 to 437 million tons. Record U.S.S.R. maize imports, resulting from a 25 percent reduction in the U.S.S.R. maize crop, are expected to boost 1984/85 world maize imports to 68 million tons, or to a level some 13 percent higher than in 1983/84.

Despite a large increase in the area planted to maize in the United States in 1984, the prospect of a sharply lower U.S.S.R. coarse grains crop and a drawdown in maize stocks kept prices firm during the first nine months of 1984 when prices averaged \$142 per ton or 7 percent higher than during the same period of 1983. The onset of the Northern Hemisphere harvest helped to alleviate the tight supply situation causing prices to decline to an average level of \$117 per ton in the fourth quarter of 1984. Following the seasonal pattern associated with a crop of normal size, maize prices strengthened during the first half of the 1984/85 crop year. However, prices weakened, from \$120 in April to \$115 in July 1985, when the prospects for the 1985/86 crop year indicated a large increase in world maize production and a downturn in world trade, due to sharply lower projections of imports by the U.S.S.R. Unless production is reduced by adverse weather conditions late in the growing season, maize prices are expected to weaken in 1985/86.

The value of world trade in maize declined from \$12.2 billion in 1981 to \$8.9 billion in 1982, due to a drop in both export volumes and export unit values. In 1983, the value of world trade recovered to \$9.8 billion due to a sharp rise in maize prices; earnings in 1984

are estimated to have increased to \$10.9 billion as a result of an increased volume of exports. However, the sharp fall in prices during 1985 is likely to reduce earnings substantially in 1985.

c. Rice

Most of the world's rice is consumed in the countries where it is produced, and as only about 4 percent of production enters international trade, the world market for rice is a residual market. The bulk of the world's rice is grown in Asia, where it is subject to the vagaries of the monsoons. As a result, relatively small changes in output can cause substantial instability in export availability and prices.

A poor crop in India in 1980 and a production shortfall in Korea in 1981 caused prices to rise by 30 percent in 1980 and by a further 11 percent to \$483 per ton in 1981. ^{1/} This level of prices was second only to that recorded in 1974. Since 1981, world import demand for rice has weakened because of a steady increase in world rice production in the major rice-importing countries due to generally favorable weather conditions and increasing use of higher yielding varieties. World rice production (unmilled basis) has increased at an annual average rate of 3.4 percent in the 1980s (Table 13). Production in Asia, which accounts for about 90 percent of total output, increased at a more rapid rate of 3.8 percent per annum due to production increases in China, India, and Indonesia. These production increases enabled some Asian countries which were major importers in recent years, such as Indonesia, to become increasingly self-sufficient. On the other hand, imports by African countries have risen substantially since 1980.

In 1983/84 world rice production increased by 8 percent to 452 million tons due to substantial production increases in India, China, and Thailand. Production in India recovered by 27 percent to 90 million tons from the drought-reduced crop of 71 million tons in 1982/83. Production in China increased by 5 percent to 169 million tons in 1983/84 while production in Thailand increased by 16 percent. The effects of a drought and the PIK program resulted in a 36 percent reduction in U.S. production. The United States, while accounting for little more than 1 percent of world production of rice, has accounted for approximately one quarter of world rice exports in recent years.

As the 1983/84 harvest progressed, the production outlook remained favorable and prices fell to US\$255 per ton during the first half of 1984. In the third quarter of 1984, a drawdown in stocks in the period between the main harvests caused prices to recover to \$266 per ton, but with the prospect of ample supplies from the 1984/85 crop, prices declined to \$234 per ton in the first quarter of 1985 and to \$222 per ton during the second quarter. Prices in July 1985 fell further to \$210 per ton.

^{1/} Price quotations refer to Thai milled white rice, 5 percent broken, f.o.b. Bangkok.

Table 13. Rice: World Commodity Balance, Market Prices, and Exports

(In millions of tons, unless otherwise indicated)

	Crop Years 1/					
	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85
Commodity balance						
Production (unmilled basis)	378.5	398.8	412.6	419.5	451.7	466.8
China	143.8	139.9	144.0	161.2	168.9	178.1
India	63.6	80.5	80.0	70.7	89.7	89.3
Indonesia	26.3	29.7	32.8	33.6	35.3	38.0
Bangladesh	19.1	20.8	20.5	21.3	21.8	21.6
Thailand	15.8	17.4	17.8	16.9	19.6	18.5
Other countries	109.9	110.5	117.5	115.8	116.4	121.3
Production (milled basis)	258.1	271.0	280.6	285.7	307.4	318.0
Utilization (milled basis)	258.0	272.3	281.4	289.6	307.5	314.7
China	86.7	97.5	100.5	112.4	117.3	123.9
India	45.9	53.3	54.1	48.5	58.0	58.5
Indonesia	20.2	21.3	22.3	23.7	25.3	25.1
Bangladesh	13.2	13.6	14.1	14.6	14.9	25.0
Other countries	92.0	86.6	90.4	90.4	92.0	82.2
Closing stocks (milled basis)	23.4	22.1	21.3	17.3	17.2	20.4
India	7.0	6.5	5.0	3.5	6.0	7.0
Indonesia	0.8	1.8	2.3	1.8	1.6	2.8
United States	0.8	0.5	1.6	2.3	1.5	2.1
Others	14.8	13.3	12.4	9.7	8.1	8.5
Calendar Years						
	1979	1980	1981	1982	1983	1984
Market prices 2/ (US\$ per ton)	334	434	483	293	277	252
Exports						
Volume	11.9	12.7	13.1	12.2	11.5	10.8 3/
Thailand	2.8	2.8	3.0	3.8	3.5	3.3 3/
United States	2.3	3.1	3.1	2.5	2.4	2.2 3/
Other countries	6.8	6.8	7.0	5.9	5.6	5.3 3/
Unit value (US\$ per ton) 4/	340	392	441	341	315	265
Earnings (US\$ millions)	3,880	5,050	5,780	4,160	3,610	2,850 3/
Industrial countries	1,530	2,180	2,560	1,830	1,600	1,250 3/
Other countries	2,350	2,870	3,220	2,330	2,010	1,600 3/

Sources: Data on world commodity balance from U.S. Department of Agriculture, Foreign Agriculture Circular: Grains (Washington), various issues. Export data from FAO Trade Yearbook (Rome), various issues.

1/ Rice is harvested over a six to eight month period; thus crop year 1978/79 represents crops harvested in late 1978 and early 1979 in the Northern Hemisphere and in early 1979 in the Southern Hemisphere.

2/ Thai milled white rice, f.o.b. Bangkok.

3/ Staff estimates.

4/ Derived.

In calendar year 1984, world trade in rice was estimated to have risen by 4 percent to 12.3 million tons, largely on account of an estimated 22 percent increase in exports from Thailand. Extensive flood damage to the main rice crop in Bangladesh caused that country's rice imports to increase from 0.1 million tons in 1983 to an estimated level of 0.73 million tons in 1984. Despite a good 1983/84 crop, India increased its rice imports in 1984 to replenish rice stocks drawn down by the shortfall in rice production in 1982/83. For the first time since 1977, the Philippines re-entered the rice market as an importer in order to rebuild government rice stocks. On the other hand, favorable weather conditions and large rice stocks caused Indonesia's rice imports to decline from 1.2 million tons in 1983 to an estimated 0.4 million tons in 1984.

World rice export earnings are estimated to have declined progressively from \$5.8 billion in 1981 to \$4.2 billion in 1982, \$3.6 billion in 1983 and \$2.9 billion in 1984. Not only was there a sharp decline in export unit values, but the volume of world rice exports also fell steadily each year, from 13.1 million tons in 1981 to an estimated level of 10.8 million metric tons in 1984.

In 1984/85 world rice production is estimated to be about 3 percent higher than in 1983/84, but as rice consumption is estimated to increase by only about 2 percent, ending stocks are expected to increase by about 3 million tons. Import demand for rice is expected to remain weak during the rest of 1985 because of large crops and ample supplies in the major rice importing countries. Thus, unless weather conditions in Asia deteriorate, excess supplies in the major rice exporting countries are expected to cause rice prices to remain relatively low over the short run.

2. Sugar

The free market price of sugar has been one of the most volatile commodity prices. Since 1974, there have been only two years in which the annual average price has changed by less than 20 percent, and in both 1974 and 1980, the price increased by close to 200 percent (Table 14). This instability is largely the result of the structure of the world sugar market. Sugar, from either sugar cane or sugar beet, is produced in all but a few countries and consumed worldwide; in recent years, about 30 percent of world production has entered international trade (Table 15). Of this, more than three quarters has been traded at the free market price; the remainder has been traded at more stable prices under special arrangements. Thus, only about one fifth of annual production is traded internationally at free market prices and production swings can have an exaggerated effect on the free market.

In recent years, the free market price has been much lower than the U.S. and EC import prices because of the glut of sugar available

Table 14. Prices of Sugar

(In U.S. cents per pound)

	Free Market <u>1/</u>	European Communities <u>2/</u>	United States <u>3/</u>
1960	3.1	5.5	5.7
1961	2.9	5.6	5.7
1962	3.0	5.6	5.8
1963	8.5	5.7	7.5
1964	5.9	5.7	6.3
1965	2.1	5.8	6.2
1966	1.9	5.9	6.4
1967	2.0	5.9	6.7
1968	2.0	5.1	6.9
1969	3.4	5.1	7.1
1970	3.8	5.1	7.5
1971	4.5	5.2	7.9
1972	7.5	6.8	8.5
1973	9.6	6.7	10.3
1974	29.9	10.6	29.5
1975	20.6	15.4	22.5
1976	11.6	13.4	13.3
1977	8.1	14.0	11.0
1978	7.8	15.9	14.0
1979	9.7	19.3	15.5
1980	28.7	22.1	30.0
1981	16.9	18.9	19.7
1982	8.4	18.1	19.9
1983	8.5	17.6	22.0
1984	5.2	16.0	21.7
1984 I	6.7	16.7	21.8
II	5.7	16.6	22.0
III	4.2	15.9	21.8
IV	4.2	14.9	21.4
1985 I	3.7	13.7	20.7
II	3.0	15.4	21.1
July	3.3	16.9	21.1 <u>4/</u>

Source: Commodities Division.

1/ International Sugar Agreement price which is an average of the New York Contract No. 11 spot price and the London Daily Price, f.o.b. Caribbean ports.

2/ Unpacked sugar, c.i.f. European ports.

3/ New York Contract No. 12 spot price, c.i.f. Atlantic and Gulf of Mexico ports.

4/ Staff estimates.

Table 15. Sugar: World Commodity Balance, Market Prices, and Exports

(In millions of tons, unless otherwise indicated)

	September/August Years					
	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85
Commodity balance						
Production	84.6	88.5	100.3	101.2	96.2	99.4
Australia	3.0	3.4	3.4	3.5	3.4	3.5
Brazil	7.0	8.5	8.4	9.3	9.4	8.9
China	2.5	3.0	3.4	4.1	3.8	4.3
Cuba	6.8	7.5	8.2	7.2	8.2	8.2
EC	13.6	13.3	16.0	14.7	11.6	13.2
India	5.2	6.5	9.7	9.5	7.0	6.9
United States	5.1	5.5	5.5	5.4	5.3	5.3
U.S.S.R.	7.9	7.2	6.4	7.4	8.7	8.8
Other countries	33.5	33.6	39.3	40.1	38.8	40.3
Consumption	89.5	88.5	90.5	93.8	95.7	95.9
Brazil	6.1	6.1	5.8	6.2	6.3	6.3
China	3.4	3.9	4.5	4.9	5.0	5.2
EC	10.4	10.2	10.4	10.2	10.0	10.1
India	6.7	6.4	6.8	7.6	8.9	9.3
United States	9.5	8.9	8.4	8.0	7.8	7.3
U.S.S.R.	12.7	12.9	13.0	13.0	13.2	13.3
Other countries	40.7	40.1	41.6	43.9	44.5	44.4
Closing stocks	24.2	25.2	35.0	42.4	42.9	46.4
"Normal" stock level ^{1/}	21.5	21.2	21.7	22.5	23.0	23.0
Stocks/consumption ratio	27.0	28.5	38.7	45.2	44.8	48.4
Calendar Years						
	1979	1980	1981	1982	1983	1984
Market prices (U.S. cents per pound)						
Free market ^{2/}	9.7	28.7	16.9	8.4	8.5	5.2
EC ^{3/}	19.3	22.1	18.9	18.1	17.6	16.0
United States ^{4/}	15.5	30.0	19.7	19.9	22.0	21.7
Exports						
Volumes ^{5/}	26.5	27.6	29.3	30.9	29.6	29.8 ^{6/}
Unit values ^{7/} (U.S. cents per pound)	15.5	24.2	22.8	16.6	16.3	14.3
Earnings (US\$ millions)	9,070	14,710	14,750	11,340	10,640	9,380 ^{6/}
Industrial countries	1,970	3,880	5,070	2,950	2,370	1,310 ^{6/}
Other countries	7,100	10,830	9,680	8,390	8,270	8,070 ^{6/}

Sources: Data for world commodity balance from U.S. Department of Agriculture, Foreign Agriculture Circular: Sugar, Molasses, and Honey (Washington), various issues. Data on exports from FAO Trade Yearbook (Rome), various issues.

^{1/} Calculated as 24 percent of current consumption.

^{2/} International Sugar Agreement price which is an average of the New York Contract No. 11 spot price and the London Daily Price, f.o.b. Caribbean ports.

^{3/} Unpacked sugar, c.i.f. European ports.

^{4/} New York Contract No. 12 spot price, c.i.f. Atlantic and Gulf of Mexico ports.

^{5/} Raw equivalent.

^{6/} Staff estimates.

^{7/} Derived.

on that market. ^{1/} The U.S. and the EC prices, which are set in relation to domestic price support programs, have been comparatively stable (Table 14).

Since the early 1970s, the free market price of sugar has gone through two cycles with the price increases triggered by production shocks. Record high prices were realized in 1974 as a result of a sharp decline in the ratio of world stocks to consumption because of a lack of investment in sugar cultivation over a number of years and a succession of poor crops in major producing countries. Whereas the extended period of relatively low sugar prices prior to the early 1970s had led to little investment in productive capacity, the 1973-74 price rise induced large investments in capacity expansion in sugar production worldwide. After rising to a record annual average of 29.9 cents per pound in 1974, the free market price declined continuously as world production expanded rapidly again from 1974/75 to 1978/79 and world stocks rose. Prices in the free market fell to 7.8 cents in 1978. Because of unfavorable weather, particularly in Cuba and the U.S.S.R., prices rose rapidly once again in 1979 and 1980. An average free market price of 28.7 cents per pound was recorded in 1980. The subsequent price decline during 1981-82, following an increase in production in 1980/81 of nearly 5 percent and bumper crops in excess of 100 million tons in the two following years, was equally rapid. In 1982 the price averaged 8.4 cents per pound and it remained near that level in 1983.

In 1984, the free market price of sugar declined further to average 5.2 cents per pound. This decline, mainly reflected the significant imbalance between world sugar supply and demand and the prospects for a further increase in the already unprecedented world stock overhang in 1984/85. Prices in the first seven months of 1985 averaged only 3.3 cents per pound.

While production and consumption of sugar are estimated to have been in balance in 1983/84, after two years of record crops raised world stocks to unprecedented levels, further production and stock increases are estimated for 1984/85 (Table 15). Increased areas planted to beets as well as higher yields in the EC along with improved growing conditions in South Africa, where drought had reduced crops in 1983/84, are expected to help raise world sugar production from 96.2 million tons in 1983/84 to 99.4 million tons in 1984/85. The estimated rise in EC production accounts for 50 percent of the increase in world production in 1984/85, while that in South Africa accounts for 31 percent.

^{1/} The representative price for the free market is the International Sugar Agreement price, which is the average of the New York Contract No. 11 spot price and the London Daily Price, stowed in bulk, f.o.b. Caribbean ports. The U.S. import price is the New York Contract No. 12 spot price, duty paid, delivery in bulk, c.i.f. Atlantic and Gulf of Mexico ports. The EC guaranteed price, expressed in ECU per 100 kilograms, refers to unpacked sugar of standard quality, c.i.f. European ports.

The support prices for sugar expressed in European Currency Units (ECU) remained the same in 1984/85 as in the previous year, but as a result of changes in conversion factors from the ECU to the national currencies, the average support price for beet sugar in national currencies rose by 3.6 percent in the EC in 1984/85 and by 5.8 percent in France, the largest sugar producer in the Community.

World consumption, after rising by 2 percent in 1983/84, is expected to increase by less than 1 percent to 95.9 million tons in 1984/85. This lower rate mainly reflects the continued decline in sugar consumption in the United States, where additional high fructose corn syrup and low caloric sweeteners are being substituted for sugar in a growing number of products. However, this decline is more than offset by increases in consumption elsewhere, particularly in India, where a 17 percent rise in domestic consumption occurred in 1983/84 and where a 4 percent rise is estimated for 1984/85.

Also contributing to the weakening of sugar prices was the collapse in June 1984 of negotiations for a new international sugar agreement with price stabilization provisions, to replace the 1977 Agreement, which expired at the end of 1984. ^{1/} The residual nature of the free market for sugar and the inherent volatility of the free market price have militated against successful stabilization schemes for this market. In addition, the task of reaching a new agreement on stabilization measures was made more difficult by the change in the trading position of the EC, which was not a member of the 1977 Agreement, from a net importer of sugar in the early 1970s to a large net exporter of sugar in the early 1980s. As a consequence of the expiration of the 1977 Agreement, exporting countries were released from their obligations to hold special stocks under the control of the International Sugar Organization.

The deterioration of prices has continued in 1985 in response to late season estimates which show production in 1984/85 higher than expected in earlier forecasts in major, as well as smaller, sugar-producing countries and forecasts of another large world crop in 1985/86. In May and June 1985 the average free market price fell below 3 cents for the first time since 1969. Subsequently, the price in July recovered marginally to 3.2 cents per pound.

A number of countries have maintained average export earnings from sugar through sales in the U.S. and EC markets, where prices are significantly higher than free market quotations. However, mainly reflecting the sharp decline in free market prices, the average unit value of sugar exports and total export earnings have fallen in recent

^{1/} The International Sugar Agreement of 1977 was succeeded at the beginning of 1985 by a new two-year agreement without market stabilization provisions, the International Sugar Agreement of 1984. See DM/84/67, Section VI, 10/31/84, for a discussion of the operation of the 1977 International Sugar Agreement.

years (Table 15). Despite a 12 percent increase in the volume of world sugar exports between 1980 and 1982, export earnings fell by 23 percent. About two thirds of the absolute decline in earnings in those years was borne by the developing countries. The volume of sugar exports of developing countries has been adversely affected by both the large increases in export volumes by the EC and by the reduction of U.S. demand for sugar imports.

Current prospects for an appreciable decline in 1985/86 of the stock overhang are not favorable. World production is forecast to reach nearly the same level as in 1984/85, 3 percent higher than in 1983/84. Although production in the EC in 1985/86 is expected to decline by about 2 percent, reflecting a slight reduction in area planted, and in Brazil, in response to low free market prices, this is expected to be more than offset by increased production in other large producing countries in Asia, particularly India, Pakistan, China, and Indonesia. With world consumption growing at a moderate rate, the world sugar market is expected to remain in surplus, at least over the short-term, and no significant improvement in prices is expected.

3. Vegetable oils and protein meals

Vegetable oils and protein meals are mainly derived from oilseeds. Their markets are in general characterized by high degrees of substitution in demand. While a relatively small proportion of the consumption of each vegetable oil occurs in a "captive" market, where the specific oils enjoy a strong technical advantage (e.g., coconut oil and palm kernel oil in soap manufacture and groundnut oil for culinary use in the French market), the scope for substitution is great in the rest of the market. Furthermore, new processing methods have increased the interchangeability of the various oils. Similarly, there is considerable scope for substitution among protein meals.

The supply side of the market is much more heterogeneous. There are considerable differences in the gestation lags in production of the various oilseeds, and the complexity of the market reflects the fact that all oils are to varying degrees joint products of meal production. At one extreme, soybeans is an annual crop which by weight is 80 percent meal and 18 percent oil. Meal revenues have typically been so dominant as to render to soybean oil the status of a byproduct. At the other extreme, palm oil is a perennial with only minor revenues attributable to the production of meal, in this case from the palm kernel. However, the soybean complex (Table 16) has in the past dominated the rest of the sector: broadly, soybean production has been responsive primarily to meal demand, with the soybean oil jointly produced in crushing in turn strongly influencing the prices of other oils.

As a result of this structure of soybean oil supply, coupled with long gestation lags for other major oils, prices for vegetable oils are highly unstable, while meal prices are relatively stable because of substitution with other feeds, particularly maize (Table 17). Moreover,

Table 16. World Commodity Balance: Major Oilseeds

	October/September Years					
	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85
(In millions of tons, oil equivalent) 1/						
Production	44.1	41.7	46.1	48.1	45.7	51.5
Soybeans	16.9	14.6	15.5	16.8	14.8	16.3
Palm oil	4.8	5.1	5.9	5.9	6.2	7.0
Groundnuts	5.0	4.7	5.8	5.1	5.4	5.7
Copra	2.8	3.1	3.0	2.8	2.3	2.7
Other 2/	14.6	14.2	15.9	17.5	17.0	19.8
Noncrush use	6.3	6.0	7.2	7.3	7.0	7.6
Soybeans	2.1	1.9	2.7	2.6	2.5	2.4
Groundnuts	2.0	2.0	2.2	2.1	2.2	2.4
Other	2.2	2.1	2.3	2.6	2.3	2.8
Crushings/oil production	35.9	36.2	39.3	40.7	39.6	43.2
Soybean oil	13.3	12.9	13.0	13.8	13.0	13.4
Palm oil	4.8	5.1	5.9	5.9	6.2	7.0
Groundnut oil	3.1	2.7	3.5	3.0	3.2	3.3
Coconut oil	2.7	2.9	2.9	2.8	2.3	2.7
Other	12.0	12.5	13.9	15.3	14.9	16.8
Oil consumption	35.9	36.1	39.3	40.9	40.0	43.3
Soybean oil	13.3	12.6	13.3	13.7	13.3	13.5
Palm oil	4.8	5.2	5.7	6.1	6.1	7.0
Groundnut oil	3.1	2.8	3.5	3.0	3.2	3.3
Coconut oil	2.7	3.0	2.9	2.8	2.3	2.7
Other	12.0	12.5	13.9	15.3	15.1	16.8
Closing stocks	7.7	7.3	7.0	6.9	5.6	6.3
As oilseeds 3/	4.7	4.3	3.9	4.0	3.0	3.8
As oil 4/	3.0	3.0	3.1	2.9	2.6	2.5
(In millions of tons, meal equivalent) 1/						
Production	109.1	98.6	107.0	113.7	104.4	117.3
Soybeans	75.0	64.8	68.8	74.8	65.9	72.6
Other	34.1	33.8	38.1	38.9	38.5	44.7
Noncrush use	15.4	15.2	18.1	18.6	19.8	19.4
Crushings/meal production	86.2	84.6	90.0	93.8	88.1	95.2
Soybeans	59.8	56.9	59.1	62.2	56.9	59.2
Other	26.4	27.7	30.9	31.6	31.2	36.0
Meal consumption	86.0	84.5	90.5	93.2	87.7	94.7
Soybean meal	59.7	56.9	59.6	61.5	56.6	59.0
Other	26.3	27.6	30.9	31.7	31.1	35.7
Closing stocks	19.0	17.9	16.3	18.2	15.1	18.3
As oilseeds 3/	16.1	14.8	13.7	15.0	11.6	14.2
As meal 4/	3.0	3.1	2.7	3.2	3.5	4.0

Source: U.S. Department of Agriculture, Foreign Agriculture Survey: Oilseeds and Products (Washington), various issues.

1/ Derived from oilseed data using standard conversion factors.

2/ Palm kernel, sunflowerseed, rapeseed, cottonseed.

3/ Change in oilseed stocks equals production less noncrush use less crushings.

4/ Change in oil/meal stocks equals oil/meal production less oil/meal consumption.

Table 17. Prices of Vegetable Oils and Protein Meals

(In U.S. dollars per ton)

	Soybean Oil <u>1</u> /	Palm Oil <u>2</u> /	Coconut Oil <u>3</u> /	Groundnut Oil <u>4</u> /	Soybean Meal <u>3</u> /	Groundnut Meal <u>6</u> /	Fish Meal <u>7</u> /
1960	224	224	312	327	78	94	118
1961	287	228	253	330	81	89	131
1962	227	210	249	275	89	98	149
1963	224	218	283	268	91	102	145
1964	233	234	297	316	89	105	161
1965	270	273	349	325	73	115	203
1966	262	234	312	296	87	107	182
1967	217	223	319	283	85	107	145
1968	178	168	386	271	98	101	129
1969	197	185	347	332	95	108	172
1970	286	260	379	378	103	115	197
1971	304	262	353	446	102	111	168
1972	241	217	248	426	129	137	239
1973	436	376	513	544	303	299	542
1974	832	691	998	1,058	184	196	372
1975	563	420	394	778	155	158	245
1976	438	397	418	691	198	198	376
1977	580	530	578	846	230	245	454
1978	607	600	683	1,079	213	231	410
1979	662	654	985	889	243	238	395
1980	598	583	673	859	259	271	504
1981	507	571	570	1,043	253	269	468
1982	447	445	467	585	218	208	354
1983	527	501	730	711	238	229	453
1984	725	729	1,155	1,017	197	188	373
1984 I	694	865	1,117	1,031	229	225	458
II	843	858	1,298	1,162	214	194	385
III	690	584	1,176	990	178	168	331
IV	674	608	1,029	884	168	163	319
1985 I	653	609	818	902	157	148	293
II	675	606	669	1,007	145	136	268
July	568	487	520	880	144	139	254

1/ Dutch, f.o.b. ex-mill Rotterdam.

2/ Sumatra/Malaysia oil, c.i.f. Northwest European ports.

3/ Philippines/Indonesian oil, in bulk, c.i.f. Rotterdam.

4/ Any origin, in bulk, c.i.f. Rotterdam.

5/ U.S. origin, c.i.f. Rotterdam.

6/ Argentine meal, in bulk, c.i.f. Rotterdam.

7/ Any origin, c.i.f. Hamburg.

buoyant growth in meal demand has typically resulted in abundant supplies of relatively low priced oils. Over the last two years, however, the soybean complex, and by implication the oilseeds sector as a whole, have experienced a notable increase in oil to meal price ratio; at the same time the rapid growth of palm oil is increasingly threatening the dominant position of soybean oil.

Under the influence of weak meal demand stemming in the main from greater use of other feeds, such as fishmeal and maize, the soybean meal price has tended to move sharply downwards since August 1983, reaching \$141 per ton in June 1985--its lowest level in nominal terms for over 12 years. In contrast, vegetable oil prices attained record highs as recently as mid-1984 (the precise timing differing among oils) and despite subsequent declines, oil prices in June 1985 were, with the exception of coconut and palm kernel oil, higher than two years earlier. Movement in the overall index for oils and meals has, as in the past, been dominated by the swings in oil prices. In October 1982 both oil and meal prices were at cyclical lows, with the index at 61.6 (1980=100). But while meal prices, after peaking in August 1983, have declined since then, the index, under the influence of rising oil prices, peaked at 124.1 in May 1984. Subsequently, declining meal prices have reinforced the downturn in oil prices to leave the index in July 1985 at 74.4, its lowest level in over two years. Typically, the meal content of soybeans has accounted for approximately two thirds of that oilseed's value; but as the soybean oil price has climbed from roughly double to more than four times the meal price, the value of soybeans attributable to its meal content has fallen to around 50 percent. Nevertheless, as will emerge from a more detailed consideration of the markets for the main oilseeds, a more normal relationship between meal and oil prices should emerge during the latter part of 1985, with oil prices weakening and some recovery in meal prices.

Total export earnings from oilseeds and oilseed products are substantial. For the four oilseeds included in the index (soybeans, copra, palm, and groundnuts) total export proceeds, including earnings from product exports, amounted to \$16.9 billion in 1979, rising to a peak of \$18.8 billion in 1984. Within this total, the share accruing to developing countries has risen sharply from less than 38 percent in 1979 (\$6.4 billion) to over 50 percent in 1984 (\$9.6 billion). Two factors explain this rising share. Firstly, growth in export volumes has been heavily concentrated in developing countries, with U.S. exports of soybean products recording no volume increases between 1979 and 1984. Secondly, the decline in meal prices and dramatic rise in oil prices both depressed earnings of soybean exporters (given the dominance of meal revenues in total soybean values) and sharply increased export earnings for other oilseeds with much higher oil content. In 1984, 65 percent of developing country export earnings from oilseed products of soybeans, copra, palm, and groundnuts were attributable to the oil content of these exports.

a. Soybeans and soybean products

The strength of oils prices in 1984 owed much to a sharp decline in soybean production in the 1983/84 (October/September) marketing year. Production of other oilseeds also fell, including declines of 18 percent for copra, 7 percent for sunflower seed and 3 percent for rapeseed; but of the 5 percent fall in total oilseeds production, in terms of oil equivalent (Table 16), over 85 percent was attributable to reduced soybean output. U.S. soybean production fell by 25 percent as drought compounded the indirect impact of the payment-in-kind (PIK) program, contributing to a 12 percent reduction in world production to 82.3 million tons (Table 18). Soybean crushing declined less by 7 percent, but closing soybean stocks fell to a five-year low of less than 10 weeks crushings. The consequent decline in oil production was reflected in the soybean oil price which peaked at \$914 per ton in May 1984. In spite of the fall in soybean meal output, meal stocks continued to rise and meal prices continued to decline (Table 19).

As a result of the strengthening oil price, the soybean price was well supported through the first half of 1984, despite weakening meal markets. ^{1/} Production in 1984/85 is estimated to recover by over 10 percent: better growing conditions returned normal yields in the United States, where in addition the higher soybean/corn price ratio and a smaller acreage reduction program (ARP) boosted soybean acreage, and a 10 percent increase in Brazilian production is expected. In anticipation of the higher soybean crop, the decline in the soybean meal price has continued: after declining by 35 percent in the 12 months from the last peak in August 1983, the soybean meal price fell a further 22 percent to \$141 per ton in the 10 months to June 1985. A small increase to \$144 was recorded in July.

In part, the weakness of meal prices--reflected in other oilseed meals--stems from lower prices for competing feedgrains and slower growth in livestock production. But other factors also contributed to the fall in the U.S. soybean meal/maize price ratio to its lowest level in more than 20 years. In the EC, which accounts for roughly one fourth of world soybean meal consumption and one half of soybean and soybean meal imports (both in terms of meal equivalent), slower growth of meal usage has been accentuated by a switch towards other feeds. Higher wheat production in the EC has encouraged its feed use and protein meals derived from rising domestic production of rapeseed and sunflower seed have reduced EC soybean meal imports. In addition, as U.S. production of high fructose corn syrup has expanded, now displacing sugar in almost all U.S. caloric soft drink production, wet millers are exporting corn gluten byproducts to the EC, where they are subject to lower duties than maize.

^{1/} Price quotations for nearest forward shipments of United States soybeans, in bulk, c.i.f. Rotterdam; of United States soybean meal, 44 percent protein in bulk, c.i.f. Rotterdam; and of Dutch soybean oil, in bulk, f.o.b. ex-mill Rotterdam.

Table 18. Soybeans: World Commodity Balance, Market Prices, and Exports
(In millions of tons, unless otherwise indicated)

	October/September Years					
	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85
Commodity balance						
Production	93.7	81.0	86.0	93.5	82.3	90.7
Brazil	15.2	15.2	12.8	14.8	15.2	16.7
United States	61.7	48.9	54.1	59.6	44.5	50.6
Other countries	16.8	16.9	19.1	19.1	22.6	23.4
Crushings	74.8	71.9	74.4	78.1	72.7	74.7
Brazil	10.6	13.8	12.8	13.7	12.5	12.5
United States	30.6	27.8	28.0	30.1	26.8	27.6
Other countries	33.6	30.3	33.6	34.3	33.4	34.6
Noncrush use	10.4	10.1	13.0	13.1	13.5	13.0
Closing stocks	17.2	16.2	14.9	17.2	13.3	16.3
	Calendar Years					
	1979	1980	1981	1982	1983	1984
Market prices (US\$ per ton)	298	296	288	245	282	282
Exports						
Volumes	25.5	26.9	26.2	28.9	26.5	25.8 ^{2/}
Argentina	2.8	2.7	2.2	1.9	1.4	3.1
United States	20.9	21.8	21.9	25.5	22.7	19.6
Other countries	1.8	2.4	2.1	1.5	2.4	3.1
Unit value (US\$ per ton) ^{3/}	271	264	282	243	256	260
Earnings (US\$ millions)	6,900	7,100	7,390	7,030	6,790	6,710 ^{2/}
Industrial countries	5,820	6,000	6,290	6,330	5,980	5,150 ^{2/}
Other countries	1,080	1,100	1,100	700	810	1,560 ^{2/}

Source: Data for world commodity balances from U.S. Department of Agriculture, Foreign Agriculture Survey: Oilseeds and Products (Washington), various issues for commodity balance; data on exports from FAO Trade Yearbook (Rome), various issues for exports and export earnings.

^{1/} U.S. origin, c.i.f. Rotterdam.

^{2/} Staff estimates.

^{3/} Derived.

Table 19. Soybean Meal: World Commodity Balance,
Market Prices, and Exports

(In millions of tons, unless otherwise indicated)

	October/September Years					
	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85
Commodity balance						
Production	59.8	56.9	59.1	62.2	56.9	59.2
Brazil	8.1	10.6	9.9	10.6	9.7	9.7
EC	9.3	8.2	9.3	8.8	7.3	7.6
United States	24.6	22.0	22.3	24.2	20.6	22.0
Other countries	17.8	16.1	17.6	18.6	19.3	19.9
Consumption	59.7	56.9	59.6	61.6	56.6	58.9
EC	15.3	13.8	16.9	15.3	14.6	14.3
United States	17.4	16.0	16.1	17.5	16.0	17.5
Other countries	27.0	27.1	26.6	28.7	26.0	27.1
Closing stocks	2.4	2.4	1.9	2.6	2.8	3.0
	Calendar Years					
	1979	1980	1981	1982	1983	1984
Market prices (US\$ per ton) <u>1/</u>	243	259	253	218	238	197
Exports						
Volumes	15.0	17.8	20.1	20.2	22.7	21.4 <u>2/</u>
Brazil	5.2	6.6	8.9	8.0	8.5	7.5
United States	6.1	7.0	6.3	6.2	6.5	4.4
Other countries	3.7	4.2	4.9	6.0	7.7	9.5
Unit value (US\$ per ton) <u>3/</u>	232	237	251	219	226	200
Earnings (US\$ millions)	3,470	4,220	5,050	4,410	5,120	4,280 <u>2/</u>
Industrial countries	2,190	2,580	2,700	2,500	2,820	1,980 <u>2/</u>
Other countries	1,280	1,640	2,350	1,910	2,300	2,300 <u>2/</u>

Source: Data for world commodity balance from U.S. Department of Agriculture, Foreign Agriculture Survey: Oilseeds and Products (Washington), various issues; data on exports from FAO Trade Yearbook (Rome), various issues.

1/ U.S. origin, c.i.f. Rotterdam.

2/ Staff estimates.

3/ Derived.

The overall supply/demand balance for eight major oilseeds (Table 16) and similar balance for soybeans (Table 18) illustrate the crucial role of weak meal demand in producing relatively high oil prices. Since September 1982, end-year stocks of oilseed meals have increased steadily with soybean meal accounting for the greater part of this rise, despite the fall in crushings in 1983/84, as soybean meal consumption has declined. However, stocks of oils (Tables 16 and 20) reached new lows at the end of the 1983/84 season and a further fall is forecast in 1984/85. Oil prices in general, and that of soybean oil in particular, have in recent months been supported by the low level of demand for meal. This has constrained the production of the soybean oil byproduct of crushing, despite better availability of oilseeds.

Recent export volumes for soybeans and soybean products are set out in Tables 18, 19, and 20. Soybean exports peaked at 28.9 million tons in 1982, declining by 8 percent in 1983 and a further 3 percent in 1984 as demand for meal slackened. However, exports of soybean meal itself rose by 12 percent in 1983 and declined by only 6 percent in 1984: a long-term trend toward trade in soybean products largely insulated meal export volumes from weakening demand which had its main impact on exports of soybeans. By 1984, soybean exports have fallen back close to their 1979 level; in contrast meal exports increased by 43 percent in the same period, to stand at an estimated 21.4 million tons in 1984. Exports of soybean oil rose consistently throughout the five years to 1984, to reach 4.0 million tons. In 1979, 39 percent of the total meal equivalent of soybean and soybean meal exports was traded as meal; by 1984 this share had risen to 46 percent. Similarly, the share of total oil exports traded as oil, rather than as uncrushed soybeans, rose from 42 percent in 1979 to 51 percent in 1984.

Despite the strength of soybean oil prices in 1984, and the continued increase in oil exports, export earnings from soybeans and soybean products in 1984 were below their 1981 record high of \$14.3 billion. This earlier peak in earnings reflects the dominance of meal exports which, in 1981, when the unit value of meal exports peaked at \$251 per ton, accounted for 70 percent of total export earnings from soybean and soybean products. As meal prices weakened and export volumes declined, the proceeds from oil exports (including the oil content of soybean exports) rose to an estimated \$5.8 billion in 1984, or 42 percent of total export earnings from soybean and soybean products. In line with this growth in oil export earnings, the earnings of developing countries in the soybean complex climbed sharply from \$2.8 billion in 1979 to \$4.9 billion in 1984, while industrial countries' earnings, in which meal proceeds (including the meal content of soybeans) are dominant, fell from \$9.6 billion in 1979 to \$8.9 billion in 1984.

b. Palm oil

Palm oil is the fastest growing of all vegetable oils, with production rising at an average rate of 10 percent per annum since the early 1970s. This rapid expansion, dominated by Malaysia, is this year

Table 20. Soybean Oil: World Commodity Balance,
Market Prices, and Exports

(In millions of tons, unless otherwise indicated)

	October/September Years					
	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85
Commodity balance						
Production	<u>13.2</u>	<u>12.9</u>	<u>13.0</u>	<u>13.8</u>	<u>13.0</u>	<u>13.4</u>
Brazil	<u>2.0</u>	<u>2.6</u>	<u>2.4</u>	<u>2.6</u>	<u>2.4</u>	<u>2.3</u>
EC	<u>2.0</u>	<u>1.8</u>	<u>2.0</u>	<u>1.9</u>	<u>1.6</u>	<u>1.7</u>
United States	<u>5.5</u>	<u>5.1</u>	<u>5.0</u>	<u>5.5</u>	<u>4.9</u>	<u>5.1</u>
Other countries	<u>3.7</u>	<u>3.4</u>	<u>3.6</u>	<u>3.9</u>	<u>4.1</u>	<u>4.2</u>
Consumption	<u>13.3</u>	<u>12.6</u>	<u>13.3</u>	<u>13.7</u>	<u>13.3</u>	<u>13.5</u>
Brazil	<u>1.4</u>	<u>1.5</u>	<u>1.5</u>	<u>1.6</u>	<u>1.5</u>	<u>1.6</u>
EC	<u>1.6</u>	<u>1.5</u>	<u>1.6</u>	<u>1.5</u>	<u>1.3</u>	<u>1.3</u>
United States	<u>4.1</u>	<u>4.1</u>	<u>4.3</u>	<u>4.5</u>	<u>4.4</u>	<u>4.4</u>
Other countries	<u>6.1</u>	<u>5.5</u>	<u>5.8</u>	<u>6.1</u>	<u>6.1</u>	<u>6.2</u>
Closing stocks	<u>1.5</u>	<u>1.7</u>	<u>1.4</u>	<u>1.6</u>	<u>1.2</u>	<u>1.1</u>
	Calendar Years					
	1979	1980	1981	1982	1983	1984
Market prices						
(US\$ per ton) <u>1/</u>	<u>662</u>	<u>598</u>	<u>507</u>	<u>447</u>	<u>527</u>	<u>725</u>
Exports						
Volumes	<u>2.9</u>	<u>3.2</u>	<u>3.5</u>	<u>3.4</u>	<u>3.7</u>	<u>4.0</u> <u>2/</u>
Brazil	<u>0.5</u>	<u>0.7</u>	<u>1.3</u>	<u>0.8</u>	<u>1.1</u>	<u>0.9</u>
United States	<u>1.1</u>	<u>1.1</u>	<u>0.8</u>	<u>0.9</u>	<u>0.8</u>	<u>1.0</u>
Other countries	<u>1.3</u>	<u>1.4</u>	<u>1.4</u>	<u>1.7</u>	<u>1.8</u>	<u>2.1</u>
Unit value						
(US\$ per ton) <u>3/</u>	<u>675</u>	<u>625</u>	<u>542</u>	<u>480</u>	<u>493</u>	<u>700</u>
Earnings (US\$ millions)	<u>1,990</u>	<u>2,000</u>	<u>1,890</u>	<u>1,640</u>	<u>1,810</u>	<u>2,800</u> <u>2/</u>
Industrial countries	<u>1,590</u>	<u>1,470</u>	<u>1,160</u>	<u>1,130</u>	<u>1,130</u>	<u>1,780</u> <u>2/</u>
Other countries	<u>400</u>	<u>530</u>	<u>730</u>	<u>510</u>	<u>680</u>	<u>1,020</u> <u>2/</u>

Source: Data for world commodity balance from U.S. Department of Agriculture, Foreign Agriculture Survey: Oilseeds and Products (Washington), various issues. Data on exports from FAO Trade Yearbook (Rome), various issues.

1/ Dutch, f.o.b. ex-mill Rotterdam.

2/ Staff estimate.

3/ Derived.

projected to bring palm oil's share of vegetable oil production in 1984/85 to over 16 percent, second only to soybean oil's 31 percent share (Table 16). In trade, palm oil is of even greater significance, accounting for 20 percent of the oil equivalent of exports of leading oils and oilseeds.

Reflecting the high degree of substitutability in consumption between palm oil and soybean oil, the prices of the two oils have displayed broadly the same cyclical movement, with the price of palm oil rising strongly from a low of \$355 per ton in October 1982, to peak at \$951 per ton in May 1984. ^{1/} On average, palm oil has traded at parity to soybean oil, but there is a clear seasonal pattern to the differential: reflecting the seasonal peak in Malaysian palm oil production in the third quarter, palm oil has in recent years traded at a discount of more than 10 percent to soybean oil during this quarter. In the final quarter of 1983, the seasonal recovery in palm oil prices was accentuated, with palm oil's premium over soybean oil reaching 30 percent in February 1984. As the soybean oil price rose to a peak in May 1984, this premium was eroded. Since then, oil palm has traded at a discount to soybean oil, reflecting a resumption of more rapid production growth in Malaysia, and the relative tightness of soybean oil supplies. In July 1985, palm oil stood at \$487 per ton, having declined by 49 percent from the May 1984 peak to its lowest level for two years, at a discount of 14 percent to soybean oil.

Rapid growth in palm oil production was temporarily halted in 1982/83, with only a modest increase in 1983/84 as production in Malaysia, which accounts for over half of total production and around two thirds of total exports, first fell by 5 percent in 1982/83 and then rose by only 4 percent in 1983/84 (Table 21). This strong contrast with production growth at an average annual rate of 15 percent in 1980/81 and 1981/82 was the result of two factors, namely: tree stress in 1982 associated with the introduction of Cameroon weevil to assist in palm pollination; and the initial and delayed effect of drought in 1982/83. In 1984/85, production is estimated to increase sharply as recovery from both these influences, coupled with higher fertilizer usage prompted by recent high prices, enhances palm fruit yield. Reflecting a projected increase of 18 percent in Malaysia's production to 3.9 million tons, and continued expansion in Indonesia's production--largely for domestic consumption--total production in 1984/85 is expected to rise by 12 percent to 6.95 million tons.

The impact of this return to higher production on the palm oil price was accentuated by an unexpected change in the seasonality of production in Malaysia, which is thought to be a consequence of pollination by the Cameroon weevil. This changed pattern of production was reflected in a 40 percent increase in Malaysia's palm oil output in

^{1/} Price quotations are for nearest forward shipment, Sumatra/Malaysia oil, maximum 5 percent free fatty acid, in bulk, c.i.f. Northwest European ports. Rapid growth in palm oil production was

Table 21. Palm Oil: World Commodity Balance,
Market Prices, and Exports

(In millions of tons, unless otherwise indicated)

	October/September Years					
	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85
Commodity balance						
Production	4.81	5.06	5.94	5.91	6.19	6.95
Indonesia	0.70	0.75	0.88	0.98	1.06	1.15
Malaysia	2.54	2.69	3.35	3.18	3.32	3.90
Other countries	1.59	1.62	1.71	1.75	1.81	1.90
Consumption	4.83	5.17	5.67	6.14	6.10	6.95
India	0.53	0.43	0.40	0.60	0.55	0.65
Indonesia	0.21	0.57	0.61	0.67	0.98	1.03
Other countries	4.09	4.17	4.66	4.87	4.57	5.27
Closing stocks	0.63	0.52	0.79	0.56	0.65	0.65
	Calendar Years					
	1979	1980	1981	1982	1983	1984
Market prices						
(US\$ per ton) <u>1/</u>	654	583	571	445	501	729
Exports						
Volumes	2.84	3.59	3.21	3.73	3.94	4.36 <u>2/</u>
Malaysia	1.81	2.14	2.36	2.70	2.91	3.15
Other countries	1.03	1.45	0.85	1.03	1.05	1.21
Unit value						
(US\$ per ton) <u>3/</u>	617	564	528	442	443	700
Earnings (US\$ millions)	1,750	2,020	1,700	1,650	1,750	3,050 <u>2/</u>
Industrial countries	80	110	90	60	80	90 <u>2/</u>
Other countries	1,670	1,910	1,610	1,590	1,670	2,960 <u>2/</u>

Source: Data for world commodity balance from U.S. Department of Agriculture, Foreign Agriculture Survey: Oilseeds and Products (Washington), various issues for commodity balance. Data on exports FAO Trade Yearbook (Rome), various issues.

- 1/ Sumatra/Malaysia oil, c.i.f. Northwest European ports.
2/ Staff estimates.
3/ Derived.

the first half of 1984/85 from the level of the corresponding period in the previous year, with exports showing a rise of similar magnitude. Unlike higher production of oilseeds, especially soybeans, for which the oil meal market is of greater importance, this higher palm oil production did not require a favorable crushing margin to be translated into greater oil supplies. This factor contributed to the maintenance of palm oil prices at a discount to soybean oil. Malaysian and world production should reach a seasonal peak in the third quarter of this year, even though the seasonal pattern of production has been modified, thereby increasing palm oil's discount to soybean oil. As meal demand recovers, releasing greater supplies of soybean oil now held as oilseed stocks, so the discount for palm oil should narrow.

Exports of palm oil (Table 21) increased by almost 54 percent to 4.4 million tons in the five years to 1984. Only in 1981 did exports fall, although the fall in production in 1982/83 was echoed in only a modest increase in exports in 1983. The sharp upturn in oil prices has accentuated the rise in earnings from palm oil exports, which are estimated to have exceeded \$3 billion for the first time in 1984.

c. Copra and coconut oil

Copra and coconut oil prices peaked in mid-1984, reflecting the general shortage of vegetable oils in the wake of the sharply lower U.S. soybean crop, and an even greater shortage of coconut oil. ^{1/} This advance was far more pronounced than for other oilseeds: in the 20 months to June 1984, the coconut oil price surged by over \$1,000 per ton to attain a record high of \$1,431 per ton. Coconut oil's premium over soybean oil climbed to over 80 percent. From near parity at the beginning of 1984, coconut oil's premium over palm kernel oil (coconut oil's closest substitute among the lauric oils) peaked at over 30 percent in the third quarter of the year.

This virtually unprecedented price increase was attributable to developments in the Philippines, which accounts for 40 percent of world production and an even higher percentage of exports. Exports by the Philippines fell sharply: in terms of oil equivalent, world exports of copra and coconut oil declined by 27 percent in 1983/84 according to the USDA. Production in 1983/84 was undoubtedly adversely affected by the delayed effect of the prolonged drought in 1982 and 1983, which resulted in an estimated 17 percent fall in production.

Copra production in 1984/85 is forecast to recover as yields return to more normal levels, and similar gains are expected in Indonesia and Sri Lanka. In anticipation of this higher production, and in line with the weakening of other oil prices, the coconut oil price declined throughout the second half of 1984, and by June 1985 had fallen by 60 percent from its peak 12 months earlier to \$575 per ton. This

^{1/} Price quotations for coconut oil refer to nearest forward shipment, Philippines/Indonesia oil in bulk, c.i.f. Rotterdam.

decline was no less dramatic than the advance which preceded it: by June 1985, coconut oil was trading at a discount to soybean oil for the first time in almost three years and both copra and coconut oil prices were at their lowest levels in over two years. The recovery in production will still leave world copra output in 1984/85 some 9 percent down from the average level in the three years ended September 1983, and total supplies will be limited by the very low levels of this season's beginning stocks of oil and copra. However, the continued expansion of production of palm kernel oil, a joint product of rapidly expanding palm oil production, and a close substitute of coconut oil, and the need to win back markets lost in the last two years, suggests that coconut oil prices will closely follow the expected weakening of vegetable oil prices in general.

d. Groundnuts and groundnut oil

Groundnuts typically account for approximately 11 percent of world oilseed production in terms of oil equivalent. However, a growing proportion of this production is consumed directly as nuts, so that oil usually accounts for less than 8 percent of world production of vegetable oils (Table 16). In relation to total trade in oils, groundnuts are still less significant: exports account only for some 3 percent of the total trade in oil and oilseeds in terms of oil equivalent.

Groundnut product prices have been especially volatile, ^{1/} largely as a result of market structure and the susceptibility of production of groundnuts to climatic change: swings in total exports are typically proportionately greater than production changes, and are determined largely by production in a small number of key exporting countries, notably Argentina, Brazil, China, Senegal, Sudan, and the United States. Moreover, of these countries, China and the United States export groundnuts primarily as confectionery nuts, exporting for the oil market only when oil prices are exceptionally high. After a sustained fall in the price of groundnut oil, from the record high of \$1,185 in June 1981 (when the premium over soybean oil reached 130 percent) a low point was reached in March 1983 with groundnut oil trading at just 13 percent above soybean oil at \$445 per ton. Production of groundnuts declined by 12 percent in 1982/83, but with total export volume little changed, groundnut oil prices did not pick up until soybean oil prices began to advance in the second quarter of 1983. Production increased by 7 percent in 1983/84 but this was absorbed by higher domestic consumption (mainly in India) with exports of oil and nuts (in oil equivalent) declining by 27 percent in response to drought damage to production in Senegal and Sudan together with lower production in Brazil. The resulting shortage of groundnut oil was exacerbated by the

^{1/} Price quotations for nearest forward shipments of groundnut oil of any origin, in bulk, c.i.f. Rotterdam and of Argentine groundnut meal, 48/50 percent protein, in bulk, c.i.f. Rotterdam.

low level of beginning stocks: the groundnut oil price peak of \$1,171 per ton in May 1984 coincided with that of soybean oil, but over the cycle, groundnut oils' premium over soybean oil peaked at over 50 percent.

The subsequent decline in the groundnut oil price has been less marked than for other oils: in July 1985 at \$880 per ton the price was 25 percent down from the May 1984 peak but still nearly double the most recent low of \$445 per ton in March 1983. As a result, groundnut oils' premium over soybean oil was, in percentage terms, higher than a year earlier. This marked contrast with other oil price movements in turn reflects uncertainty over supplies: while total groundnut production is forecast to rise by over 4 percent in 1984/85, the distribution of this rise may give little scope for export growth. However, with production of cottonseed and sunflower seed--groundnut oil's closest competitors--forecast to rise by 25 percent and 15 percent, respectively, in 1984/85, groundnut oil's premium to soybean oil should decline markedly from its seasonal peak.

While groundnut oil has increased its seasonal premium over soybean oil, the price of groundnut meal has declined more rapidly than that of soybean meal. As the meal market has weakened, the concentration of import demand for groundnut meal in the EC and the problem of aflatoxin contamination have further depressed groundnut meal prices. From a peak of \$294 per ton in September 1983, the groundnut meal price fell 56 percent to a 12-year low of \$130 per ton in June 1985. In 1982, almost one third of the groundnut's market value was attributable to its meal content; in 1984 this share averaged less than 20 percent.

e. Fish meal

The price of fish meal has tended to move in line with other meal prices, especially that of soybean meal. Although fish meal's premium over soybean meal has in the last five years not fallen below 50 percent and at times reached over 100 percent, the price cycles of the two meals have been closely synchronized. From the most recent peak of \$510 per ton in October 1983, the fish meal price has, like those of other meals, been in continuous decline. In the 20 months to July 1985, the price fell by 50 percent to its lowest dollar level in almost 10 years.

Production of fish meal increased by 14 percent in 1983/84, to 5.6 million tons. Although a slight decline in production is projected for 1984/85, closing stocks will reach a new high, reflecting the general weakness of demand for protein meals. Present relatively low prices for fish meal are expected to persist, reflecting both the general paucity of protein meal demand and the prospect of greater fish meal production and exports, especially in Chile.

Exports of fish meal peaked in 1982 at 2.7 million tons, but earnings from fish meal exports were higher in 1980 at \$1.1 billion. Since 1980, volume fluctuations and changes in unit values have largely

been offsetting to maintain export earnings at close to \$1 billion. Developing countries account for roughly one half of this total; Chile alone accounts for one third of world fish meal exports.

4. Other food commodities

a. Beef

Increased beef supplies and sluggish consumer demand caused beef prices ^{1/} to decline from 110 cents per pound in the second semester of 1983 to 107 cents per pound in the first semester of 1984 and 99 cents per pound in the second semester of 1984 (Table 22). Prices recovered to 103 cents per pound in the first quarter of 1985 before declining to 96 cents during the second quarter and 93 cents in July. These prices are considerably below the average of 131 cents in 1979 and 125 cents in 1980.

World beef and veal production is estimated to have increased slightly from 41.2 million tons in 1983 to 41.8 million tons in 1984 largely because of a reduction in the size of cattle herds in the United States and the EC. Herd reduction, due to low returns, forage shortages and increased dairy cow slaughter, decreased the size of the U.S. cattle herd by about 4 million head in 1984. Cattle numbers in the EC declined by about 1.6 million head in 1984 as a result of measures to limit milk production. Beef and veal production in the EC increased by 8 percent to a record 7.4 million tons. These increases in beef and veal production more than offset the production declines in Australia and New Zealand which were caused by herd rebuilding.

Developed countries account for about 60 percent of world exports of beef and veal, the EC, Australia, and New Zealand being the principal exporters. Among the developing countries, Brazil, Argentina, and Uruguay export substantial quantities of beef and veal. In 1984 the international market for beef was dominated by the beef surpluses in the EC. Under the stimulus of attractive internal pricing policies, beef production in the EC outstripped consumption and a sharp rise in stocks led to much higher EC exports, of 825 thousand tons in 1984. In 1984 the EC displaced Australia as the world's largest beef exporter; Australian exports were estimated at 632 thousand tons while Brazil, the third largest exporter, exported 422 thousand tons.

The availability of competitively priced EC beef kept world beef prices under pressure during most of 1984. Prices in the United States remained weak during the first half of 1984 due to plentiful supplies of red meat and poultry. Despite the weakness of the market, returns to countries that export to the United States in terms of their currencies remained high due to an appreciation of the U.S. dollar.

^{1/} Price quotations refer to imported frozen boneless beef, separate, 85 percent visible lean, from Australia and New Zealand, f.o.b. U.S. ports.

Table 22. Prices of "Other" Food Commodities

	Beef <u>1/</u> (In U.S. cents per pound)	Lamb <u>2/</u> (In U.S. cents per pound)	Bananas <u>3/</u> (In U.S. dollars per box of 40 pounds)
1960	33	30	3.66
1961	31	25	3.55
1962	32	28	3.38
1963	30	29	3.24
1964	38	32	3.11
1965	40	34	2.90
1966	46	33	2.80
1967	47	31	2.86
1968	49	30	2.77
1969	55	34	2.90
1970	59	34	3.01
1971	61	37	2.55
1972	67	49	2.93
1973	91	63	2.99
1974	72	65	3.34
1975	60	68	4.46
1976	72	72	4.69
1977	68	78	4.95
1978	97	101	5.20
1979	131	109	5.91
1980	125	131	6.80
1981	112	125	7.28
1982	108	109	6.80
1983	111	88	7.79
1984	103	88	6.70
1984			
I	106	86	7.09
II	109	95	7.86
III	101	88	6.56
IV	97	82	5.30
1985			
I	103	78	7.70
II	96	85	8.00
July	93	91	5.82

1/ Frozen boneless beef, Australian and New Zealand origin, f.o.b. U.S. ports.

2/ New Zealand lamb, Smithfield market, London.

3/ Central American and Ecuadoran origin, U.S. ports.

The short-run outlook is for a reduction in world supplies due to herd rebuilding in the United States, Australia, and New Zealand and a sharp reduction in cow slaughter in the United States because the U.S. dairy diversion program ended on March 31, 1985. Rising costs are likely to slow down the pace of EC intervention purchases and exports. The fall in beef production is expected to lead to a recovery in prices, especially if there is an increase in consumer demand.

b. Lamb

World sheep meat production in 1984, estimated at 4.54 million tons, was slightly lower than in the previous year due to a rebuilding of flocks in Australia and weather-related production problems in the U.S.S.R. Production in New Zealand is estimated to have declined by about 2 percent from the high level of the previous year, while output in the EC is estimated to have increased by about 2 percent due to an increase in production in the United Kingdom.

Developed countries account for about 80 percent of world exports of sheep meat and goat meat. New Zealand and Australia together account for about 65 percent of total world exports. Among the developing countries, Turkey is the largest exporter, while Argentina and Uruguay also export substantial amounts. The market for sheep meat remained weak in 1984 due to the virtual withdrawal of the U.S.S.R. from the mutton market and a large buildup of lamb stocks in the United Kingdom. Lamb prices ^{1/} declined from a level of 146 cents per pound in May 1981 to an average level of 88 cents per pound in 1983, remained at that level in 1984 (Table 22).

In New Zealand, despite a devaluation in mid-1984, world market returns for lamb remained below the meat industry's price support levels resulting in deficiency payments to sheep farmers. In 1985, an increase in world lamb supplies from Oceania and increasing competition for limited markets due to increasing self-sufficiency in a number of major importing countries are expected to keep lamb prices under pressure over the short run.

c. Bananas

The average monthly price of bananas of Central American and Ecuadorian origin in the United States for January-June 1985 was \$7.85 per box of 40 pounds (Table 22). This average was 5 percent higher than the average for the first half of 1984, although still 2 percent below the average for the same period of 1983. The increase in 1985 appears to be the result of reduced shipments partly in response to the lower

^{1/} Price quotations refer to New Zealand lamb, grade PL, Smithfield Market, London.

prices in 1984, particularly in the second half of the year and partly as a result of uncertainty over reduced production activity by transnationals in Costa Rica and an embargo on imports into the United States from Nicaragua. Nevertheless, the price of bananas fell by much more than the usual seasonal adjustment in June and July 1985, suggesting that the situation of higher prices is unlikely to prevail in the second half of 1985.

III. Beverages

This section concerns market developments for coffee, tea, and cocoa. Coffee, which in terms of its value as a primary commodity in international trade, ranks only after petroleum, wheat and in some years, sugar, has a much greater weight in the group index than do tea and cocoa. Hence, price movements for coffee tend to overshadow those for tea and cocoa in the group index. While these three commodities are grouped together as beverages for convenience, ^{1/} there is relatively little substitution among them in consumption, except in periods of very large price movements, such as occurred in 1977 when demand for tea may have been stimulated by the very large increase in the price of coffee. Demand is governed largely by taste and tradition, although it can respond over time to rising incomes and decreases in the prices of complementary goods. Demand for all three beverages is price inelastic, especially in the short run. As a consequence, changes in supply, both year-to-year and cyclical, are the most important factors determining prices. Relatively small year-to-year changes in supply can lead to very large price movements.

As a result of a cyclical production pattern because of the delayed supply response to investments in tree crops, prices for both coffee and cocoa have shown a strong cyclical pattern. This has resulted in relatively high prices in the 1950s and 1970s, and relatively low prices in the 1960s, and to date in the 1980s (Table 23). Prices have tended to be more variable in periods of high prices than in periods of relatively low prices, because the effects of production variation on prices have been dampened during periods of relatively low prices by the existence of relatively large levels of stocks.

Because of the dominance of supply factors, prices of beverages have moved in a somewhat different manner than those for most other commodities. The price increases in 1973-74 in the group index of U.S. dollar prices of beverages were modest in comparison with other commodities. In 1973 the index of beverage prices increased by 23.5 percent compared with a 53.4 percent increase in the overall

^{1/} Cocoa is included in this group because of its traditional association with coffee and tea as a beverage and because it shares with them certain characteristics with respect to supply. It should, however, be noted that the beverage use of cocoa is secondary to its use in chocolate confectionery.

Table 23. Prices of Beverages

	Coffee			Tea <u>3/</u> (In U.S. dollars per kg)	Cocoa Beans <u>4/</u> (In U.S. cents per pound)
	"Other" milds" <u>1/</u> (In U.S. cents per pound)	Robusta <u>2/</u> (In U.S. cents per pound)	Average		
1960	42	32	37	1.43	27
1961	41	30	35	1.36	22
1962	38	31	34	1.38	21
1963	37	28	32	1.29	25
1964	46	36	41	1.31	23
1965	45	31	38	1.27	17
1966	42	34	38	1.25	23
1967	39	34	36	1.26	27
1968	39	34	37	1.04	33
1969	40	33	36	.98	41
1970	52	41	47	1.09	31
1971	45	42	44	1.05	24
1972	50	45	48	1.05	29
1973	62	50	56	1.06	51
1974	66	59	62	1.40	71
1975	65	61	63	1.38	57
1976	143	128	135	1.54	93
1977	235	224	229	2.69	172
1978	163	147	155	2.19	154
1979	174	165	170	2.16	149
1980	154	147	151	2.23	118
1981	128	103	116	2.02	94
1982	140	111	125	1.93	79
1983	132	124	128	2.32	96
1984	144	138	141	3.46	109
1984 I	146	137	141	3.89	116
II	149	143	146	3.42	116
III	143	140	142	3.07	102
IV	139	133	136	3.44	101
1985 I	144	126	135	2.79	102
II	141	122	131	1.83	98
July	134	107	121	1.57	101

1/ Central American and Mexican origin, average of prices ex-dock New York and ex-dock Bremen/Hamburg.

2/ African origin, average of prices of ex-dock New York and ex-dock Le Havre/Marseilles.

3/ Any origin, average London auction prices.

4/ ICCO daily prices, averages of three nearest trading months on New York Cocoa Exchange and London Cocoa Terminal Market.

commodity price index; in 1974 the beverage index increased by 19.3 percent, compared with the 28.0 percent increase in the overall index. Even these increases in beverage prices can be explained largely in terms of the gradual reduction of stocks of beverages in the early 1970s (Table 24). The very large price increases for beverages occurred in 1976-77 (Chart 5) at a time of little increase in the prices of other commodities. The large fall, of nearly 13 percent in the index of production of beverages in 1976, led to a decrease of nearly 11 percent in the index of supply of beverages and was largely responsible for price increases of over 90 percent in 1976 and 70 percent in 1977. ^{1/} Prices tended downward in the period 1978 to 1981 as production increased in response to the higher prices of the 1970s.

The behavior of prices for individual beverages appears to have diverged more in the 1980s than in the 1970s. International commodity agreements played a role in checking the price declines for coffee and cocoa. While the production of these two commodities in the early 1980s increased considerably over the levels of the late 1970s, the increases have been irregular with drought in West Africa playing a role in price increases for both cocoa and coffee in 1983-84. In comparison with the modest increases in the prices of coffee and cocoa in 1983-84, the price of tea reached record high levels in 1983-84 because of developments specific to that commodity. These developments are examined at greater length in the discussion of individual beverages.

1. Coffee

The coffee market has long been characterized by a very long price cycle, with brief periods of exceptionally high prices, rapidly giving way to many years of low prices. In the early 1960s coffee stocks easily exceeded annual world consumption, with prices correspondingly depressed. Reflecting the long productive life of the coffee tree, production was maintained at high levels in the 1960s despite low prices, while the response of consumption to the low prices was also limited. Thus, stocks declined only gradually in the late 1960s and early 1970s until a severe Brazilian frost in 1975 abruptly cut closing stocks to about four months of normal consumption. In less than two years, the monthly average price in U.S. dollars rose more than fivefold to peak at 315 cents per pound in April 1977. In a repeat of events that led to the low prices of the 1960s, producers responded to the high prices by sharply increasing plantings. Prices fell sharply in 1978, and a further large decline in 1980 led to the reintroduction of export quotas under the International Coffee Agreement in October 1980. As is apparent from Table 25, coffee stocks remain

^{1/} Indices of production, stocks, and supply for beverages are constructed using the same weights for individual commodities as in the price index. Crop year data are used for coffee and cocoa (e.g., 1976/77 crop year data are shown as 1976) and calendar year data for tea.

CHART 5
PRICES OF BEVERAGES
(In U.S. dollars, indices: 1980=100)

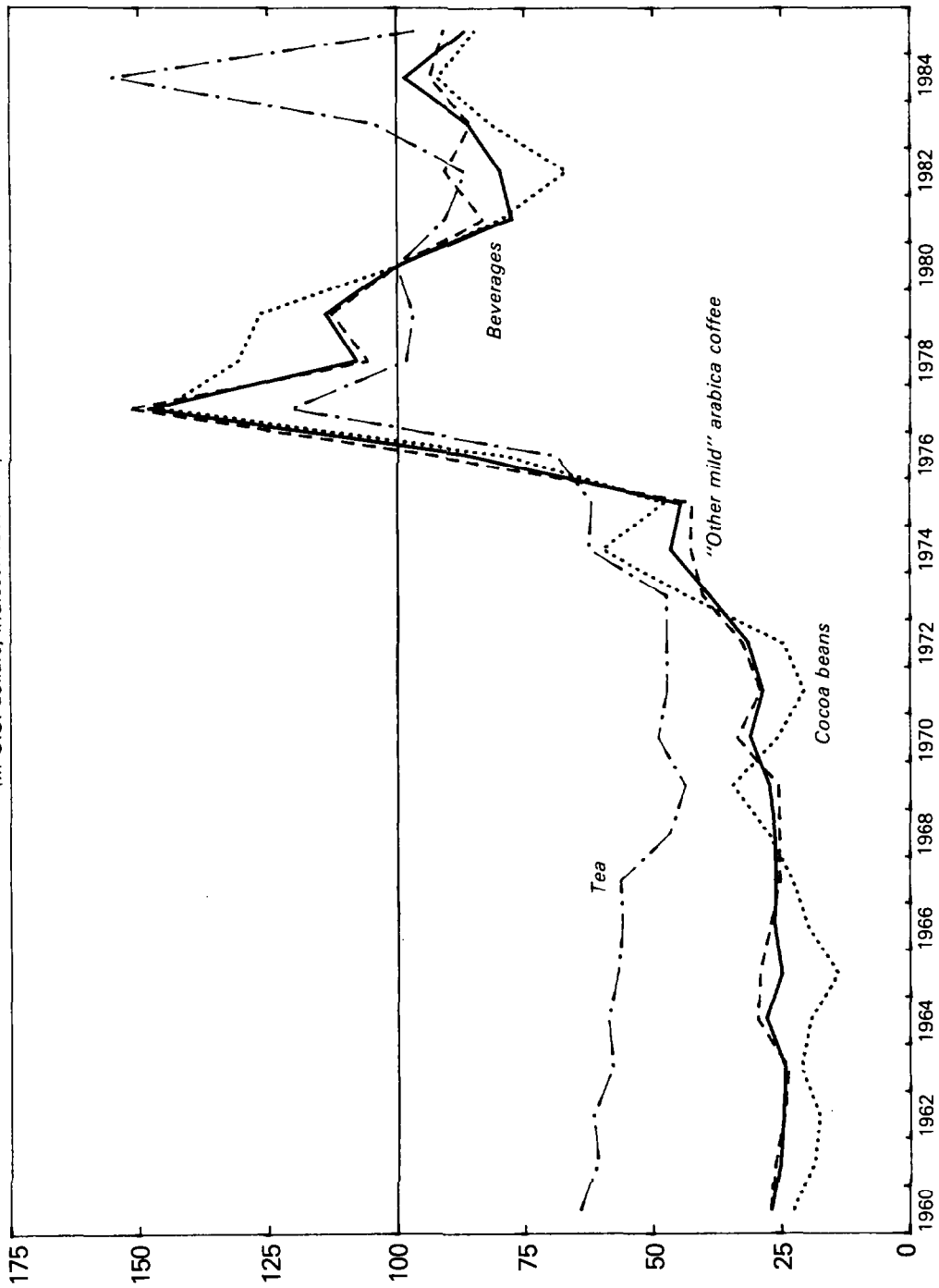




Table 24. Prices and Supply of Beverages

(Annual percentage changes)

	<u>Prices of Beverages</u>		<u>Supply of Beverages 1/</u>		
	Nominal (In U.S. dollars)	Real <u>2/</u>	Index of production	Index of stocks <u>3/</u>	Index of supply <u>4/</u>
1969	3.7	0.3	9.9	-11.3	-0.5
1970	13.1	7.6	-8.1	-5.3	-5.5
1971	-7.6	-13.8	15.8	-6.6	3.2
1972	9.3	0.9	2.5	-4.2	-0.8
1973	23.5	6.2	-9.4	-11.3	-7.3
1974	19.3	-2.5	18.7	-22.1	2.7
1975	-3.8	-14.3	-8.2	20.7	0.2
1976	91.8	89.1	-12.6	-9.4	-10.8
1977	73.2	60.4	14.2	-28.0	0.2
1978	-27.4	-36.6	8.0	25.3	-9.6
1979	5.8	-7.1	4.4	-9.0	1.0
1980	-12.2	-21.0	4.4	14.3	5.4
1981	-22.3	-17.3	9.5	19.0	10.9
1982	2.5	4.7	-11.8	19.9	-1.4
1983	7.6	12.5	6.6	-6.3	2.6
1984	14.7	18.8	5.1	-11.4	3.1

Source: Commodities Division.

1/ Indices constructed using same weights for individual beverages as in price index.

2/ Deflated by unit values of manufactured exports.

3/ Beginning of (crop) year stocks.

4/ Production plus beginning of year stocks.

Table 25. Coffee: World Commodity Balance, Market Prices and Exports

(In millions of 60 kilogram bags, unless otherwise indicated)

	October/September Years					
	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85
Commodity balance						
Production ^{1/}	77.4	90.3	90.0	89.7	86.0	91.9
Brazil	19.3	29.9	25.6	23.1	25.5	25.9
Colombia	12.2	13.1	14.5	12.3	13.0	12.8
Other countries	45.9	47.3	49.9	54.3	47.5	53.2
Consumption	79.4	78.0	82.4	84.8	89.1	87.5
Domestic ^{2/}	19.0	18.6	18.8	19.0	19.2	19.0
Exports	60.4	59.4	63.6	65.8	69.9	68.5
Closing producer stocks	31.0	43.3	50.9	55.8	52.7	57.1
Brazil	12.8	15.2	17.2	15.5	13.1	12.0
Others	18.2	28.1	33.7	40.3	39.6	45.1
	Calendar Years					
	1979	1980	1981	1982	1983	1984
Market prices						
ICO daily composite indicator ^{3/} (US\$ per pound)	1.70	1.51	1.16	1.25	1.28	1.41
Exports						
Volumes	62.9	59.9	60.6	64.6	66.2	68.5
To ICO members	56.9	53.4	52.4	55.1	55.6	58.5
To nonmembers	6.0	6.5	8.2	9.5	10.6	10.0
Unit values (US\$ per pound)	1.45	1.47	1.00	1.05	1.05	1.17
To ICO members	... ^{4/}	... ^{4/}	1.01	1.09	1.12	1.24
To nonmembers	... ^{4/}	... ^{4/}	0.97	0.82	0.70	0.76
Earnings (US\$ millions)	12,100	11,660	8,060	8,990	9,240	10,630
To ICO members	10,950	10,390	7,010	7,970	8,260	9,630
To nonmembers	1,150	1,270	1,050	1,020	980	1,000

Sources: Commodity balance to 1983/84 from statistics of the International Coffee Organization. 1984/85 commodity balance incorporates estimates of the U.S. Department of Agriculture. Export data from the International Coffee Organization.

^{1/} Production excludes nonmembers of the ICO.

^{2/} Domestic consumption has been adjusted to bring apparent stock changes into line with actual stock changes.

^{3/} Prices in ICO member country markets.

^{4/} Export quotas were reintroduced in October 1980; unit values of exports to members and nonmembers are assumed equal in the absence of quotas.

high but their depressing influence on prices has been moderated by the quota system; indeed, U.S. dollar prices increased over the period 1981-84, despite the appreciation of the U.S. dollar.

In May 1984 the International Coffee Organization (ICO) composite daily price 1/ reached 148 cents per pound, its highest level since quotas were reapplied. Subsequently, prices eased and in July 1985 fell below the lower point of the 120-140 cents per pound price range established under the provisions of the Agreement. The differential between other milds and robusta coffee was eroded in 1983/84 and has progressively widened in the 1984/85 coffee year as robusta prices have decreased more than prices for "other milds." In June 1984, when the other mild indicator stood at 147 cents per pound, robusta prices were just 3 cents per pound lower; a year later the monthly average differential had widened to over 20 cents per pound.

The strengthening of coffee prices in 1983/84 was mainly the result of supply factors. The quality, and to a lesser degree, the quantity of Brazilian coffee was adversely affected by heavy rainfall; and Ivory Coast, a leading producer of robusta coffee, suffered drought damage that reduced the 1983/84 crop to less than one third of normal levels. In addition, during the course of the year a number of exporting countries fell behind in meeting their quarterly export quotas established by the ICO. These two factors contributed to an uneasiness in the coffee trade as to the quality of the large stocks of coffee accumulated in exporting countries since the introduction of coffee export quotas in October 1980. Because of the upward price pressure, the maximum of four quota increases each totaling one million bags occurred during the year as the indicator price passed various upper trigger prices established for coffee year 1983/84. 2/ As a result, the global quota on exports from exporting members of the ICO to importing members was raised from 56.2 million bags of 60 kgs to 60.2 million bags, of which 59.9 million were shipped.

Despite the four quota increases, prices were slow to react: in the second half of the 1983/84 coffee year, the composite indicator only briefly fell to within the ICO price range. The unexpected

1/ The International Coffee Organization (ICO) composite indicator is an average of the ICO indicator prices for robusta and "other milds." Both are physical prices for specific grades of coffee. The robusta indicator is an average of prices ex-dock New York (Angola Ambriz 2BB, Ivory Coast grade II, and Uganda Standard) and ex-dock Le Havre/Marseille (Ivory Coast Superior Grade II, Cameroon Superior Grade I, Central African Superior, and Madagascar Superior Grade II). The "other milds" indicator is an average of prices ex-dock New York (El Salvador Central Standard, Guatemala Prime Washed, Mexico Prime Washed), and ex-dock Bremen/Hamburg (El Salvador High Grown, Guatemala Hard Bean, and Nicaragua Strictly High Grown).

2/ See DM/84/67, Section VI, 10/31/84, for a discussion of the operation of the 1977 and 1983 International Coffee Agreements.

strength of prices was even more pronounced in terms of the domestic currencies of European importers and led the ICO to set a higher quota for 1984/85. The price range remained unchanged at 120-140 cents per pound. Only minor adjustments were made in the distribution of quotas among producers. However, the initial global quota was set at 59 million bags, 2.8 million bags higher than the previous year, and to this was added the equivalent of two quota increases, since the price was above 140 cents per pound at the time the decision was reached. These measures were intended to bring the composite indicator swiftly to the middle of the price range. To guard against a more sustained decline, provision was made to withdraw one of the two increases at 135 cents per pound and the other at 130 cents per pound. Nevertheless, the effective annual quota was 61 million bags as the 1984/85 coffee year opened.

In October 1984 prices weakened in response to the higher quota, but considering the magnitude of the imbalance between the starting quota of 61 million bags and consumption in importing member countries estimated at around 57 million bags. The decline in prices was very modest, particularly in view of the dollar's continued appreciation. Not until mid-December did the price fall sufficiently to trigger the first 1 million bag withdrawal of quota at 135 cents per pound; and in the first half of 1985 the composite indicator hovered just above 130 cents per pound, delaying a second quota cut until the beginning of July.

The strength of prices in the face of these high quotas reflected both seasonal influences and doubts as to the ability of some producers to meet their quotas. Prices are typically stronger in the first half of the coffee year as demand peaks in the Northern Hemisphere winter. In the first half of the 1984/85 coffee year, this usual seasonal pattern of exports was accentuated by late harvests for several producers and the small size of the Brazilian crop.

In the absence of quotas, the evolution of production and stocks in individual countries would influence the price only to the extent that it significantly affected the global supply-demand balance. However, with quotas in force, marked changes in the quantity or quality of production in individual countries can have a strong influence on prices even if the global supply-demand balance is little changed. Trigger prices for increasing or decreasing total quotas are clearly defined, but there is considerable resistance to the redistribution of quotas among producers in response to changes in production and stock levels. Consequently, prices can be influenced by production setbacks and tight supplies in key origins. This may trigger quota increases for all the larger producers, but upward pressure on prices may persist if the predetermined distribution of quota increases does not correspond to the availability of coffee of desired quality. In the extreme case, however, a sustained rise in prices would ultimately lead to the

suspension of quotas, as provided for in the International Coffee Agreement, bringing the full weight of accumulated stocks to bear on the market.

Although total producer stocks are high, and are projected to reach over 57 million bags in September 1985 as against 31 million bags five years earlier, stocks in Brazil have not increased (Table 25). The small size of the 1984/85 Brazilian crop--estimated at just 22 million bags by the Brazilian Coffee Institute--necessitated a substantial drawdown in Brazilian stocks before significant quantities of new crop coffee became available in late June. ^{1/} This shortage of better quality coffee for immediate delivery was reflected in the ICO's composite indicator price, although it does not include Brazilian (or Colombian) coffee. As supplies of new crop coffee from Brazil became plentiful, prices began to decline sharply. The withdrawal of a second 1 million bags of quota on July 4 did not halt the decline which triggered a third cut at the end of July when the 15-day average of the composite indicator fell below 120 cents per pound. However, the proximity of the September meeting of the International Coffee Council, which will set quotas for the 1985/86 coffee year, suggests that a further decline in prices is unlikely.

The increase in coffee prices over the last four years has been reflected in higher export earnings. The total volume of coffee exports increased by 9 percent from 62.9 million bags in 1979 to 68.5 million five years later. However, the greater part of this increase was accounted for by a sharp rise in exports to nonmembers of the ICO (U.S.S.R., Eastern European countries, and noncoffee producing developing countries). Since these exports are not subject to quota controls, producers facing heavy burdens of stock holding have sold aggressively to nonmembers; a two-tier market has thus developed with discounts in the nonquota market often exceeding 40 percent of the quota market price. Indeed, the fall in prices in the nonquota market since quotas were reapplied has more than offset the rise in export volumes: earnings from exports to nonmembers of \$1 billion in 1984 were lower than in 1981. In contrast, the recovery in prices in the quota market combined with rising volumes of exports increased earnings from that market from \$7.0 billion in 1981 to \$9.6 billion in 1984. Total export earnings from coffee in 1984 stood at \$10.6 billion, 12 percent below the 1979 level and 13 percent below the peak of \$12.2 billion reached in 1977.

The member and nonmember markets are separated by the controls that importing member countries maintain over coffee imports from nonmember countries. In addition, controls by exporting members over exports to nonmembers have been tightened in response both to concern that an unknown volume of so-called "tourist" coffee might be leaking into the importing member markets from the nonquota market, and to

^{1/} Brazil's crop year is July/June and therefore differs from the coffee year on which Table 25 is based.

dissatisfaction expressed by importing members. Exporting members undertook in April 1985 not to enter into any new sales contracts with nonmembers at prices below those for comparable quality coffee in the quota market. The question of penalties for discounted sales or an exporter's failure to prove that such exports have reached a nonmember country has yet to be resolved. In the meantime, sales contracts declared before the April deadline indicate nonquota exports in the 1984/85 quota year (to September) to be one million bags above exports to this market in 1983/84.

With production in Brazil forecast to recover in 1985/86 to around 30 million bags, the outlook for coffee prices in the next coffee year depends primarily on decisions on quotas and trigger prices to be taken by the ICO in September 1985. Most observers agree that a change in the price range is unlikely; moreover, importing members will probably seek a quota large enough to hold prices toward the bottom of the price range. The distribution of quotas among exporters agreed in September 1984 was to apply for the 1984/85 and 1985/86 coffee years. Major changes appear unlikely, although a number of members, including many exporting countries have sought a revision to the quota distribution; for the 21 larger exporters, this distribution has remained essentially unchanged since quotas were reintroduced. Although stocks remain high, production appears to have stabilized, partly in response to changed policies in exporting countries. The stabilization of production suggests that an end to the current phase of the cycle in which production tends to exceed consumption may not last many more years. Given the doubts as to the quality of some of the stocks held in producing countries, any sharp drop in production might lead to substantial increases in market prices.

2. Tea

Between 1979 and 1982 the annual average fluctuation in tea prices was less than 5 percent, with prices declining gradually over this period. A modest upturn brought the average price in the first nine months of 1983 to \$2.02 per kilogram, 6.6 percent above the level in the corresponding period in 1982. ^{1/} However, this relative stability came to a halt in October 1983; in three months the price surged by almost 70 percent, bringing the average price for 1983 to \$2.32, an increase of 20 percent over 1982. In January 1984 prices at the London auction peaked at \$4.29, then eased back to US\$2.88 in midyear before peaking again at \$3.62 in October 1984. For the year as a whole, the price averaged \$3.46, almost 50 percent above the 1983 level. However, like its predecessor in 1977, this boom was shortlived. After a gradual decline in the three months to January 1985, the fall accelerated sharply in February: between January and May the average price at the London auction dropped by 47 percent. In June and July the price declined more slowly, but in July the average price at \$1.57 had reached its lowest level in nine years.

^{1/} Price quotations refer to the London auction price, average all teas.

A range of factors contributed to the 1983-84 price boom. These included drought in southern India and Sri Lanka, very low tea stocks in the importing countries, and India's partial ban on the export of CTC (crush, tear, curl) leaf. However, underlying the price increase was a growing imbalance of a longer-term nature. Some of the short-run factors, such as the low level of inventories and Indian export policies, were a direct response to this imbalance; others, notably crop losses, greatly accentuated the imbalance. In the absence of this structural imbalance, the market would have shown only a muted response to these events during 1983.

In the ten years to 1983 total production of tea increased at an annual average rate of 3.2 percent, while consumption advanced at the slightly faster rate of 3.7 percent per annum. Moreover, the disparity in these growth rates was tending to increase as production growth slowed more rapidly than consumption growth in the latter half of this period. In 1980, as shown in Table 26, production and consumption were in near balance with a derived stock increases of just 10 thousand tons, or less than 0.5 percent of annual production. The next two years saw significant excesses of consumption over production, estimated at 40 thousand tons in 1981 and 28 thousand tons in 1982.

The imbalance between consumption and production was largely a manifestation of trends within the producing countries. Average consumption growth within these countries exceeded 5 percent in the ten years to 1983, even as production growth slowed to less than 3 percent per annum. In contrast, exports grew at an average annual rate of less than 2 percent over this ten-year period, with virtually all this increase occurring before 1980. In 1973 producing countries accounted for less than half of total tea consumption; ten years later this share had risen to almost 58 percent. Among producing countries, this pattern was most evident in India. Production growth averaged less than 2 percent in the ten years to 1983, while domestic tea consumption, which is dominated by CTC teas, climbed at an average rate of over 5 percent during this period. Exports fluctuated by an average of 10 percent per annum--more than twice the average annual change in production--but showed no growth. By 1983 the share of production exported had fallen to 35 percent. Thus, although prices remained stable up until the latter part of 1983, production and consumption were finely balanced.

The initial upturn in prices in 1983 stemmed from production losses in India and Sri Lanka. Drought reduced 1983 output in southern India by 7 percent, to its lowest level in seven years, and low rainfall cut Sri Lanka's production by 5 percent. Although it now appears these losses were offset by higher output elsewhere, the market reacted strongly. India and Sri Lanka typically account for 40 percent of total exports and both had drawn stocks during the previous year. Within India, prices began to advance rapidly, and in an attempt to insulate domestic consumers from the escalation in world prices, the Government responded at the end of 1983 by placing a partial ban on the export of CTC teas. Following this move, average prices at the London

Table 26. Tea: World Commodity Balance, Market Prices, and Exports

(In thousands of tons, unless otherwise indicated)

	Calendar Years					
	1979	1980	1981	1982	1983	1984
Commodity balance						
Production	1,786	1,815	1,844	1,912	2,013	2,133
Green tea	362	390	424	481	488	492
China	(210)	(233)	(269)	(328)	(333)	(336)
Other countries	(152)	(157)	(155)	(153)	(155)	(156)
Black tea	1,424	1,425	1,420	1,431	1,525	1,641
India	(538)	(562)	(554)	(553)	(583)	(637)
Kenya	(99)	(90)	(91)	(96)	(120)	(116)
Sri Lanka	(207)	(191)	(210)	(187)	(179)	(208)
Other countries	(580)	(582)	(565)	(595)	(643)	(680)
Consumption (black and green)	1,746	1,824	1,884	1,940	2,018	2,090
Tea-producing countries ^{1/}	928	966	1,033	1,127	1,168	1,176
China	(170)	(196)	(251)	(291)	(276)	(277)
India	(337)	(358)	(378)	(398)	(418)	(400)
Japan	(111)	(113)	(113)	(112)	(113)	(115)
Other countries	(310)	(299)	(291)	(326)	(361)	(384)
Tea-importing countries ^{2/}	818	858	851	813	850	914
Asian countries	(211)	(216)	(214)	(200)	(231)	(255)
United Kingdom	(188)	(200)	(180)	(183)	(179)	(187)
Other countries	(419)	(442)	(457)	(430)	(440)	(472)
Implied change in total stocks	40	-10	-40	-28	-6	43
Closing stocks in the United Kingdom	91	91	58	67	54	62
Market prices (US\$ per kg)	2.16	2.23	2.02	1.93	2.32	3.46
Exports ^{3/}						
Volumes	852	861	854	819	871	930
India	200	224	241	190	208	215
Kenya	94	75	76	80	101	95
Sri Lanka	187	184	183	181	158	204
Other countries	371	378	354	368	404	416
Unit value (US\$ per kg) ^{4/}	2.00	2.06	1.95	1.79	1.97	2.70
Earnings (US\$ millions)	1,700	1,770	1,670	1,470	1,720	2,510

Sources: Staff estimates derived from statistics of the International Tea Committee and the FAO.

^{1/} For major producers, adjustments have been made for stock changes; for other countries domestic consumption is derived as production less exports.

^{2/} Net imports, adjusted for stock changes where possible.

^{3/} Less than 10 percent of exports are in the form of green tea.

^{4/} Derived.

auction, which had increased little in December after the very sharp increases in the previous two months, increased by 18 percent in January 1984.

As prices climbed, tea production rapidly responded. Although tea, like coffee and cocoa, is a tree crop with an average gestation lag of three to four years before new plants bear yields, in the short-run output can be increased significantly from existing capacity. This is achieved, at some loss both to quality and future yields by "coarse plucking" of more leaves than normal. Despite losses in Kenya through drought, total production increased by 6 percent in 1984, with India and Sri Lanka recording gains of 9 percent and 16 percent, respectively. World consumption increased by 3.5 percent, but total production at 2.13 million tons exceeded consumption by an estimated 40 thousand tons. Exports in 1984 reached a record high of 930 thousand tons, an increase of almost 7 percent over 1983.

Despite the improved availability, the tea market remained strong throughout 1984. In part this reflected the uncertainty surrounding Indian supplies. In March 1984 a new system of export registration was introduced. In May the ban on CTC exports was lifted, and the decline in market prices accelerated to a low of \$2.88 in July. However, in the final quarter prices recovered as India announced that total exports for 1984 would be limited to an initial target of 215 thousand tons. Although this limit represented a 6 thousand ton increase over actual exports in 1983, it came at a time when importing countries were seeking to rebuild inventories. Comprehensive data for consumer inventories are lacking, but at least in the United Kingdom, which accounts for one fifth of world import demand, it is clear that tea processors initially reacted by drawing down tea stocks as prices rose. By the end of 1983 stocks in the United Kingdom had fallen to a record low, having declined by 13 thousand tons, or 19 percent, during the year with most of this decline coming in the final quarter. Thus, the announcement of India's ban on the export of CTC teas came just as these inventories reached a record low. The turnaround in U.K. stock levels, with a rapid recovery in 1984 after the rapid depletion in 1983, was reflected in an 18 percent increase in net tea imports by the U.K., which added 20 thousand tons, or over 2 percent, to total world import demand. A comparison of actual net imports with a trend level of consumption suggests that a similar process of stock rebuilding took place elsewhere among consuming countries in 1984, with particularly rapid increases in imports by Iran, Iraq, and the U.S.S.R. As a result, both export volumes and unit values of exports reached record levels in 1984. Export earnings increased by 46 percent to a record \$2.5 billion (Table 26).

By the end of 1984 the tightness of the Indian market had also eased. Production at a record level of 645 thousand tons comfortably exceeded initial projections, while domestic consumption is estimated to have fallen to 400 thousand tons in response to increases in the domestic prices of both tea and sugar. As an important complementary good in tea consumption, sugar's price has long been an important

factor influencing Indian tea demand. In the first eight months of 1984, domestic sugar prices rose sharply as production fell well short of domestic requirements. Stocks were drawn down and exports curtailed, but not until the last quarter of 1984 did sugar prices facing Indian consumers fall back somewhat as India became a small net importer for the first time in three years. As a result of the growth in tea production and the fall in domestic consumption, carryover stocks in India are estimated to have risen by 30 thousand tons, despite a small rise in exports to 215 thousand tons. Nevertheless, India imposed a limitation of 220 thousand tons on total tea exports for 1985; within this total, CTC exports were limited to 70 thousand tons. A system of minimum export prices was also retained in 1985, together with a requirement that direct and other sales not channeled through Indian auctions be limited to 45 thousand tons.

Despite the continuation of various export restrictions by India and some attempts by the Sri Lankan authorities to slow the pace of market deliveries from tea plantations, tea prices in 1985 responded dramatically to the easing of the total supply-demand balance. ^{1/} Production has continued to increase in 1985. In Kenya recovery from the drought of 1984 accentuated the increase, with production rising by 37 percent in the first five months of 1985. Production in India was up by 8 percent in the first half of 1985. Elsewhere, increases were modest so that world production is estimated to expand by just over 3 percent in 1985. With global consumption rising at a similar rate, total production should exceed consumption in 1985 by a margin similar to the implied stock increase in 1984. But, unlike 1984, the higher level of inventories in importing countries will tend to depress total net import demand for tea.

Although the price boom of 1983-84 rapidly came to an end, with prices in July 1985 at their lowest level for nine years, a return to higher prices remains a distinct possibility. The swift fall in prices in the first half of 1985 stemmed from the rapid response of producers to the price peak. However, "coarse plucking" to increase production in the short run ultimately reduces yields. In the absence of more detailed information, the last period of high prices--the 1977 boom in the wake of record high coffee prices--provides an indication of the possible long-run impact. In 1977, total production increased by over 8 percent. As prices fell in 1978, this rate of growth slowed to just over 3 percent. In the following three years to 1981 production growth was well below its trend level, averaging less than 1.5 percent. This pattern was most pronounced for India and Sri Lanka. Whether this can be attributed mainly to "coarse plucking" is unclear, but if repeated, a slowdown in the growth of production, coupled with a resumption of growth in consumption in producing countries, would again render the market vulnerable to the supply shortfalls and price volatility seen in the last two years.

^{1/} To a limited extent, the low prices also reflect an abundance of relatively lower-quality teas.

In the immediate future the market will be depressed by the low level of import demand and by slower growth of Indian consumption as long as domestic sugar prices remain comparatively high. Another major uncertainty is the evolution of production in China. Although predominantly a green tea producer, roughly half of China's exports of 128 thousand tons in 1984 were in the form of black tea. Preliminary indications suggest a sharp fall in production in China in 1985. Whether this decline has a significant effect on the world market will depend on the degree to which domestic consumption, rather than net exports, adjusts to what is seen as a temporary decline in production.

3. Cocoa

Underlying the developments in the cocoa market in the 1980s has been continuing growth in productive capacity, as trees planted during the period of high prices of the late seventies, especially in Brazil, Ivory Coast and Malaysia, approach maturity. Three successive record crops in 1979/80, 1980/81, and 1981/82, well above the level of world consumption, brought end-of-year cocoa stocks in September 1982 to just under 50 percent of annual consumption (Table 27). Average prices fell by 21 percent in 1980, 20 percent in 1981, and 16 percent in 1982. ^{1/} Purchases by the buffer stock manager of the International Cocoa Organization (ICCO) which began in September 1981 under the provisions of the 1980 Agreement were curtailed early in 1982 by inadequate funds ^{2/} and the price fell to just over 70 cents per pound by mid-1982, its lowest level in over six years.

By the end of 1982, the market became dominated by the anticipation of the effects of unusually dry weather in West Africa. World production in 1982/83 declined by over 10 percent: the largest producer, Ivory Coast, suffered a 21 percent fall in output. At the same time production in Ecuador was sharply reduced by heavy rains and flooding. By June 1983 the ICCO price had climbed 48 percent from its level a year earlier to 104 cents per pound. After a brief lull, prices again advanced in December 1983 when it became clear that production in 1983/84 would also be held down by low rainfall in West Africa, that the crop in Ecuador would remain low and below-average production would be recorded in Brazil. For 1983 as a whole, cocoa prices, at 96 cents per pound, were 22 percent above their 1982 level. Prices fluctuated about 116 cents per pound throughout the first half of 1984, a level which still was 27 percent below the average for 1977-79.

^{1/} Price quotations refer to the ICCO daily price, which is the average of the nearest three active future trading months on the New York Cocoa Exchange at noon and on the London Cocoa Terminal Market at closing time.

^{2/} See DM/84/67, Section VI, 10/31/84, for a discussion of the operation of the 1980 International Cocoa Agreement.

Table 27. Cocoa: World Commodity Balance, Market Prices, and Exports

(In thousands of tons, unless otherwise indicated)

	October/September Years					
	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85 ^{1/}
Commodity balance for cocoa beans						
Production ^{2/}	1,660	1,690	1,720	1,520	1,510	1,820
Brazil	300	350	310	330	300	390
Cameroon	120	120	120	110	110	120
Ecuador	100	90	90	40	40	80
Ghana	300	260	230	180	160	170
Ivory Coast	400	420	460	360	410	530
Malaysia	30	50	60	70	90	100
Nigeria	160	150	180	150	120	150
Other countries	250	250	270	280	280	280
Grindings (consumption)	1,490	1,570	1,560	1,620	1,700	1,730
Cocoa bean producing countries	520	510	470	490	500	530
EC	470	510	510	530	580	570
United States	130	190	200	190	210	200
U.S.S.R.	130	110	130	150	140	150
Other countries	240	250	250	260	270	280
End-of-year stocks	530	640	780	660	460	530
	Calendar Years					
	1979	1980	1981	1982	1983	1984
Market prices of cocoa beans ^{3/} (U.S. cents per pound)	149	118	94	79	96	109
Exports of cocoa beans and products ^{4/}						
Volumes						
Beans	980	1,030	1,190	1,180	1,190	1,100
Products	490	520	530	520	580	600
Cocoa bean producing countries	300	320	310	280	310	330
Other countries	190	200	220	240	270	270
Unit values (U.S. cents per pound)						
Beans	147	120	77	72	73	91
Products	195	174	130	114	107	121
Cocoa bean producing countries	(174)	(165)	(120)	(99)	(94)	(104)
Other countries	(229)	(211)	(144)	(132)	(123)	(141)
Earnings (US\$ millions)						
Beans	3,180	2,720	2,010	1,870	1,910	2,200
Products	2,110	2,000	1,520	1,310	1,370	1,600
Cocoa bean producing countries	1,150	1,070	820	610	640	760
Other countries	960	930	700	700	730	840

Sources: Data for world commodity balance from International Cocoa Organization, *Quarterly Bulletin of Cocoa Statistics* (London), various issues; data on exports from *FAO Trade Yearbook* (Rome), various issues and for cocoa beans include only exports from cocoa bean producing countries.

^{1/} Partly estimated by Fund staff.

^{2/} Gross production. For comparison with grindings (consumption), deduct approximately 1 percent.

^{3/} Averages of ICCO daily prices.

^{4/} Cocoa products are obtained by grinding cocoa beans. They consist of cocoa butter, cocoa powder and cake and cocoa paste, all of which are derived entirely from cocoa beans (apart from small amounts of other vegetable fats which some countries permit to be included in cocoa butter). Roughly 80 percent of a cocoa bean is used to make these products; the remaining 20 percent is waste or a low-valued by-product.

In both the 1982/83 and 1983/84 seasons, deficits and corresponding stock drawdowns were increased by the continuing expansion of consumption. Grindings of cocoa beans (the conventional indicator of consumption) increased at an average rate of 4 percent per annum in 1982/83 and 1983/84. By the close of the 1983/84 season, stocks of cocoa beans, including the 100 thousand tons in the buffer stock of the ICCO, had fallen to 460 thousand tons, a decline of 40 percent over two years.

With main crops now harvested, production in 1984/85 is estimated to increase by close to 20 percent to exceed 1.8 million tons for the first time. Without adverse weather and aided by generally higher producer prices, output more accurately reflects the growth of productive capacity in recent years. Record crops are anticipated in the Ivory Coast, Brazil and Malaysia, with Ecuador close to peak production. Ghana and Nigeria, countries in which production has been in long-term decline, are also recording some recovery from the 1983/84 crops which were the lowest since the 1920s in the case of Ghana and since the 1950s in the case of Nigeria. World production is expected to exceed consumption, providing a surplus of at least 70 thousand tons.

In anticipation of a favorable 1984/85 crop, the ICCO price weakened in June-July 1984, averaging 101 cents per pound in the second half of 1984, but the average price for 1984 still registered a 13 percent increase to just under 109 cents per pound. Despite upward revisions in estimates of current production, the price remained remarkably stable in the first quarter of 1985, at close to 100 cents per pound, reflecting the tightness of stocks in importing countries.

The International Cocoa Council at its meeting in July 1985 decided to extend the 1980 International Cocoa Agreement to end-September 1986, the maximum length for which provision was made in the Agreement. This extension is important in part because of the stocks of 100 million tons held in the buffer stock. Total stocks of cocoa remain relatively low by historic standards, at 31 percent of annual consumption. Stocks held by the ICCO represent over 20 percent of total stocks and will only be released from the buffer stock during the life of the Agreement if the price rises to 146 cents per pound. Negotiations for an agreement to succeed the 1980 Agreement have been inconclusive; a fourth session is scheduled in Geneva for February 1986.

Reflecting the low price elasticity of demand for cocoa, as prices declined global earnings of cocoa producing countries from exports of beans and products fell sharply in the early 1980s from the level of the late 1970s (Table 27). In 1979 earnings from bean exports by producing countries totaled \$3.2 billion, and earnings from exports of cocoa products by these countries were \$1.2 billion. By 1982, despite a 20 percent increase in the volume of beans exported, producing country earnings from bean exports had fallen by 41 percent to \$1.9 billion; over the same period, the volume of cocoa product exports by producing countries fell by 7 percent, while export earnings declined by 47 percent.

From this low, earnings increased moderately in 1983, reflecting the upturn in prices and a further small increase in export volumes. A more substantial increase in earnings--15 percent for beans and 17 percent for products--was recorded in 1984 and a further although smaller increase is expected for 1985.

Immediate prospects for cocoa prices largely depend upon expectations concerning the 1985/86 crop and progress toward an agreement. Initial indications, which are inevitably very uncertain, suggest that 1985/86 will be another year of surplus. While heavy rains in Brazil has heightened the chance of loss from "pod rot" in that country, unless there is more serious climatic damage to world cocoa crops, prices are not expected to increase.

IV. Agricultural Raw Materials

This section contains analyses of market developments in recent years for the two major agricultural raw materials in international trade: cotton and rubber. Brief summaries are also provided of developments with respect to wool, jute, sisal, and hides.

The U.S. dollar prices of agricultural raw materials were relatively stable through the 1960s and early 1970s, compared with the period beginning 1972 (Chart 6 and Table 28). Prices in this earlier period tended downwards. Prices moved sharply upwards in an irregular manner in the period 1972-80 and tended to decrease from 1981 to 1985, again in an irregular manner. Much of the year-to-year movement in the U.S. dollar prices of agricultural raw materials can be explained in terms of changes in world economic activity (Table 29). Prices fell sharply in the 1974-75 and the 1981-82 recessions. In addition, prices have been influenced by anticipated and realized movements in the price of petroleum, the base for a number of synthetic products which compete directly with agricultural raw materials. This was particularly the case with regard to the very large price increases in 1972-73 and to the substantial increase in 1979. The sharp decline in prices in 1985 is to a large degree the result of sizable increases in supply, particularly of cotton which has a large weight in the group index and for which there was an exceptionally large increase in production in the 1984/85 crop year.

1. Cotton

Cotton prices rose sharply both in the mid-1970s and in 1980, in the wake of the oil price shocks which substantially raised the prices of synthetic petroleum-based fibers, cotton's principal competitor. However, the price increase of 1980 was both much smaller than that of the mid-1970s and shortlived. During 1981/82 (August/July), world cotton stocks increased by 22 percent as a consequence of a 9 percent increase in world production and a slowdown in consumption as the world economy entered into a recession; from 1980 to 1982, medium-staple

CHART 6
PRICES OF AGRICULTURAL RAW MATERIALS

(In U.S. dollars, indices: 1980=100)

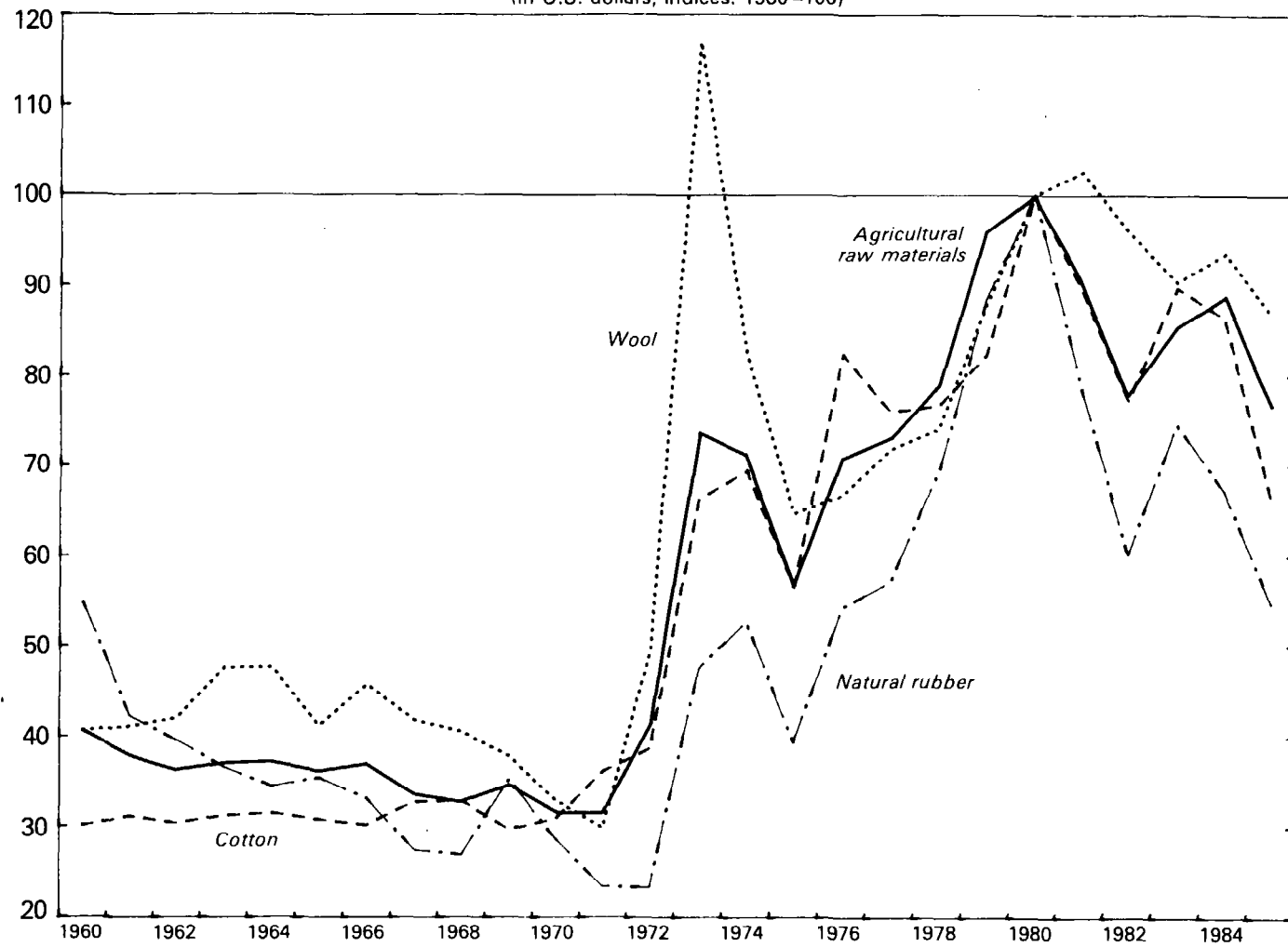


Table 28. Prices of Agricultural Raw Materials

	Cotton		Rubber 3/ (In U.S. cents per pound)	Wool		Jute 6/ (In U.S. dollars per long ton)	Sisal 7/ (In U.S. dollars per ton)	Hides 8/ (In U.S. cents per pound)
	Medium- Staple 1/ (In U.S. cents per pound)	Long- Staple 2/ (In U.S. cents per pound)		Fine 4/ (In U.S. cents per kg)	Coarse 5/ (In U.S. cents per kg)			
1960	28	49	35.4	243	187	291	255	13.7
1961	29	45	27.3	245	183	350	224	14.8
1962	28	42	25.6	251	176	187	250	15.2
1963	29	42	23.6	284	210	182	382	11.2
1964	29	49	22.3	284	221	227	348	10.3
1965	29	51	22.9	246	187	255	248	14.3
1966	28	50	21.4	273	188	307	225	17.7
1967	31	53	17.7	250	154	292	190	12.0
1968	31	59	17.3	242	126	271	182	11.2
1969	28	63	22.8	226	131	285	182	14.6
1970	29	63	18.5	196	120	274	161	12.9
1971	34	62	15.1	178	122	286	185	14.5
1972	36	65	15.1	298	208	299	252	29.6
1973	62	98	30.8	699	364	289	536	34.3
1974	65	154	34.1	492	285	353	1,056	23.6
1975	53	129	25.4	386	234	377	580	23.3
1976	77	136	35.1	399	320	300	468	33.6
1977	71	149	37.0	430	339	324	511	36.9
1978	72	139	44.7	443	347	404	475	47.5
1979	77	153	57.2	525	422	391	713	73.1
1980	94	153	64.6	597	430	319	765	45.9
1981	84	152	50.9	613	391	283	645	41.7
1982	73	125	38.9	573	343	288	595	38.6
1983	84	140	48.3	540	320	303	571	45.1
1984	81	164	43.4	559	316	579	584	58.9
1984 I	88	163	51.4	580	331	412	568	54.6
II	87	164	44.3	585	336	410	590	59.4
III	76	164	41.1	536	307	614	597	63.3
IV	73	164	37.0	534	289	880	580	58.2
1985 I	69	165	33.9	513	282	947	541	43.9
II	65	165	35.9	514	289	950	540	49.1
July	61	165	35.4	502	296	630	520	56.0

- 1/ Liverpool Index A, c.i.f. Liverpool.
 2/ Egyptian origin, c.i.f. Liverpool.
 3/ Malaysian RSS1, f.o.b. Malaysia.
 4/ U.K. Dominion, 64's.
 5/ U.K. Dominion, 50's.
 6/ Bangladesh BWD, f.o.b. Chittagong/Chalna.
 7/ East African origin, c.i.f. European ports.
 8/ U.S. wholesale price, Chicago, f.o.b. shipping point.

Table 29. Prices of Agricultural Raw Materials
and Selected Underlying Factors

Prices of Agricultural Raw Materials		Real GNP in Seven Industrial Countries	Price of Petro- leum	GNP Deflator (In U.S. dollars)	Index of Supply of Agricultural Raw Materials <u>2/</u>	
Nominal (In U.S. dollars)	Real <u>1/</u>					
<u>(Annual percentage changes)</u>						
1969	6.0	2.5	4.6	0.6	4.7	2.8
1970	-8.8	-13.3	2.3	3.0	6.0	1.0
1971	-0.5	-7.2	3.7	23.4	6.1	1.6
1972	30.8	20.7	5.6	8.8	8.5	2.2
1973	79.2	54.2	6.3	41.5	12.4	1.8
1974	-3.5	-21.2	0.2	225.8	11.0	1.1
1975	-19.8	-28.5	-0.6	5.1	11.9	0.3
1976	24.3	22.5	5.3	6.3	4.1	-1.7
1977	3.2	-4.5	4.4	9.4	9.5	2.2
1978	7.6	-6.0	4.4	0.4	15.1	0.5
1979	21.9	7.0	3.5	45.9	10.9	1.7
1980	4.1	-6.3	1.2	63.5	12.1	-0.4
1981	-9.7	-4.0	1.9	9.9	2.6	2.3
1982	-13.7	-11.8	-0.4	-4.0	-0.1	1.0
1983	9.5	14.5	2.8	-12.2	1.7	2.9
1984	4.0	7.6	5.2	-2.0	0.4	7.7

Sources: World Economic Outlook and Commodities Division.

1/ Deflated by unit values of manufactured exports.

2/ Production plus beginning of (crop) year stocks. Index constructed using same weights for individual agricultural raw materials as in price index.

cotton prices fell by 23 percent (Table 30). 1/ Prices recovered by 12 percent in 1983. This recovery was largely in response to (1) lower world production caused mainly by the sharp reduction in the U.S. crop as a result of a domestic policy of acreage reduction and by unfavorable weather, and (2) an improvement in the world economic situation which resulted in stronger demand for cotton. Beginning mid-1984, however, record high world production in the 1984/85 crop year and declining oil prices caused cotton prices to fall. The price in July 1985 was 61 cents per pound, 27 percent below the level of 1983 and the lowest monthly average since 1977. The price of long-staple cotton declined by 16 percent during the 1981-82 recession, but subsequently recovered to above prerecession levels in 1983/84 and 1984/85 as a result of poor crops in Egypt that severely reduced exportable surpluses. 2/

World cotton production in 1984/85 is estimated to have been well above consumption as a result of a world bumper crop combined with sluggish demand resulting from continuing inroads by the synthetic fibers in world markets, particularly in the developing countries, and from a weak economic recovery in some regions. World production is estimated to have increased by 25 percent to 18.4 million tons, exceeding estimated consumption by 3.2 million tons. As a consequence, stocks at the end of the 1984/85 cotton year were at a record high level. In China, the cotton crop increased by about 33 percent to about 6 million tons or one third of total world output. Responding to increased producer incentives and the use of improved cotton varieties, China's production has more than doubled in the span of three years. The U.S. crop is estimated at 2.9 million tons, 70 percent higher than the previous year. 3/ This increase reflects the termination of a payment-in-kind (PIK) program--under which federally-held stocks were used to compensate farmers for not planting cotton--and the implementation of a different acreage reduction program that offered smaller incentives. 4/ The Egyptian crop was lower than anticipated, creating shortages for the high-priced long-staple varieties.

World cotton consumption increased by 1 percent in both 1983/84 and 1984/85 after recovering by about 4 percent in 1982/83. Although industrial production of the industrial countries grew by over 8 percent in 1984 and decelerated to an estimated 3.6 percent in 1985, world cotton consumption

1/ Price quotations for medium-staple cotton refer to the Liverpool Index "A", 1-3/32 inch staple, average of the cheapest five of ten styles, c.i.f. Liverpool. Unless specified otherwise, "cotton prices" refer to medium-staple cotton.

2/ Price quotations for long-staple cotton refer to Egyptian Fully Good, Giza 77, c.i.f. Liverpool.

3/ The United States remains by far the largest single supplier of the export market with nearly one third of total exports.

4/ Under the acreage reduction program that succeeded the PIK program, producers were required to idle 30 percent of their land in order to qualify for various benefits including government loans and "deficiency payments."

Table 30. Cotton: World Commodity Balance, Market Prices, and Exports

(In millions of tons, unless otherwise indicated)

	August/July Years					
	1979/80	1980/81	1981/82	1982/83	1983/84	1984/85
Commodity balance <u>1/</u>						
Production	14.15	14.05	15.33	14.70	14.70	18.42
China	2.21	2.71	2.97	3.60	4.64	6.07
United States	3.19	2.42	3.41	2.60	1.69	2.89
U.S.S.R.	2.70	2.87	2.83	2.60	2.67	2.54
Other countries	6.05	6.05	6.12	5.90	5.70	6.92
Consumption	14.22	14.30	14.34	14.86	15.07	15.25
China	2.95	3.28	3.50	3.66	3.59	3.70
United States	1.42	1.28	1.15	1.20	1.29	1.15
U.S.S.R.	1.94	1.95	1.96	1.97	1.98	1.99
Other countries	7.91	7.87	7.73	8.03	8.21	8.41
Closing stocks	4.90	4.66	5.67	5.78	5.60	8.78
China	.48	.66	.60	.73	1.61	3.80
United States	.65	.58	1.44	1.73	.60	.93
Other countries	3.77	3.42	3.63	3.32	3.39	4.05
	Calendar Years					
	1979	1980	1981	1982	1983	1984
Market prices						
(U.S. cents per pound)						
Medium-staple <u>2/</u>	77.1	93.7	84.0	72.5	84.1	80.9
Long-staple <u>3/</u>	153.2	153.5	152.0	124.9	140.0	163.8
Exports <u>1/</u>						
Volumes	4.37	4.81	4.31	4.39	4.32	4.35 <u>4/</u>
Unit values <u>5/</u>						
(U.S. cents per pound)	69.4	73.7	77.7	65.3	69.0	75.0
Earnings (US\$ millions)	6,690	7,820	7,380	6,320	6,570	7,190 <u>4/</u>
Industrial countries	2,290	3,000	2,450	2,170	2,080	2,250 <u>4/</u>
Other countries	4,400	4,820	4,930	4,150	4,490	4,940 <u>4/</u>

Sources: Data for world commodity balance from International Cotton Advisory Committee, Cotton: World Statistics (Washington), various issues. Data on exports from FAO Trade Yearbook (Rome), various issues.

1/ All staples.

2/ Liverpool Index A, c.i.f. Liverpool.

3/ Egyptian, c.i.f. Liverpool.

4/ Staff estimates.

5/ Derived.

increased slowly, in part, because lower oil prices have made synthetic fibers more competitive and because the economic recovery has been uneven among countries.

World trade in cotton in 1984/85 is estimated to have remained at the 1981/82 recession levels. A major reason for the failure of the cotton trade to recover is that China has moved from being a major importer of cotton in 1979-81 to being a net exporter, beginning with the 1983/84 crop year. China's net exports of about 175 thousand tons in 1983/84 and 1984/85 contrasted sharply with annual net imports of over 800 thousand tons during 1979/80-1980/81. In addition, world trade in cotton may have been restrained by increasing protectionist tendencies in some industrial countries for cotton textiles. This tendency appears to have discouraged imports of raw cotton by some Asian countries for the manufacture of textiles for export. The volume of cotton imports by Asian countries, excluding China, in 1983/84 was only marginally greater than in 1979/80.

Prospects for 1985/86 call for another large world cotton crop, although its size is expected to be about 8 percent below the 1984/85 record level. The new Chinese policy represents an attempt to scale back production to the level of the 1983/84 season, but plantings in other countries, such as the U.S.S.R. and Turkey, may be about the same as in 1984/85. The U.S. cotton acreage reduction program for 1985/86 is somewhat more attractive for producers than that for 1984/85 and is expected to draw a higher rate of participation. As of May 1985, producers had enrolled 83 percent of base acreage in the cotton program for the 1985/86 season, up from 71 percent in 1984/85, due not only to increased supplies and lower prices, but also to expectations of continuing large supplies.

Consumption prospects suggest that only a small increase can be expected. The price of synthetics is likely to reflect the softening of energy prices and the restructuring of the synthetic fiber industry that has led to reduced production costs, making synthetic fibers more competitive. Cotton stocks are likely to remain large and prices are expected to remain weak through the end of 1986. In contrast, the price of long-staple cotton could remain firm as a result of low inventories due to poor harvests in Egypt in both 1983/84 and 1984/85.

2. Rubber

Under the influence of higher prices for synthetic rubber resulting from the sharp 1979 oil price increase, the price of natural rubber reached a peak of 64.6 cents per pound in 1980. ^{1/} However, with the onset of the international recession, prices began to decline in 1981 and in 1982 they fell to 38.9 cents per pound, 40 percent below their 1980 level. Purchases of 270 thousand tons by the buffer stock of the International Natural Rubber Agreement (INRA) between 1981 and January

^{1/} Price quotations for RSS1, in bales, spot, f.o.b. Malaysia.

1983 succeeded in arresting the price decline and in stabilizing the market indicator price (MIP) of the Agreement around the lower intervention price. 1/

In response to the economic recovery in industrial countries, which was reflected in sharply higher demand for automobiles, and the constraint on production of a prolonged "wintering" season in the major producing countries, the price of natural rubber rose strongly in 1983. Between December 1982 and February 1984 the price of RSS1 increased by 43 percent to 51.7 cents per pound. This increase, however, was reversed entirely in 1984. Beginning in April the price declined sharply to 39.9 cents per pound in June, firmed to an average of 41.1 cents per pound in the third quarter, but fell again to 35.8 cents per pound in December. This weakness continued during the first seven months of 1985 with the average price of 35.0 cents per pound being 8 percent lower than the average price realized in the recessionary conditions of the second half of 1982. A similar movement occurred in the MIP of the INRA. This price moved from below the lower intervention price (where the buffer stock manager "may buy" rubber) in January 1983 to above the upper intervention price into the "may sell" region of the price range in August 1983 and again in January and February 1984. 2/ It then declined sharply, returning to the "may buy" region in November 1984, where it remained until mid-January 1985 when limited support purchases by the buffer stock manager moved the price up for a few days. A reduction in supply due to normal wintering raised the MIP above the "may buy" region again in mid-March, but the price fell back in mid-May when supply conditions returned to normal.

The downturn in prices in the second quarter of 1984 reflected both a slowing of the growth of demand as stock replenishment was completed in Europe and Japan in the first quarter, and an abnormally high seasonal supply due to a mild wintering period in South-East Asian producing countries. There was also a narrowing of the premium of RSS1 over lower quality grades of rubber in the second quarter of 1984 due to the relative weakness of demand in Europe (which uses mainly the former) compared with the United States (which uses mainly the latter). European demand was also affected temporarily by the German metal workers' strike in May-June 1984. The firming of prices, which occurred in the third quarter of 1984, resulted mainly from a resumption of purchases of RSS1 by the U.S.S.R. and China and a return to normal seasonal supply conditions. In the fourth quarter, however, there was a marked increase in production in Thailand and Indonesia, while consumption slowed as the deceleration of U.S. economic growth--which had begun in the third

1/ The MIP is defined as the average official price for RSS1, RSS3, and TSR20 quality rubber on the Kuala Lumpur, London, New York and Singapore markets, expressed in equally weighted Malaysian and Singapore cents per kilogram. The lower intervention price is 177 M-S cents per kilogram; the upper intervention price is 239 M-S cents per kilogram.

2/ See DM/84/67, Section VI, 10/31/84, for a discussion of the operation of the INRA.

quarter--contributed to a build-up of stocks of final products. Downward pressure on prices also stemmed from the devaluation of the Thai baht by almost 15 percent against the U.S. dollar in November, and from declining oil prices which reduced the price of synthetic rubber substitutes.

For 1984 as a whole, world production of natural rubber rose by 4.8 percent to 4.2 million tons, and world consumption increased by 5.4 percent to approximately the same level (Table 31). There was a small increase in commercial stocks during the year, mainly because of the surge in output in the final quarter. This contrasted with earlier projections of a significant decline in stocks. Reflecting the growth of consumption, the volume of world exports is estimated to have risen by 5 percent in 1984 to a record 3.5 million tons.

The continued weakness in prices in the first two months of 1985 reflected the prevailing excess supply situation and further strengthening of the U.S. dollar. Limited purchases, estimated at 3,000 tons, by the buffer stock manager of the INRA in mid-January failed to turn the market around. The positive impact on prices of wintering in the main producing countries between March and May 1985 also proved to be temporary, and buffer stock purchases estimated at 2,500 tons were resumed at the end of May. In July the size of the buffer stock reached 300,000 tons, a level which triggered a 3 percent downward revision in the price range of the INRA. This adjustment was made effective in August 1985.

For 1985 as a whole, the growth of world output is expected to slow to less than 4 percent while world consumption is projected to increase by 5.5 percent or at about the same pace as in 1984. The ratio of commercial stocks to annual consumption is expected to decline, and prices are expected to rise slightly through the remainder of the year.

3. Other agricultural raw materials

a. Wool

Wool prices, like cotton prices, increased sharply in the wake of the sharp oil price increases of 1973 and 1979, which raised the prices of synthetic substitutes. Since 1980, however, wool prices have experienced a steady decline and by the first half of 1985 coarse wool prices were about one third less than their 1980 level. ^{1/} The largest price decline occurred during the 1981-82 recession (by 20 percent) as the demand for wool fell and inventories accumulated. Despite the economic recovery since 1983, a large supply imbalance had the effect of weakening prices further; prices during 1984-85 were at their lowest level since the 1975 recession.

^{1/} Price quotations for U.K. Dominion, clean, dry-combed basis: 64's for fine wool and 50's for coarse wool.

Table 31. Rubber: World Commodity Balance, Market Prices, and Exports

(In thousands of tons, unless otherwise indicated)

	Calendar Years					
	1979	1980	1981	1982	1983	1984
Commodity balance						
Production	3,870	3,845	3,705	3,755	4,025	4,220
Indonesia	905	1,020	868	880	997	1,125
Malaysia	1,570	1,530	1,510	1,494	1,562	1,493
Thailand	531	501	504	552	587	622
Other countries	864	794	823	829	879	980
Consumption	3,880	3,760	3,700	3,680	3,985	4,200
EC	688	690	640	632	633	650
Japan	390	427	436	439	504	526
United States	740	585	635	585	665	751
Other countries	2,062	2,058	1,989	2,024	2,183	2,273
Closing stocks	1,545	1,630	1,685	1,970	2,020	2,040
Of which:						
INRO buffer stock	(...)	(...)	(50)	(260)	(270)	(270)
Market prices (U.S. cents per pound) ^{1/}	57.2	64.6	50.9	38.9	48.3	43.4
Exports						
Volumes	3,380	3,290	3,110	3,070	3,400	3,530 ^{2/}
Unit values (U.S. cents per pound) ^{3/}	53.5	59.3	48.4	36.1	43.6	42.8
Earnings (US\$ millions)	3,990	4,300	3,320	2,440	3,270	3,330 ^{2/}

Source: Data for world commodity balance from International Rubber Study Group, Rubber Statistical Bulletin (London), various issues. Data on exports from FAO Trade Yearbook (Rome), various issues, and include only exports of rubber-producing countries.

^{1/} Malaysian RSS1, f.o.b. Malaysia.

^{2/} Staff estimates.

^{3/} Derived.

The failure of wool prices to recover after the 1981-82 recession has been the result of persistent increases in world production, which has outpaced a rather stagnant world consumption demand. Production in 1983/84 was 1,641 thousand tons of clean wool, about a 1 percent increase over the previous season, bringing world production to a 15-year high. Despite droughts in Australia, New Zealand, and South Africa in 1983/84, excellent weather conditions prevailed in other wool-growing regions. World production in 1984/85 is estimated to have increased again by about 2 percent, reflecting a full recovery from droughts in Australia and New Zealand, which together are estimated to account for the total increase in the season's output.

World consumption of wool has been stagnant in recent years, mainly because of competition from synthetic fibers. The decline in oil prices and the progressive reduction of excess capacity in the synthetic fiber industry has resulted in cost reductions in the manufacture of synthetic fibers. Stagnant consumption, combined with increased production, resulted in a 23 percent increase in stocks in producing countries in 1983/84. Stocks are estimated to remain at high levels in 1984/85. Continued weakness in wool prices is expected through 1986 because of large inventories and continued competition from synthetic fibers due to declining oil prices.

b. Jute

The markets for raw jute have been declining or stagnant since the 1960s because of competition from synthetic substitutes (primarily polypropylene). This development was accompanied by a decline in spinning capacity in the industrial countries and increased processing of jute in jute-producing countries. Jute prices have experienced a long-term downward trend, interspersed with brief periods of high prices.

Low prices in the late 1970s and early 1980s resulted in declining jute output in the major producing countries. As a result, world jute production was less than consumption each year from 1980 through 1983. As world stocks diminished, prices began to increase in the last half of 1983. They then increased sharply from an average of \$411 per ton in the first half of 1984 to \$1,019 by year-end as a result of unfavorable weather which reduced the jute harvests in Bangladesh and India. Persistent rain flooded the crops in Bangladesh and India, which together account for over 60 percent of world production. Successive years of small crops have reduced year-end stocks ^{1/} from 943 thousand tons in 1981/82 to only 380 thousand tons at end-1983/84.

The 1984/85 crop is estimated to be about 7 percent larger than the 1983/84 crop. The impact of this new crop on jute prices began to be felt in May 1985, and by July prices had fallen to about half the end-1984 level. Prices could decline somewhat further but should begin to stabilize soon because of the pressure to rebuild stocks and as importers begin to adjust to the more competitive jute prices.

^{1/} Held by Bangladesh, Burma, India, Nepal, and Thailand.

c. Sisal

The sisal market is divided into one for agricultural twine, largely supplied by Brazilian sisal, and one for commercial twine and cordage, for which the more expensive sisal from East Africa is used. After a sharp increase during 1979, largely as a consequence of the oil price shock, sisal prices declined steadily in the period 1980-83 due to the contraction of economic activity and the continuing erosion of the market with the spread of nontwine harvesting techniques in agriculture and competition from polypropylene twine in all markets. The price in 1983 averaged 25 percent below its 1980 average. 1/

Drought conditions in several producing countries contributed to a 5 percent price increase over the period from February to August 1984, but favorable weather in Tanzania and Kenya then caused prices to stabilize and to decline by 6 percent in January 1985. Prices have remained at this low level during the first half of 1985 and are not expected to recover in the near future as a result of continued stagnant demand due mainly to competition from synthetic fibers.

d. Hides

The price of cattle hides increased from an average level of 36.5 cents per pound in the first quarter of 1983 to an average level of 48 cents per pound during the next three quarters. 2/ The increase in prices continued in 1984; the average price in 1984 at 58.9 cents per pound was 31 percent higher than in the previous year. However, prices declined to an average level of 46.5 cents per pound during the first two quarters of 1985.

The overall supply of cattle hides and calf skins is estimated to have increased slightly in 1984 with increased cattle slaughtering in North America, Western Europe, Argentina, and the U.S.S.R. outweighing a reduction in supplies from Australia and New Zealand. The demand for hides and skins, which is derived from the demand for leather and leather manufactures, recovered sharply in 1983 and 1984 due to an increase in the overall level of tanning activity resulting from the recovery in economic activity in the main leather consuming countries.

Supplies of hides and skins are expected to decline over the short run due to an expected reduction in cattle slaughtering in the United States, Australia, and New Zealand as these countries rebuild their cattle herds. The demand for hides and skins, on the other hand, is expected to remain buoyant because of the prospect of a continuing economic recovery. As a result, prices for hides and skins are expected to recover in the short run.

1/ Price quotations refer to East African, U.G., c.i.f European ports.

2/ Price quotations refer to the U.S. wholesale price for hides of packer's heavy native steers, over 53 pound hides, Chicago, f.o.b. shipping point.

V. Metals

This section contains analyses of market developments in recent years for the major metals in international trade: copper, iron ore, tin and aluminum. Brief summaries are also provided for nickel, zinc, and lead.

As in the case of agricultural raw materials, the most important underlying factor determining year-to-year price movements for metals would appear to be the level of world economic activity. Rates of world inflation and supply factors play secondary roles. Metal prices tend to rise during extended periods of expansion in world economic activity and tend to fall during periods of economic slowdown. The very large increase in the U.S. dollar price index for metals of 46.8 percent in 1973 occurred at the same time as a 6.3 percent increase in the real GNP of the seven major industrial countries (Table 32); 1973 was the second successive year in which real GNP growth exceeded 5 percent. Despite the sharp fall in the growth of real GNP in 1974, the U.S. dollar price index for metals increased by 25.0 percent as a result of a sharp increase in world inflation and reduced production of metals. Nevertheless in 1975, the effects of the 1974-75 world recession on prices of metals was felt and the U.S. dollar index of metal prices fell by 19.4 percent. The next major price increase for metals occurred in 1979 following a period of relatively strong growth in world economic activity, high rates of world inflation, and rates of increase in production of metals, which were lower than in the early 1970s. Largely in response to the 1980-82 world economic recession, the U.S. dollar price index for metals fell by 25.3 percent over the two year period 1981-82. Despite the resumption of growth in world economic activity in 1983, the price index for metals increased by only 4.3 percent in 1983 and fell by 6.3 percent in 1984. Contributing to the weakness in U.S. dollar prices of metals in this period were the low rates of inflation in industrial countries, the appreciation of the U.S. dollar and a supply overhang resulting from larger production than consumption in both 1981 and 1982. The dollar index of prices of metals is projected in 1985 to be at a level only 73 percent of that in 1980.

The prices of individual major metals have tended to follow the same pattern of movement as the group index, with the exception of iron ore (Chart 7 and Table 33).

1. Copper

Most international copper transactions take place at London Metal Exchange (LME) prices, or at prices based on LME prices. Because copper's major end-uses are in cyclically sensitive industries (electronics, construction, and transportation), copper prices are particularly sensitive to the business cycle and hence can fluctuate considerably.

Table 32. Prices of Metals and Selected Underlying Factors

	Prices of Metals		Real GNP in Seven Industrial Countries	GNP Deflator (In U.S. dollars)	Supply of Metals 1/		
	Nominal (In U.S. dollars)	Real <u>2/</u>			Index of production	Index of stocks <u>3/</u>	Index of supply <u>4/</u>
<u>(Annual percentage changes)</u>							
1969	10.1	6.5	4.6	4.9	6.9	5.5	6.6
1970	5.4	0.3	2.3	6.2	7.1	-9.7	5.0
1971	-13.6	-19.4	3.7	6.8	0.5	25.3	3.1
1972	0.2	-7.5	5.6	9.1	5.9	-1.1	4.7
1973	46.8	26.3	6.3	12.2	6.4	5.1	6.2
1974	25.0	2.1	0.2	9.2	3.2	-24.5	-0.1
1975	-19.4	-28.1	-0.6	11.7	-5.1	29.1	-2.0
1976	6.0	5.3	5.3	3.5	3.7	54.9	9.7
1977	7.5	-0.5	4.4	8.7	1.5	2.1	1.1
1978	5.4	-7.9	4.4	15.5	-1.2	5.9	-0.3
1979	30.3	14.3	3.5	9.6	2.4	-19.3	-1.3
1980	8.8	-2.0	1.2	9.1	-0.1	-25.5	-3.8
1981	-16.6	-11.3	1.9	1.4	2.4	-2.7	1.9
1982	-10.4	-8.5	-0.4	-0.3	-6.3	17.2	-3.7
1983	4.3	9.1	2.8	1.7	-1.6	34.2	3.2
1984	-6.3	-3.0	5.2	-0.3	4.9	-1.5	3.8

Sources: World Economic Outlook and Commodities Division.

1/ Indices constructed using same weights for individual metals as in the price index.

2/ Deflated by unit values of manufactured exports.

3/ Beginning of year stocks.

4/ Production plus beginning of year stocks.

CHART 7
PRICES OF METALS
(In U.S. dollars, indices: 1980=100)

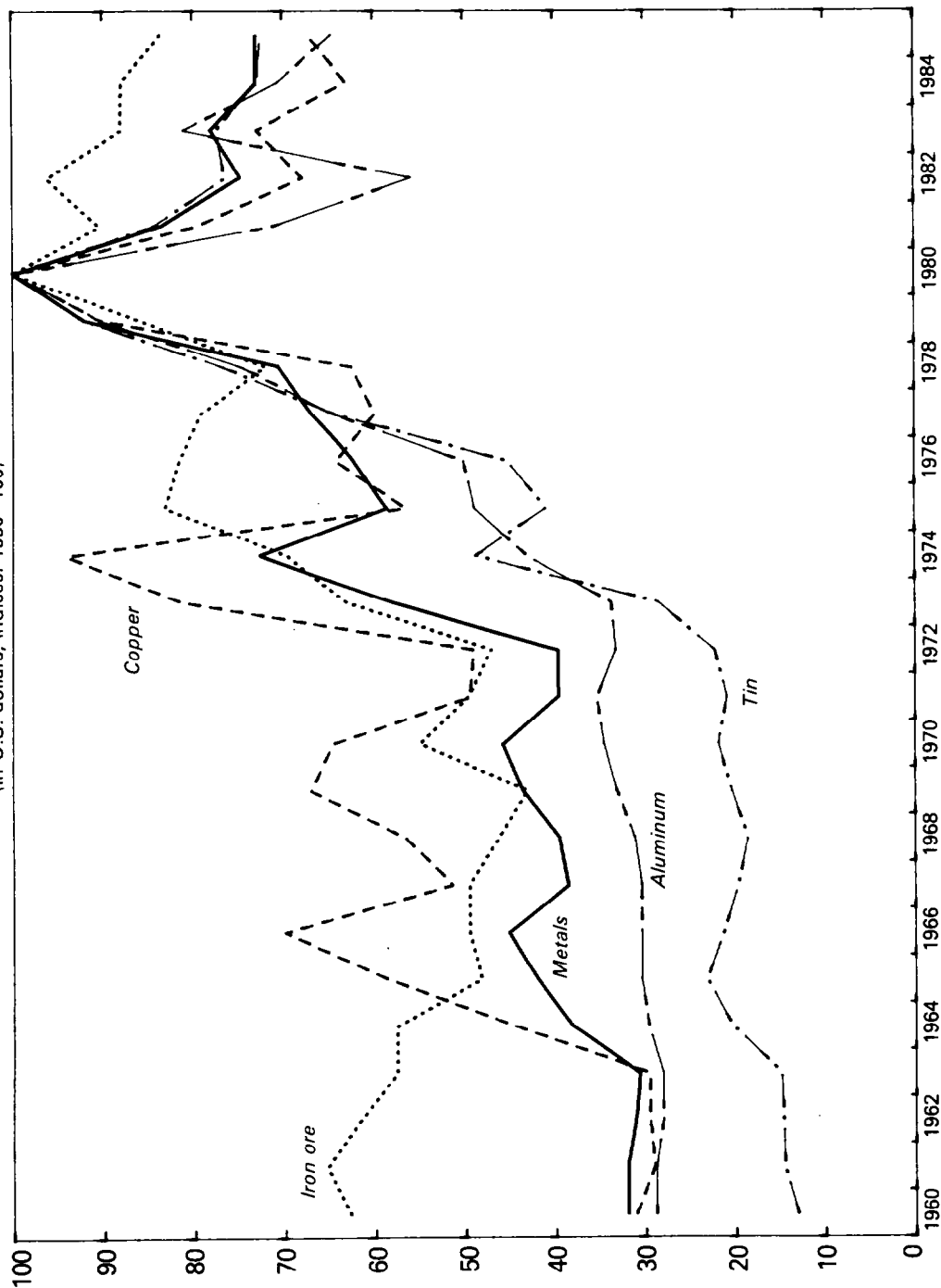




Table 33. Prices of Metals

	Copper <u>1/</u> (In U.S. cents per pound)	Iron Ore <u>2/</u> (In U.S. dollars per ton)	Tin <u>3/</u>	Aluminum <u>4/</u> (In U.S. cents per pound)	Nickel <u>5/</u>	Zinc <u>6/</u>	Lead <u>7/</u>
1960	30.7	17.1	100	23.2	74	11.2	9.2
1961	28.8	17.8	111	23.2	78	9.7	8.2
1962	29.3	16.8	112	22.6	80	8.5	7.2
1963	29.3	15.7	114	22.6	79	9.6	7.9
1964	44.0	15.7	155	23.9	79	14.8	12.6
1965	58.1	13.1	176	24.5	79	14.2	14.4
1966	69.3	13.5	162	24.5	79	12.8	11.9
1967	50.9	13.5	150	24.5	87	12.3	10.3
1968	56.2	12.6	142	25.1	93	11.9	10.9
1969	66.4	11.7	155	26.7	104	13.0	13.1
1970	64.0	15.0	167	27.9	128	13.4	13.8
1971	49.0	13.5	159	28.5	133	14.1	11.5
1972	48.6	12.8	170	26.8	140	17.1	13.7
1973	80.6	17.2	218	27.2	153	38.2	19.4
1974	93.2	19.0	371	34.7	174	56.1	26.8
1975	56.1	22.7	312	39.4	207	33.8	18.9
1976	63.6	22.2	344	40.4	225	32.3	20.2
1977	59.4	21.6	490	51.9	236	26.7	28.0
1978	61.9	19.6	584	60.1	209	26.9	30.0
1979	89.5	23.4	701	72.7	271	33.6	54.6
1980	99.1	27.2	761	80.5	296	34.5	41.1
1981	79.0	24.6	643	57.3	270	38.4	32.9
1982	67.2	26.2	582	45.0	219	33.8	24.8
1983	72.2	24.0	589	65.2	212	34.7	19.3
1984	62.5	23.9	555	56.8	216	40.6	20.0
1984 I	65.1	23.1	557	68.0	213	45.3	19.0
II	65.3	23.3	570	59.5	219	44.5	21.4
III	59.9	23.1	557	50.1	213	37.1	20.6
IV	59.5	26.2	536	49.6	217	35.4	19.2
1985 I	62.5	23.0	502	49.4	230	39.1	17.2
II	67.5	22.8	546	49.1	252	37.4	17.4
July	66.9	22.7	579	45.9	231	34.2	18.3

1/ LME price, c.i.f. U.K. ports.

2/ Brazilian ore, c.i.f. German ports.

3/ LME price, c.i.f. European ports.

4/ LME price, c.i.f. European ports.

5/ LME price, c.i.f. Northwest European ports.

6/ LME price, c.i.f. U.K. ports.

7/ LME price, c.i.f. U.K. ports.

Historically, copper prices have followed a four-to-five year cycle, in line with changes in underlying supply-demand conditions. Periods of high prices have tended to last two years (1973-74, 1979-80), but periods of low prices have tended to persist from about two to four years (1971-72, 1975-78, 1981-present). High average annual prices of 87 cents per pound in 1973-74 and 94 cents per pound in 1979-80 were followed by average annual prices of 60 cents per pound in 1975-78 and 70 cents per pound in 1981-84. ^{1/} Apparent spillovers of speculative funds from the precious metals markets seeking hedges against inflation contributed to the sharp price escalation in recent periods of high prices. On the other hand, while low copper prices in recent years have been mainly attributable to the underlying imbalance between supply and demand on the world copper market, these effects have been accentuated by the appreciation of the U.S. dollar, which has further depressed copper prices in terms of U.S. dollars.

The economic expansion in industrial countries beginning in 1983, taken in conjunction with the existence of large stocks and unutilized production capacity, has not yet been sufficient to provide a sustained increase in copper prices. An increase of 20 percent in the first five months of 1983 was more than offset by declines in the subsequent five months, as production rose, partly because of the reactivation of previously idled capacity, and the already high level of stocks continued to increase. In 1984, an 11 percent price increase from January to April was more than reversed in the next two months, and a similar spurt in prices from March 1985 to May 1985 was equally short-lived, despite significant declines in stocks during 1984 and 1985, as consumption expanded. The annual average price for 1984 of 62 cents per pound was 13 percent below the annual average price for 1983; prices in the first half of 1985 only increased by 4 percent to average 65 cents per pound. This weakness in U.S. dollar prices is related in part to reduced speculative interest in the metal and to the marked strengthening of the U.S. dollar against other major currencies and higher interest rates, which increased the cost of copper to European consumers at a time when rates of growth of economic activity in these countries remained relatively low. The perception of overcapacity in the industry also contributed to pressure on prices in 1984-85.

After three consecutive years in which production exceeded consumption, in 1984 world copper consumption exceeded production, and stocks declined by 28 percent (Table 34). In contrast to 1983, when refined copper production rose while consumption stagnated, production in 1984 declined by about 2 percent while consumption rose by over 10 percent. Most of the decline in output is attributable to Japan, where refined copper production was over 14 percent lower than in the previous year, partly because ores and concentrates formerly imported by Japan were diverted to new smelters in developing countries. The

^{1/} Price quotations refer to prices on the LME, cash for delivery on the following business day, higher grade cathodes, minimum purity 99.9 percent, c.i.f. U.K. ports.

Table 34. Copper: World Commodity Balance, Market Prices and Exports

(In thousands of tons, unless otherwise indicated)

	Calendar Years					
	1979	1980	1981	1982	1983	1984
Commodity balance						
Mine production <u>1/</u>	<u>6,135</u>	<u>6,042</u>	<u>6,490</u>	<u>6,240</u>	<u>6,246</u>	<u>6,443</u>
Canada	636	716	691	613	625	706
Chile	1,063	1,068	1,081	1,242	1,257	1,290
United States	1,444	1,181	1,538	1,140	1,038	1,087
Zaire	400	460	505	503	502	501
Zambia	588	596	587	530	578	565
Other countries	2,004	2,021	2,088	2,212	2,246	2,294
Smelter production <u>1/</u>	<u>6,309</u>	<u>6,147</u>	<u>6,561</u>	<u>6,447</u>	<u>6,514</u>	<u>6,682</u>
Chile	949	953	954	1,047	1,058	1,098
Japan	921	929	980	1,046	1,062	929
United States	1,396	1,053	1,378	1,021	987	1,057
Zaire	370	426	468	466	466	465
Zambia	595	601	572	581	563	532
Other countries	2,078	2,185	2,209	2,286	2,378	2,601
Refined supply	<u>7,079</u>	<u>7,120</u>	<u>7,419</u>	<u>7,207</u>	<u>7,120</u>	<u>7,212</u>
Refined production <u>1/</u>	<u>7,016</u>	<u>7,043</u>	<u>7,358</u>	<u>7,155</u>	<u>7,318</u>	<u>7,208</u>
Chile	(780)	(811)	(776)	(853)	(833)	(879)
Japan	(984)	(1,014)	(1,050)	(1,075)	(1,092)	(935)
United States	(1,976)	(1,686)	(1,996)	(1,683)	(1,581)	(1,500)
Zaire	(103)	(144)	(151)	(175)	(227)	(225)
Zambia	(564)	(607)	(564)	(587)	(574)	(522)
Other countries	(2,609)	(2,781)	(2,821)	(2,782)	(3,011)	(3,147)
Net trade with China and CMEA countries	34	41	58	47	-198	4
Strategic stockpile sales	29	36	3	5	--	--
Refined consumption <u>1/</u>	<u>7,513</u>	<u>7,088</u>	<u>7,236</u>	<u>6,756</u>	<u>6,780</u>	<u>7,478</u>
Germany, F.R.	794	748	748	731	737	788
Japan	1,330	1,158	1,254	1,243	1,216	1,369
United States	2,165	1,868	2,030	1,664	1,775	2,041
Other countries	3,224	3,314	3,204	3,118	3,052	3,280
Refined balance (supply minus consumption)	<u>-434</u>	<u>32</u>	<u>183</u>	<u>451</u>	<u>340</u>	<u>-266</u>

Table 34 (concluded). Copper: World Commodity Balance,
Market Prices and Exports

(In thousands of tons, unless otherwise indicated)

	Calendar Years					
	1979	1980	1981	1982	1983	1984
Closing stocks of refined copper	1,115	1,035	1,133	1,640	1,667	1,196
United States	273	317	497	738	711	593
Comex	(98)	(163)	(170)	(249)	(371)	(251)
Other U.S. stocks	(175)	(154)	(327)	(489)	(340)	(342)
Other countries	842	718	636	902	956	603
London Metal Exchange	(126)	(123)	(127)	(253)	(436)	(126)
Other country stocks	(716)	(595)	(509)	(649)	(520)	(477)
Market prices ^{2/} (U.S. cents per pound)	89.5	99.1	79.0	67.2	72.2	62.5
Exports ^{3/}						
Copper ore						
Volumes ^{4/}	1,220	1,282	1,479	1,626	1,531 ^{5/}	1,148 ^{5/}
Unit values ^{6/} (U.S. cents per pound)	69.5	82.8	64.7	51.9	55.7	48.2
Earnings (US\$ millions)	1,870	2,340	2,110	1,860	1,880 ^{5/}	1,220 ^{5/}
Industrial countries	610	810	710	580	560	530 ^{5/}
Other countries	1,260	1,530	1,400	1,280	1,320	690 ^{5/}
Copper blister						
Volumes	791	732	766	828	784 ^{5/}	668 ^{5/}
Unit values ^{6/} (U.S. cents per pound)	70.5	74.4	62.8	57.0	57.3	49.6
Earnings (US\$ millions)	1,230	1,200	1,060	1,040	990 ^{5/}	730 ^{5/}
Industrial countries	180	210	240	180	140 ^{5/}	110 ^{5/}
Other countries	1,050	990	820	860	850 ^{5/}	620 ^{5/}
Refined copper						
Volume	2,960	3,337	2,943	3,050	3,359 ^{5/}	3,197 ^{5/}
Unit values ^{6/} (U.S. cents per pound)	86.0	98.4	81.1	69.2	72.2	62.4
Earnings (US\$ millions)	5,610	7,240	5,260	4,650	5,350 ^{5/}	4,400 ^{5/}
Industrial countries	1,770	2,690	1,720	1,380	1,800	1,300 ^{5/}
Other countries	3,840	4,550	3,540	3,270	3,550	3,100 ^{5/}

Sources: Data for world commodity balance from World Metal Statistics (London: World Bureau of Metal Statistics), May 1985. Data on exports from UNCTAD, Yearbook of International Commodity Statistics: 1984.

- 1/ Excludes China and CMEA countries.
- 2/ LME, spot delivery, higher grade cathodes, c.i.f. U.K. ports.
- 3/ Includes China and CMEA countries.
- 4/ Copper content.
- 5/ Staff estimates.
- 6/ Derived.

sharp upturn in consumption mainly reflected economic recovery in the United States, where rising automobile production and construction activity and strong demand from the electronics and business equipment industries contributed to a 15 percent increase in consumption, and in Japan, where consumption rose by 13 percent. U.S. imports of refined copper rose by over 4 percent, but this was more than offset by a 50 percent decline in unrefined imports. With the decline in Japan's refined copper production, the rise in consumption required a sharp increase in that country's refined copper imports, which rose by 147 percent, or from 190 thousand tons in 1983 to 470 thousand tons in 1984, the highest level in over two decades. Despite these developments, world exports in 1984 declined by about 13 percent, with refined and unrefined exports falling by 6 percent and 22 percent, respectively. World copper stocks dropped to the lowest level in over three years. End-1984 stocks were equivalent to 8.3 weeks of current consumption compared with a "normal" level of 8.1 weeks.

Consumption is expected to increase in 1985 and 1986, although at a considerably slower rate than in 1984 and is expected to be accompanied by a modest expansion of production. World stocks have been substantially reduced from the high levels of 1983. Assuming no substantial reactivation of capacity idled in earlier years, the outlook for a modest increase in copper prices in 1986 is not unfavorable.

2. Iron ore

Iron ore is almost exclusively used for the production of primary iron--pig iron and sponge iron--which is the basic input for crude steel production. Only 2-3 percent of total iron ore consumption is used for other purposes, such as in manufacturing of cement, special high density concrete pigments, and magnetic concentrates. Demand for iron ore, therefore, is a derived demand, depending on the demand for steel.

In 1984, world consumption of iron rose after successive declines in 1980-83, while iron ore supplies rose after declining in the two preceding years. During the year, the price of iron ore ^{1/} continued to weaken, falling marginally to \$23.9 per ton, the lowest since 1979. The price development in 1984 primarily reflected a supply-demand imbalance as well as the long-term trend of falling iron ore use per unit of crude steel. However, the price in 1984 was only 12 percent below the record high 1980 price. In addition, the increasing strength

^{1/} Price quotations refer to "spot" deliveries (c.i.f. at German ports) of Brazilian ore (with 65 percent iron content). Spot deliveries and short-term sales account for only about 2 percent of total world exports; most of transactions take place under long-term contracts, which are negotiated every year or every other year. Although spot sales account for a small part of total trade, spot prices have a close correlation with contract prices. Changes in free market prices are reflected in contract prices negotiated, and contract prices in turn affect spot prices in the following months.

of the U.S. dollar meant that while the dollar price of iron ore in 1984 declined, the price in terms of many other currencies increased, and this was a major factor contributing to the weakening of the demand of non-U.S. consumers. Price weakness in terms of dollars persisted in 1985. Iron ore prices averaged \$23.0 per ton in the first six months of 1985, which was about 2 percent lower than that for the corresponding period of 1984. The major factor contributing to the price decline in 1985 continued to be excess supply of iron ore over demand.

After experiencing a cumulative decline of 16 percent over 1980-83, world production of iron ore rose by 5 percent to 785 million tons in 1984 (Table 35). The turnaround in iron ore production in 1984 was due primarily to the strong recovery in world crude steel output, which grew by 7 percent to 710 million tons following a cumulative fall of 11 percent during 1980-83. In 1984, industrial countries accounted for 28 percent of world iron ore production as compared with 40 percent in 1972. Developing countries increased their share to 29 percent from 24 percent, and centrally-planned economies increased their share to 43 percent from 36 percent. While the U.S.S.R. maintained its position as the world's largest iron ore producer, production by Australia and Brazil rose rapidly in 1984, accelerating a shift in the geographical location of iron ore production away from the traditional steel-producing areas in North America, Western Europe, and the U.S.S.R.

In 1984, world consumption of iron ore was estimated to have increased by 3 percent, following a cumulative decline of nearly 17 percent over 1980-83. The rate of growth in iron ore consumption in 1984 was considerably slower than the rate of increase in crude steel output, indicating a trend, which was evident in the last two decades, of increasing efficiency in the use of iron ore per unit of steel output; the ratio of iron ore to crude steel output declined from 1.37 in 1960 to 1.25 in 1980, and further to 1.09 in 1984. This decline in iron ore use relative to steel production, together with the large expansion in iron ore mining capacity that took place in the 1960s and in early 1970s, led to the emergence of significant excess capacity in the iron ore industry in recent years. As a consequence, many new iron ore mining projects were cancelled or delayed, and no significant expansion in the production capacity took place in 1984.

During January-June 1985, world iron ore production appears to have remained unchanged from that of the same period a year earlier. In the first half of 1985, world crude steel output fell by 1 percent over the same period of 1984, due primarily to a 12 percent drop in U.S. steel output. Judging from the development in the steel industry, the demand for iron ore appeared to have remained stagnant or declined marginally. The resulting supply-demand imbalance was a cause for the decline in iron ore prices during January-June 1985.

International trade in iron ore has expanded significantly in the last two decades, reflecting the shift in the location of iron ore production from the traditional steel producing regions to such countries

Table 35. Iron Ore: World Commodity Balance Together with Production of Pig Iron and Steel, Market Prices, and Exports

(In millions of tons, unless otherwise indicated)

	Calendar Years					
	1979	1980	1981	1982	1983	1984
Commodity balance						
Production of iron ore	890.0	891.7	854.1	782.7	745.0	785.0
Australia	84.2	97.0	84.7	87.8	72.8	84.0
Brazil	93.0	97.2	101.5	93.9	87.6	100.0
China	70.0	72.0	70.0	71.0	70.0	71.0
United States	86.3	77.8	75.5	37.1	37.6	51.0
U.S.S.R.	246.0	249.0	242.0	244.0	241.1	242.0
Other countries	310.5	298.7	280.4	248.9	235.9	237.0
Apparent consumption of iron ore ^{1/}	902.0	899.5	847.1	783.8	750.0 ^{2/}	773.0 ^{2/}
Germany, F.R.	53.4	51.7	45.7	40.2	35.5	42.5
Brazil	17.4	18.2	15.7	13.0	17.6	11.4
Japan	130.3	133.7	123.4	121.8	109.2	125.4
United States	115.4	97.5	98.7	48.8	47.3	63.3
U.S.S.R.	207.0	210.9	207.1	210.8	207.9	207.0
Other countries	378.5	387.5	356.5	349.2	332.5	323.4
Production of pig iron	528.3	507.5	496.8	451.7	457.5 ^{2/}	486.2 ^{2/}
Production of crude steel	746.7	716.2	707.7	644.9	663.2	710.3
Market prices ^{3/} (US\$ per ton)	23.4	27.2	24.6	26.2	24.0	23.9
Exports of iron ore						
Volumes	391.3	377.2	368.5	325.4	301.3 ^{2/}	356.9 ^{2/}
Unit values (US\$ per ton)	16.5	18.9	20.3	20.7	21.4 ^{2/}	21.0 ^{2/}
Earnings (US\$ millions)	6,450	7,140	7,480	6,750	6,450 ^{2/}	7,500 ^{2/}
Industrial countries	3,040	3,180	3,280	2,900	2,770 ^{2/}	3,170 ^{2/}
Other countries	3,410	3,960	4,200	3,850	3,680 ^{2/}	4,330 ^{2/}

Sources: Data for world commodity balance from U.S. Department of the Interior, Mineral Commodity Summaries, 1985 and APEF, Iron Ore Statistics, March 1985. Data on exports from UNCTAD, Yearbook of International Commodity Statistics, 1984.

^{1/} Production minus exports plus imports.

^{2/} Staff estimates.

^{3/} Brazilian ore prices, c.i.f. German ports.

as Australia, Brazil, India, Venezuela, and Liberia; the share of exports in total production increased from less than 30 percent in 1961 to 43 percent in 1979. The proportion of trade in total production, however, declined marginally to about 42 percent during 1980-83, principally reflecting the fall in iron ore consumption in industrial countries. In 1984, the long-term upward export trend resumed as the volume of exports rose by 18 percent to 357 million tons, accounting for 45 percent of total production. During the year, exports were dominated by five countries (Australia, Brazil, Canada, India, and Liberia), which together accounted for about 80 percent of total exports. Brazil became the leading exporter, with shipments estimated at about 88 million tons (25 percent of the total). Exports by Australia, the former leader, were 76 million tons (22 percent).

The average spot price of iron ore for 1985 as a whole is expected to be about the same as in 1984. After the fairly vigorous expansion in 1984, the growth of crude steel production is expected to slow down considerably. This slowdown in steel production may weaken the demand for and the price of iron ore in 1985. Under 1985 iron ore contracts, a small increase of 1.57 percent in terms of U.S. dollars was negotiated between Brazilian producers and German and Japanese buyers. Earlier, Canadian iron ore producers settled for constant nominal prices in European markets. A slight improvement in the demand for iron ore is projected for 1986 on the basis of a projection of higher steel production for the year. This should lead to a modest increase in iron ore prices over 1985.

3. Tin

As a result of the international recession, the price of tin on the LME fell from a peak price of 761 U.S. cents per pound in 1980 to 582 cents per pound in 1982. ^{1/} From mid-1982 through April 1983 expectations of an economic recovery led to a moderate upturn in prices, despite a continuing excess supply situation and a further build-up of stocks. But with the realization that underlying market conditions had not improved as expected, and in view of the large overhang of stocks, the price of tin declined during the remainder of 1983 and throughout 1984. After reaching 625 U.S. cents per pound in April 1983, the LME price fell to an average of 579 cents per pound in the second half of 1983 and to 555 U.S. cents per pound on average in 1984. A low of 496 cents per pound was reached in February 1985. This price was below that prevailing in June 1982, just prior to the 1982/83 upturn. The price then recovered to over 578 cents per pound in July 1985.

The price of tin on the Malaysian market, which is the indicator price for the Sixth International Tin Agreement (ITA), ^{2/} rose to

^{1/} Price quotations refer to prices on the LME, cash for delivery on the following business day, standard grade, minimum purity 99.75 percent, c.i.f. European ports.

^{2/} In October 1984 the Kuala Lumpur Tin Market replaced the Penang Straits Tin Market as that on which the indicator price of the ITA is determined.

M\$31.46 per kilogram (620 U.S. cents per pound) in April 1983 but fell to approximately M\$30 per kilogram between May and November 1983 and then settled at or just above the floor price of the Agreement of M\$29.15 per kilogram through March 1985. In that month the International Tin Council empowered the buffer stock manager to operate below the floor price of the agreement in order to conserve the financial resources of the buffer stock, and the price in Kuala Lumpur slipped slightly below the floor price in April and May 1985. As the price of tin in Malaysia was quite stable throughout 1984, the continuing decline of the tin price on the LME expressed in U.S. dollars largely reflected the appreciation of the U.S. dollar; equally, the subsequent price upturn in the second quarter of 1985 is largely attributable to the depreciation of the dollar.

The situation of an excess of production over consumption for tin on world markets, which prevailed in 1978-82, continued in 1983. Although consumption of tin metal, which had declined sharply during the 1981-82 recession, stabilized at 154 thousand tons (Table 36), this was some 7 thousand tons less than forecast at the beginning of 1983. Production of tin metal declined by 22 thousand tons to 159 thousand tons as expected, largely reflecting the imposition of export controls on producing member countries of the ITA. ^{1/} Thus, for the year as a whole, total stocks of tin metal continued to rise, reaching 77 thousand tons at end-1983. Within the year, however, a turnaround in stocks occurred as consumption overtook production from August onward. The stock reduction continued in 1984 with annual consumption increasing by 7 percent to 165 thousand tons and annual production declining by 1 percent to 158 thousand tons. By year-end, world stocks of tin metal had fallen to an estimated 70 thousand tons. By contrast, world stocks of tin-in-concentrates rose by an estimated 5 thousand tons during 1984 as mining operations in producing member countries of the ITA were not curtailed to the same extent as exports.

Although total stocks of tin metal declined during 1984, the size of the International Tin Council buffer stock rose by 6,777 tons over the course of the year reflecting net purchases by the buffer stock manager in defence of the floor price of the ITA. At the end of March 1985 (the latest date for which data are available) the size of the buffer stock was 56,409 tons (of which 24,157 tons were held under the authority of the Fifth ITA). Since total tin metal stocks at end-1984 are estimated at 70 thousand tons, the buffer stock probably now controls well over three quarters of world stocks of tin metal other than those in national strategic stockpiles; the remainder is commercial stocks in the hands of producers and consumers.

^{1/} Export controls, or country specific ceilings on the export of tin in concentrates were introduced initially in the second quarter of 1982 and intensified in the third quarter of 1983 to an aggregate quarterly limit of 22 thousand tons. They remained in effect at this limit through the second quarter of 1985. See DM/84/67, Section VI, 10/31/84, for a discussion of the operation of the Sixth International Tin Agreement (1981).

Table 36. Tin: World Commodity Balance, Market Prices and Exports

(In thousands of tons, unless otherwise indicated)

	Calendar Years					
	1979	1980	1981	1982	1983	1984
Commodity balance <u>1/</u>						
Production	<u>202</u>	<u>199</u>	<u>197</u>	<u>181</u>	<u>159</u>	<u>158</u>
Bolivia	<u>16</u>	<u>18</u>	<u>20</u>	<u>19</u>	<u>15</u>	<u>12</u>
Indonesia	<u>28</u>	<u>30</u>	<u>33</u>	<u>30</u>	<u>28</u>	<u>23</u>
Malaysia	<u>73</u>	<u>71</u>	<u>70</u>	<u>63</u>	<u>53</u>	<u>46</u>
Thailand	<u>33</u>	<u>35</u>	<u>33</u>	<u>25</u>	<u>18</u>	<u>19</u>
Other countries	<u>52</u>	<u>45</u>	<u>41</u>	<u>44</u>	<u>45</u>	<u>58</u>
Consumption	<u>186</u>	<u>175</u>	<u>163</u>	<u>154</u>	<u>154</u>	<u>165</u>
EC	<u>49</u>	<u>45</u>	<u>42</u>	<u>40</u>	<u>39</u>	<u>40</u>
Japan	<u>31</u>	<u>31</u>	<u>30</u>	<u>29</u>	<u>30</u>	<u>32</u>
United States	<u>49</u>	<u>44</u>	<u>40</u>	<u>36</u>	<u>34</u>	<u>38</u>
Other countries	<u>57</u>	<u>55</u>	<u>51</u>	<u>49</u>	<u>51</u>	<u>55</u>
Closing stocks <u>2/</u>	<u>28</u>	<u>33</u>	<u>43</u>	<u>69</u>	<u>77</u>	<u>70</u>
Of which:						
ITC buffer stock	(--)	(--)	(2)	(53)	(55)	(62)
Market prices <u>3/</u>						
(U.S. cents per pound)	<u>701</u>	<u>761</u>	<u>643</u>	<u>582</u>	<u>589</u>	<u>555</u>
Exports <u>4/</u>						
Volumes	<u>185</u>	<u>188</u>	<u>198</u>	<u>169</u>	<u>154</u>	<u>142</u> <u>5/</u>
Unit values <u>6/</u>						
(U.S. cents per pound)	<u>718</u>	<u>778</u>	<u>659</u>	<u>628</u>	<u>616</u>	<u>553</u>
Earnings <u>7/</u> (US\$ millions)	<u>2,930</u>	<u>3,220</u>	<u>2,880</u>	<u>2,340</u>	<u>2,090</u>	<u>1,730</u> <u>5/</u>

Sources: International Tin Council.

1/ Primary tin metal, excluding China and CMEA countries.

2/ May not agree with production and consumption data because of reporting errors. Does not include holdings in the U.S. strategic stockpile.

3/ LME standard grade, spot delivery, standard grade, c.i.f. European ports.

4/ Includes exports of high-grade tin.

5/ Staff estimates.

6/ Derived from data on exports from major exporters (Bolivia, Indonesia, Malaysia, and Thailand).

7/ Estimated on basis of data on exports from major exporters.

Given the size of the buffer stock, both in relation to commercial stocks and to world consumption (34 percent of 1984 annual consumption), the buffer stock manager is able to exert an important influence on market prices. Nonetheless, his ability to influence the price is constrained by his limited funds and by tin coming onto the market outside the aegis of export controls. Such sources include production by countries which are not producing members of the sixth ITA, chiefly Brazil, Bolivia, and the United Kingdom; tin refined in Singapore from concentrates smuggled from neighboring countries; and tin sold from the U.S. strategic stockpile. For 1985, world tin metal production is forecast to increase by 2 percent, as stable production in ITA member countries will be outweighed by higher production by nonmembers. World consumption is forecast to increase slightly as the international recovery proceeds, and the annual market deficit of some 12 thousand tons (after taking into account both sales from the U.S. strategic stockpile and imports by CMEA countries) may enable the Kuala Lumpur price to move slightly above the ITA floor price toward the end of the year.

4. Aluminum

Aluminum is valued for its considerable conductive and structural properties relative to its weight, and is used mainly for vehicle panels, electric cables, residential siding, and packaging. The production of aluminum involves two separate operations: first, bauxite is mined and refined into alumina; and second, alumina is smelted into aluminum ingots. Aluminum is available commercially as ingots with a minimum aluminum content of 99.5 percent. Purer grades command higher prices. Ingots, molten aluminum, and aluminum scrap with alloying materials are transformed into mill products such as bars, rods, and wire.

Aluminum has more applications in consumer products than other metals. Consequently, it benefited from the sharp upturn in consumer spending in 1983, especially in the United States, when the price for aluminum rebounded sharply in 1983 from the trough of the 1981-82 recession. ^{1/} However, in 1984 consecutive declines were recorded in the aluminum price in each of the first nine months. In the ensuing two months, prices rose slightly, partly reflecting seasonal demand, but this price gain was largely offset by a decline in December. The average price for 1984 as a whole was 56.8 cents per pound, a decline of 13 percent from the comparable level of 1983. The price decline in 1984 was caused principally by a sharp increase in producer inventories resulting from excess production over consumption.

In 1984, world production of aluminum totaled 16.8 million tons, an increase of 17 percent compared with an annual average decline of about 2 percent during 1980-83 (Table 37). The sharp expansion in production

^{1/} Price quotations refer to aluminum sold in the LME, cash for delivery on the following business day, 99.5 percent minimum aluminum content, in the form of T bars or ingots, c.i.f. European ports.

Table 37. Aluminum: World Commodity Balance, Market Prices, and Exports

(In millions of tons, unless otherwise indicated)

	Calendar Years					
	1979	1980	1981	1982	1983	1984
Commodity balance						
Mine production of bauxite	88.9	93.3	88.7	78.2	78.6	81.6
Australia	27.6	27.2	25.4	23.6	24.5	29.3
Brazil	1.6	4.2	4.7	4.2	5.2	5.2
Guinea	13.4	13.9	12.8	11.8	13.0	13.0
Jamaica	11.5	12.1	11.6	8.2	7.7	8.7
Suriname	4.7	4.9	4.0	3.3	3.0	3.3
U.S.S.R.	6.5	6.4	6.4	6.4	6.3	6.3
Yugoslavia	3.0	3.1	3.3	3.7	3.5	3.3
Other countries	20.6	21.5	20.5	17.0	15.4	12.5
Production of alumina	26.0	28.1	26.6	22.2	23.4	27.6
Aluminum						
Primary production	15.2	16.0	15.7	14.0	14.3	16.8
Australia	0.3	0.3	0.4	0.4	0.5	0.8
Canada	0.9	1.1	1.1	1.1	1.1	1.2
Germany, F.R.	0.7	0.7	0.7	0.7	0.7	0.8
Japan	1.0	1.1	0.8	0.4	0.3	0.3
U.S.S.R.	2.4	2.4	2.4	2.4	2.4	2.4
United States	4.6	4.7	4.5	3.3	3.4	4.1
Other countries	5.3	5.7	5.8	5.7	5.9	7.2
Primary consumption	16.0	15.3	14.5	14.1	15.4	16.2
France	0.6	0.6	0.5	0.6	0.6	0.6
Germany, F.R.	1.1	1.0	1.0	1.0	1.1	1.2
Japan	1.8	1.6	1.6	1.6	1.8	1.8
U.S.S.R.	1.9	1.9	1.9	1.9	1.9	1.9
United States	5.0	4.5	4.1	3.6	4.2	4.6
Other countries	5.6	5.7	5.4	5.4	5.8	6.1
Ending stocks	1.5	2.1	3.3	3.2	2.2	2.8
Metal exchanges	--	--	0.2	0.2	0.2	0.2
Producers	1.5	2.1	3.1	3.0	2.0	2.6
Secondary (scrap) production	3.5	3.5	3.7	3.7	4.0	3.9
Market prices ^{2/} (U.S. cents per pound)	72.7	80.5	57.3	45.0	65.2	56.8
Exports (unwrought aluminum)						
Volumes	4.1	4.9	4.8	5.3	5.8	5.6
Unit values ^{3/} (U.S. cents per pound)	62.1	73.9	65.8	54.3	55.0 4/	65.0 4/
Earnings (US\$ millions)	5,610	7,980	6,960	6,340	7,030 4/	8,020 4/
Industrial countries	3,870	5,780	4,780	4,170	4,730 4/	5,520 4/
Other countries	1,740	2,200	2,180	2,170	2,300 4/	2,500 4/

Sources: Data for world commodity balance from World Bureau of Metal Statistics, *World Metal Statistics*, various issues. Data on exports from UNCTAD, *Yearbook of International Commodity Statistics*, 1984.

^{1/} Excludes centrally-planned economies of Eastern Europe.

^{2/} London Metal Exchange, spot delivery, 99.5 percent aluminum, in the form of T-bars or ingots, c.i.f. European ports.

^{3/} Derived.

^{4/} Staff estimates.

in 1984 resulted from the premature reactivation of idle smelting capacity by producers, particularly in the United States, in response to the rising aluminum prices toward the end of 1983 and an increase in the capacity utilization rate 78 percent in 1983 to 87 percent in 1984. Production rose by 21 percent to 4.1 million tons in the United States, the leading producer (24 percent of total production), with the capacity utilization rate rising from 58 percent in the last quarter of 1982 to 86 percent in the second quarter of 1984. Production by Australia rose from 0.5 million tons in 1983 to 0.8 million tons (5 percent of the total), an increase of 60 percent. The marked expansion in production in Australia was the outcome of an ongoing shift in the geographical pattern of aluminum production from regions with high energy costs to countries where low energy costs permit competitive pricing. In 1984, with the larger supply of primary aluminum, secondary (scrap) aluminum production declined somewhat to 3.9 million tons.

In 1984, world consumption of aluminum grew by 5 percent to 16.2 million tons, the highest level achieved since 1979, although it fell considerably short of production. The United States remained the largest individual consumer with 4.6 million tons (28 percent of total consumption), followed by Japan with 1.8 million tons (11 percent). The excess production over consumption in 1984 led to a 27 percent rise in aluminum stocks to the equivalent of 3.1 months of consumption.

International trade in aluminum expanded gradually in recent years from an annual average of 5.2 million tons in 1981-83 to 5.6 million tons in 1984, partly reflecting the shift in the geographical location of production from the traditional consumers (the United States and Japan) to countries with low energy costs (Australia, New Zealand, Venezuela). ^{1/} In 1984, major exporters were Canada, Norway, the Netherlands, the United States, and Venezuela, the combined exports of which totaled 2.6 million tons (46 percent of the total).

During January-July 1985 aluminum prices averaged 48.8 cents per pound, close to the average for the second half of 1984 but about 23 percent below that for the first half of 1984. The price weakness persisted in 1985, in spite of a decline in aluminum stocks of about 500,000 tons in the first six months as a result of substantial production cutbacks undertaken by major producers in North America and Europe since mid-1984. For 1985 as a whole, world aluminum production is expected to decline by about 7 percent, with capacity utilization falling from 87 percent in 1984 to 83 percent, while world consumption is expected to grow by 2-3 percent or broadly in line with the rate of the overall expansion of industrial economies. With these production and consumption prospects, a significant drawdown (600 thousand tons)

^{1/} Currently, smelters in the United States account for about 30 percent of primary aluminum capacity in nonsocialist countries (45 percent in 1970), and those in South America and Oceania together, a total of 17 percent (4 percent). Japan accounts for less than 2 percent of the total capacity (6 percent).

of producer stocks is expected toward the end of the year, but this may be too late and insufficient to lead to an appreciable increase in aluminum prices during 1985. In 1986, a further cutback in production is likely, leading to some recovery in prices.

5. Other metals

a. Nickel

Nickel is used as an alloying element for plating on other metals or in chemical processes. About 65 percent of nickel's intermediate uses are in the steel industry.

In 1985, the average LME price of nickel has strengthened moderately, ^{1/} reflecting a modest growth in nickel consumption in the stainless steel industry which led to a small decline in producer stocks; LME prices of nickel were still considerably below the levels attained in 1979-80. During 1984, world nickel smelter production rose by 12 percent to about 500 thousand tons, while primary nickel consumption grew by 11 percent to 570 thousand tons, the highest level since 1979. The year-end stocks totaled 158 thousand tons, equivalent to 3.3 months of consumption.

During January-May 1985, world nickel production fell, primarily as a result of the typhoon damage to a refinery in the Philippines, work stoppages at the new Caledonian facilities, and a cave-in at a mine in Western Australia. Stocks at metal exchanges also fell sharply, generating concern over the adequacy of nickel supplies in the metal markets in the short term. The combination of these factors pushed the LME nickel price from \$2.44 per pound in January to \$2.54 per pound in May and \$2.52 per pound in June (an average price of \$2.41 per pound for the first six months of 1985, compared with \$2.16 per pound a year earlier). However, prices in July 1985 fell to \$2.31 per pound. For 1985 as a whole, nickel consumption is expected to fall by about 2 percent to 560 thousand tons, mainly because of an anticipated drop in stainless steel production following two years of exceptional growth. Refined nickel production is expected to accelerate in the second half of the year to rise by 8 percent to 540 thousand tons in 1985, which will increase producer inventories and cause some price weakness. The average nickel price for the year as a whole is forecast at \$2.40 per pound, an increase of nearly 11 percent over 1984. Nickel demand is expected to be stronger in 1986, aided principally by anticipated higher stainless steel output, and this should support a moderate increase in nickel prices during the year.

^{1/} Prices are cash for delivery on the following business day, minimum 99.8 percent purity, in form of cathods, pellets, or briquettes, c.i.f. Northwest European ports.

b. Zinc

Zinc is used for galvanizing iron and steel to prevent corrosion; it is also used in diecasting and brass products.

In 1984 zinc consumption rose for the second year in a row (by 2 percent after a rise of 8 percent in 1983), ^{1/} aided in part by the rapid growth of the production of galvanized building materials in Europe and the United States. The sustained growth in consumption reduced consumer inventories considerably, particularly in the early part of the year, and contributed to a 4 percent increase in refined output in 1984. Reflecting these developments in consumption, production, and inventories, zinc prices on LME rose sharply in the first quarter to reach a peak of 47.2 cents per pound in March, remained depressed during the summer, and rose strongly at year-end; the average price for the year as a whole was 40.6 cents per pound, compared with 34.7 cents per pound for 1983.

Zinc prices continued to rise in the early months of 1985, reaching 41.2 cents per pound in March, aided by the coincidence of a large purchase by China and the stoppage of supplies from the largest Peruvian mine as a result of a labor dispute. Zinc prices weakened since then and fell to a 23-month low of 34.0 cents per pound in June and July, reflecting a rise in producer stocks. For 1985 as a whole, refined zinc output is expected to increase by 2-3 percent or at a rate slightly exceeding the pace of refined zinc consumption. Such a development should cause some decline in zinc prices. In 1986, zinc demand will be weaker because the growth of U.S. automobile and construction markets is likely to be slower than in 1985.

c. Lead

Lead is used mostly for storage batteries and, to a declining extent, as a gasoline additive.

After reaching a peak of 54.6 cents per pound in 1979, ^{2/} LME lead prices declined during 1980-83 to 19.3 cents per pound in the latter year, due primarily to excess supply. Prices, however, posted a relatively strong growth in 1984, largely reflecting the combination of a significant growth in consumption and a fall in production; the LME lead price averaged 20.0 cents per pound.

Lead consumption rose by 4 percent in 1984 to nearly 4 million tons, the first significant growth in the last five years. In the United States, the major consumer, battery sales were relatively limited by

^{1/} Price quotations refer to LME, cash for delivery on the following business day, zinc produced by distillation or electrolysis, minimum purity 98 percent (standard), c.i.f. U.K. ports.

^{2/} Prices are cash for delivery on the following business day, refined pig, minimum purity 99.97 percent, c.i.f. U.K. ports.

mild weather but consumption was boosted by strong new car sales and housing starts. Vehicle output was maintained at high levels in Japan and Germany, supported by their strong exports to the United States. Industrial investment was also buoyant in many industrial countries, strengthening the demand for lead. In contrast, production of refined lead in nonsocialist countries fell by 3 percent in 1984 to 2.2 million tons, due mainly to protracted labor disputes in the United States, Australia, and Peru. These developments led to a generally tight supply situation and to a 17 percent fall in lead inventories; LME stocks alone declined by 75 percent.

In the first seven months of 1985, lead prices weakened considerably to average 17.5 cents per pound, 15 percent below the average for the same period a year earlier. The price weakness principally reflected the deterioration in the market balance resulting from reduced consumption, particularly a 14 percent decline in the United States in the first quarter. The basic market trend evident in early 1985 is expected to continue in the remaining months of the year, and for 1985 as a whole, lead prices are expected to remain depressed. During the year, total refined output is forecast to grow by 9 percent to 2.4 million tons, partly reflecting the return of production to more normal levels in those countries, where production was adversely affected by the labor disputes in 1984. Lead demand is expected to weaken further on account of the slowdown in automobile sales and the implementation of new environmental regulations in industrial countries; in the United States, lead in gasoline will be reduced from 1.1 grams per gallon to 0.5 grams from July 1, 1985 and further to 0.1 grams per gallon effective January 1, 1986. Given sluggish demand, lead prices are expected to remain depressed in 1986, barring significant production cutbacks.