THE INTERNATIONAL COCOA AGREEMENT AND THE WORLD COCOA ECONOMY

By

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Introduction

This paper will review the world cocoa economy and relate its past history to the enactment of the International Cocoa Agreement (ICA). Specifically the paper reviews the cocoa situation with special emphasis to its history, particular marketing agreements, possibilities for growth, and relationships between producer and consumer countries. The final ratification in 1972 of the ICA was the culmination of 16 years of intermittent negotiations, producer alliances, and trade talks of a bilateral, multilateral and international nature. The agreement also incorporates some of the more interesting features of various other commodity agreements which were operative in the past or are presently in force; the idea being to succeed where other agreements have failed. The development of this discussion is ultimately concerned with why this international agreement was necessary and what effect it will have on the world cocoa economy. Before proceeding a brief overview will be given the history of Theobroma Cacao, the scientific reference to the cocoa tree, whose seed (the cocoa bean) is the object of our inquiry.1/

Translated from the Greek Theobroma means food of the gods--an appropriate reference. Cortez and the Spanish conquistadores found that the cocoa bean was considered of divine origin by the Mayas and Aztecs of the Americas. Thought to be indigenous to the Orinoco and Amazon rain forests, Theobroma Cacao when first found by the Spanish was cultivated only in the Americas. After the defeat of the Aztecs, Cortez found great storehouses of cocoa beans and learned that cocoa was not only the drink of the elite but also served as the local currency.2/

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* In slightly modified form this paper was first submitted as part of the requirements for Agricultural Economics 560: Food, Population, and Employment, Fall Term 1973/74.

1/ There seems to be a rather ambiguous distinction made between the word use of cocoa and cacao. Often the tree and the bean are prefaced by cacao and the processed product as cocoa, e.g. cocoa powder or cocoa butter but a cacao tree or creme de cacao. This paper will not consciously use any specified distinction as they are not usually applied in the literature with any exacting regularity.

2/ It is reported that a slave could be purchased for one hundred beans, though this may be more a testimony to the cheapness of slaves than to the value of cocoa beans.

Cortez appreciated the potential value of this crop. He set out to cultivate a demand for cocoa in the old world while monopolizing its production in the Americas. Plantations were closely guarded and cocoa cake rather than the raw beans were shipped. By the middle of the seventeenth century chocolate drinking had become fashionable throughout Europe and the Spanish attempt at monopolizing the trade had failed. Cocoa-drink or chocolate was not to achieve "universal" popularity, though, until the nineteenth century.

Until the twentieth century most of the world's cocoa was still grown in Central and South America though cultivation of the crop had spread to Asia, Africa and Oceania. The situation was soon to change for the Spanish had established cultivation of cocoa in Fernando Poo on the Gulf of Guinea during the seventeenth century. As the plantations were manned by indigenous peoples and Africans from the coast, upon their return home the workers often started their own cultivation with beans taken from Fernando Poo. Cultivation soon spread to other areas of West Africa whose environment proved equally as conducive to cocoa. By 1935 smallholders in Ghana (Gold Coast) were producing one-third of the world's output of raw cocoa beans (see Annex A for production figures).3/

The Crop

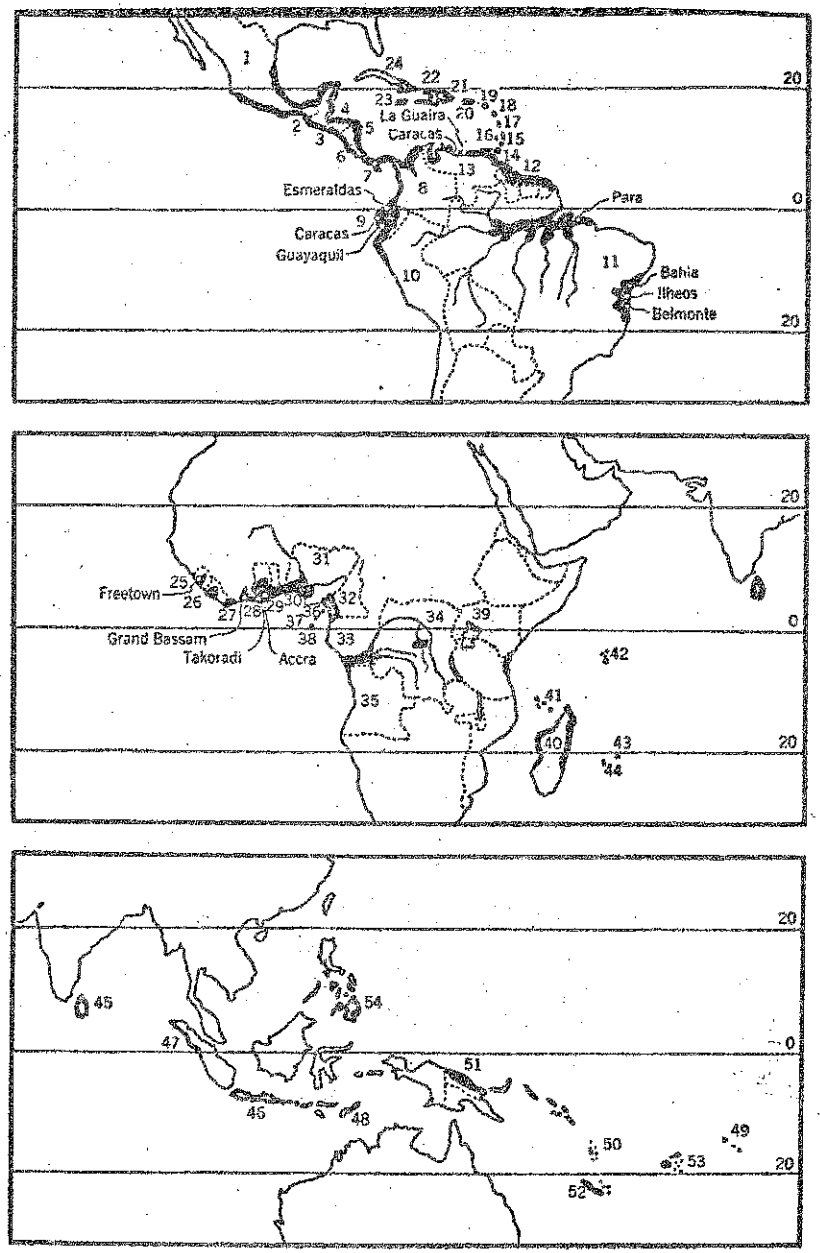
There are three main varieties or groups of cacao. In order of quality they are criollos (the finest), fine forasteros and ordinary forasteros. Most of the world's bean production is of the ordinary forasteros type coming from West Africa and Brazil. This cocoa is often labeled by the name of the port from which it is shipped, i.e., Lagos, Bahia, Accra, etc. The ordinary forasteros have proved most resistant to disease, though modern varieties are now being hybridized.

Cocoa grows best within the boundaries of the equator plus or minus 20 degrees. The major producing areas, in fact, are within 10 degrees of the equator. Cocoa responds best to a rich, well-drained soil, at low altitudes.4/ The crop requires a temperature range from 65°F to 95°F and an evenly distributed rainfall of at least fifty inches is optimum. Cacao is fairly susceptible to drought and years of poor rainfall in West Africa are correspondingly reflected in the production figures. Due to the geographical concentration of the major producing areas, climatic conditions, whether adverse or favorable, will usually be inversely reflected by the world price. Figure 1 shows the cocoa producing countries and their congregation around the equator.

3/ Major sources of information used in this section were from C. M. Chatt (3) though the data has been confirmed by other works.

4/ Exceptions to these agronomic and climatic conditions can be found: "...fine cacao is grown successfully in sheltered valleys in Columbia at considerably above 3,000 feet." (3, pp. 31).

FIGURE 1. COCOA EXPORTING COUNTRIES*



1 Mexico
2 Guatemala
3 Salvador
4 Honduras
5 Nicaragua
6 Costa Rica
7 Panama
8 Colombia
9 Ecuador
10 Peru
11 Brazil
12 Surinam
13 Venezuela
14 Trinidad
15 Grenada
16 St. Lucia, St. Vincent
17 Martinique
18 Dominica
19 Guadeloupe
20 Puerto Rico
21 Dominican Republic
22 Haiti
23 Jamaica
24 Cuba
25 Sierra Leone
26 Liberia
27 Ivory Coast
28 Gold Coast
29 Togoland
30 Dahomey
31 Nigeria
32 Cameroons
33 French Equatorial Africa
34 Belgian Congo
35 Angola
36 Fernando Poo
37 Principe
38 San Thomé
39 Uganda
40 Madagascar
41 Comoro
42 Seychelles
43 Mauritius
44 Réunion
45 Ceylon
46 Java
47 Sumatra
48 Timor
49 W. Samoa
50 New Hebrides
51 New Guinea
52 New Caledonia
53 Fiji
54 Philippine Islands

* The principal cacao growing countries are shown in black.

Source: Eilean M. Chatt, Cocoa: Cultivation, Processing, Analysis, New York: Interscience Publishers Inc., 1953, p. 252-253.

The cocoa tree is small, approximately twenty-five feet high, is fully mature after from seven to ten years, can continue to bear for more than fifty years, and the newer varieties may begin to bear after four years. The tree produces many pods from eight to ten inches in length which are often yellow in color when mature.5/ The pods consist of the beans, surrounded by a mucilaginous pulp contained within a convoluted husk.

Harvesting is done by hand after which the pod is broken and the seeds removed. The beans are then allowed to ferment which kills the germ and develops the cocoa flavor. Subsequently the beans are dried, graded and bagged.

Commercial Use

Commercial processing of cocoa beans progresses in the following way:

1. the beans are cleaned;
2. roasted;
3. shelled;
4. and then processed into chocolate liquor.

The chocolate liquor can be used to make chocolate confectioneries, cocoa butter or cocoa powder. Cocoa powder is used in the manufacture of synthetic chocolate substitutes. Cocoa butter is an ingredient in milk chocolate.

Historical Developments in the Cocoa Market

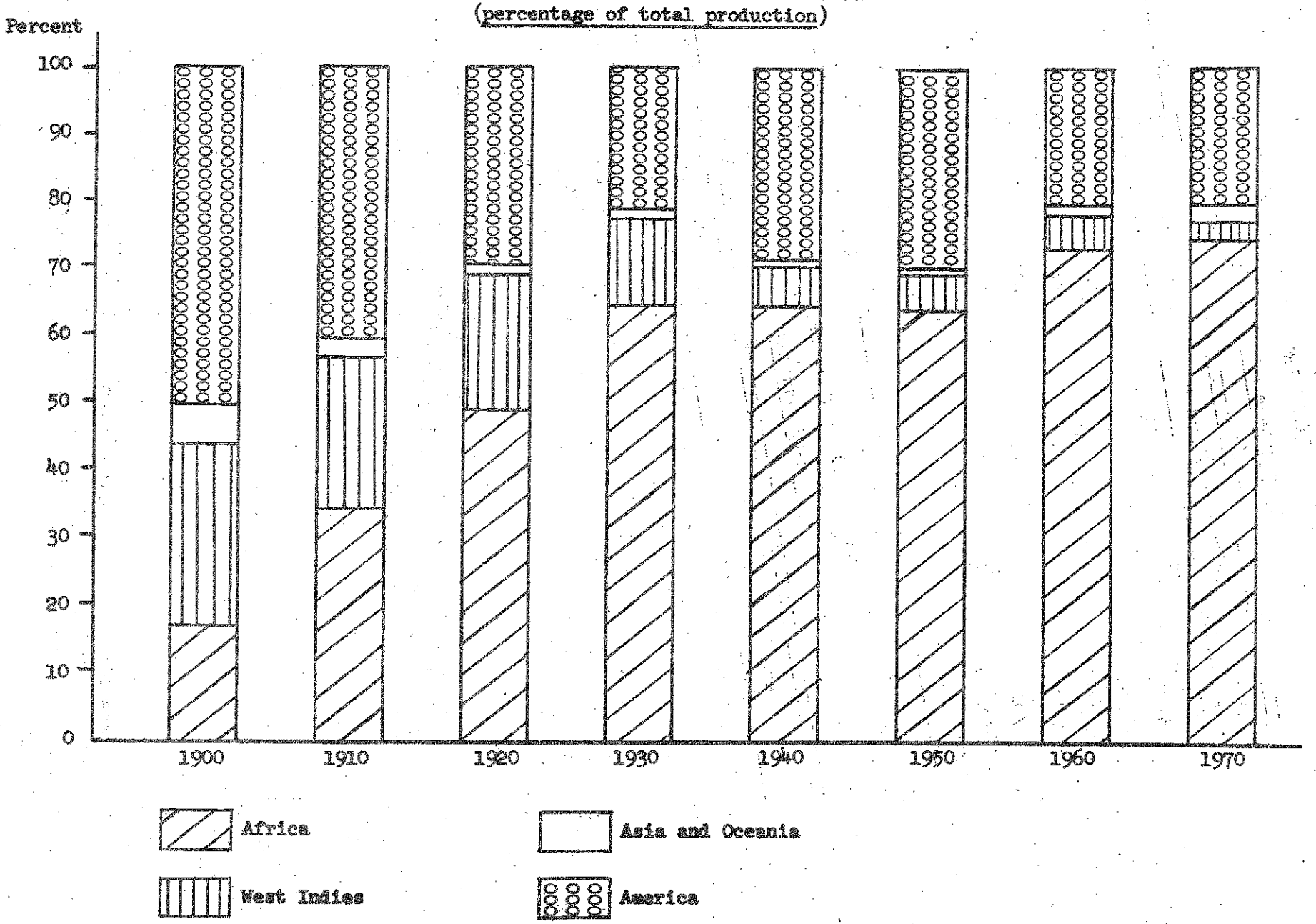
Production

Worldwide production and consumption of cocoa has moved through several stages in the past. Chart 1 records the production changes which have taken place over the past seven decades. One notices three basic and related changes: 1) the emergence of Africa (particularly those West African countries endowed with a tropical rain forest) as the leading cocoa producing area; 2) the decreasing importance of the Americas and 3) the decreasing importance of the West Indies. During the same period world production has grown from 115,000 long tons to 1,481,000 long tons or an increase of 1,288 percent (Table 1 and Table 2).

Another interesting aspect of the cocoa market is the concentration of major producers. In 1970 five countries produced 78 percent of the total world production, and with the inclusion of several more the total exceeds 90 percent (Table 3).

5/ The color of ripe pods will vary according to the type of tree.

CHART 1. WORLD PRODUCTION OF RAW COCOA
(percentage of total production)



Source: Gill and Duffus Group LTD., Cocoa Statistics, London, December 1972.

TABLE 1. WORLD PRODUCTION OF RAW COCOA*

(percentage of total production)

Year	Africa	America	West Indies	Asia and Oceania
1900/01	17	51	27	4
1910/11	34	41	22	3
1920/21	48	30	20	2
1930/31	64	22	12	2
1940/41	64	29	6	1
1950/51	63	30	6	1
1960/61	73	21	4	2
1970/71	73	21	3	3

TABLE 2. TOTAL WORLD PRODUCTION*

(thousand long tons)

Year	Production
1900/01	115
1930/31	526
1950/51	803
1960/61	1,173
1970/71	1,481

TABLE 3. MAJOR PRODUCERS*

(five year average, 1966/67-1970/71)

Country	Production	Percent of World Total
	(1,000 long tons)	
Ghana	384.0	28.3
Nigeria	241.8	17.8
Brazil	170.4	12.6
Ivory Coast	157.6	11.6
Cameroun	99.2	7.3
		77.6

*Source: Gill and Duffus Group Ltd., Cocoa Statistics, London, December 1972.

These shifts in location and structure of the major producing areas are explained by several factors. The main diseases and pests associated with cocoa are swollen shoot (Africa), blackpod, witches' broom (Latin America) and capsid bugs. Climatic factors, disease, and pests were significant variables in the geographical shifts in cocoa production. Figure 2 reveals a production plateau ranging over 20 years, from the 30s to the mid-50s. This plateau is largely attributed to the incidence of swollen shoot disease in Ghana. Likewise, the Ghanaian and Nigerian governmental efforts at disease control, introduction of new varieties, and producer assistance were major contributing factors to the subsequent rapid increase in cocoa production.

Much of the cocoa production in Latin America was of the fine flavored variety. The lesser disease resistance of these varieties coupled with a shift in consumer preference for chocolate of less "fancy" grade gave additional support to the rising dominance of West African cocoa.6/

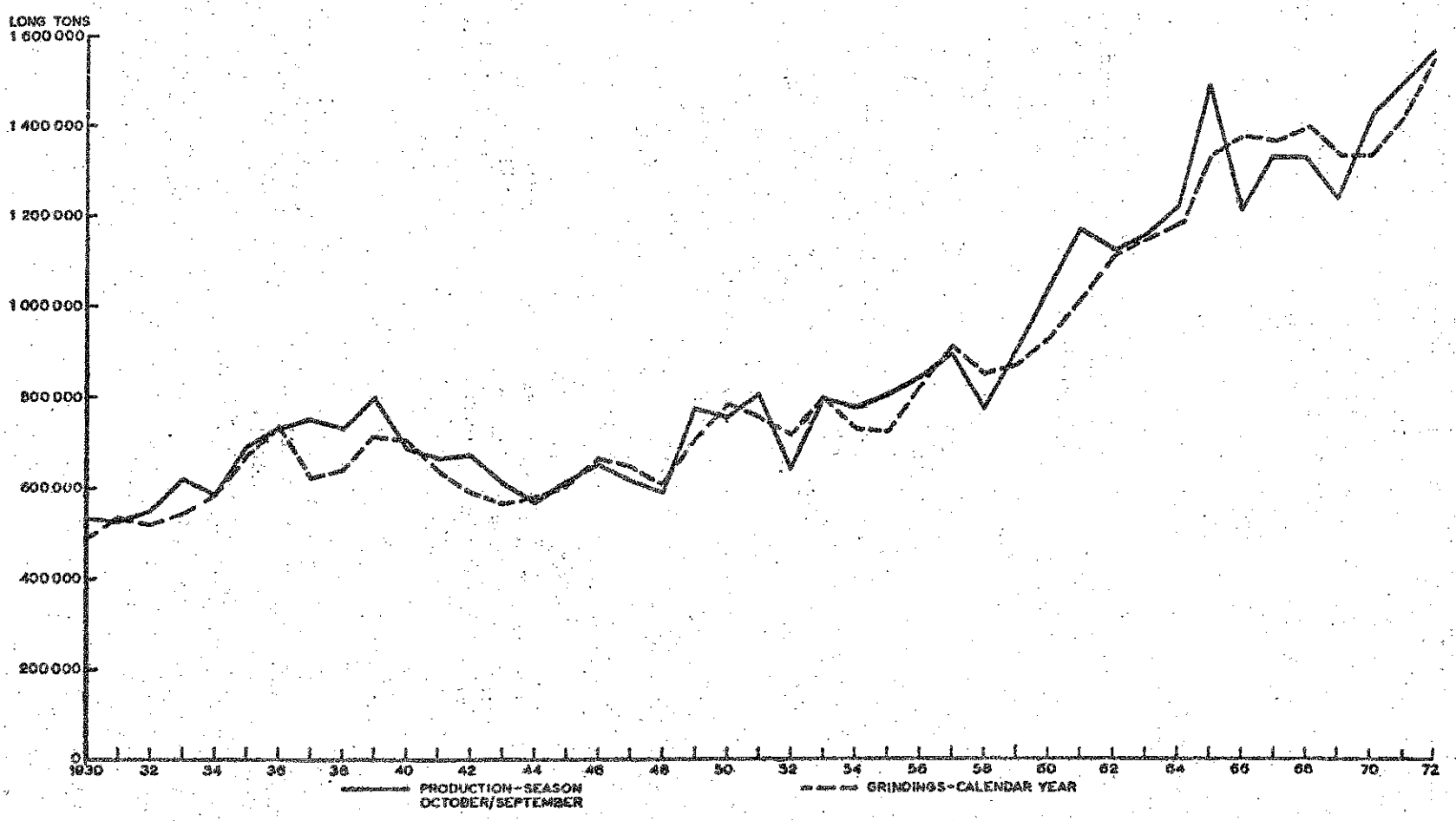
In addition to the disease problem, the effects of prices, costs and farm structure all put the Latin American producers at a relative disadvantage when compared with their African counterparts. With minor exceptions cocoa production is a smallholder enterprise in West Africa while farm size in Latin America was often of the "plantation" scale. Caught between an onslaught of disease, pests and low prices, much of America's cocoa land was abandoned or not well maintained.7/ For example, production in the West Indies was higher in 1916/17 than it has been any time since. With somewhat the same characteristics Venezuela and Ecuador (next to Brazil and Costa Rica, the major producers in Latin America) hit production peaks in the 1920s which were not achieved again until the mid-60s (5, pp. 5-9). The African smallholder had both lower overhead to maintain in poor years and lower labor costs in good years. The result was a transfer out of cocoa production in the Americas and expansion of cocoa acreage in West Africa.

Finally, mention should be made of the importance of cocoa exports relative to the producer country's total export earnings. From Table 4 one sees both the increasing dollar value of cocoa exports and their decreasing share of total export earnings among the major producing countries. While diversification is apparent, the overall importance of bean exports to Ghana, Nigeria, Ivory Coast and Cameroon is also evident (Brazil being the exception).

6/ Criollos are grown principally in Ecuador, Venezuela and the West Indies, while the fine forasteros are grown in Ecuador, Trinidad, Venezuela, Sri Lanka and Indonesia. West African and Brazilian production is of the bulk or forasteros type.

7/ The exception is Brazil, where conditions more closely resembled those found in Africa.

FIGURE 2. COCOA: WORLD PRODUCTION AND GRINDINGS 1930-1972*



*Source: Gill and Duffus Group LTD., Cocoa Statistics, London, December 1972, p. 3.

TABLE 4. EXPORTS OF COCOA BEANS*

(a) Yearly average value for the period indicated, in US$ million.

(b) Cocoa's share in country total export earnings, in percent.

	Ghana	Nigeria	Brazil	Ivory Coast	Came-roun
(a) Value (US$ million)					
1950-54	172.6	80.2	79.9	43.6 1/	35.6
1957-61	177.9	90.5	68.7	36.6	35.3
1967-71	198.6	166.4	70.1	81.8	49.6
(b) Cocoa's share in export earnings (percent)					
1950-54	74	23	5	35 1/	53
1957-61	65	21	5	24	35
1967-71	61	16	3	19	25

Sources: FAO, Cocoa Statistics, January issue, 1967, 1969 and 1973; UN, Yearbook of International Trade Statistics and Monthly Bulletin of Statistics, various issues.

1/ Three year average for 1952-54.

Consumption

As there were shifts in the production of raw cocoa so were there shifts in the relative imports between various geographical regions. Chart 2 shows the major shifts which have taken place during this century. The percentage of imports to Europe have declined and perhaps stabilized at 50 percent of the total; Eastern Europe and the U.S.S.R. have increased their consumption from almost negligible to 18 percent and the United States appears to have peaked during the 1940s and its percentage of imports (relative to the world's) have declined since that time.

Such figures as have been presented obscure several facts. First, despite the relative shifts, cocoa imports are at or near historical highs though total world consumption appears to have peaked most recently in 1965/66. (More detail is presented in statistical Annex B.) Secondly, cocoa producing countries have begun to consume more of their own domestic production and finally these countries are now exporting more processed cocoa in the forms of cocoa butter, powder, paste, edible cakes and the like (see Annex C).8/

The concentration of exports among a few producing countries is paralleled by the concentration of total imports by a few countries. Table 5 shows the overall geographical areas of importation and the percentage distribution while Table 6 shows two-thirds of total world imports going to five countries.

Per capita consumption has a different ranking from that of total imports. In descending order countries may be ranked: Switzerland, Federal Republic of Germany, Belgium, United Kingdom, Norway, Canada and the United States with regard to their per capita cocoa consumption. Table 7 is interesting with regard to several points. First, average per capita consumption has risen in every country listed with the exception of the Netherlands and Colombia. (Table 7 represents 86 percent of total world consumption.) Secondly, average per capita consumption for the world has remained stable at .40 kilograms per person while total world population has increased by approximately 700,000,000 people over the period considered. Lastly, one notices the sizeable increases in consumption even for the high income countries which one may have hypothesized as having stable per capita consumption patterns over the last decade.

Prices

Throughout the preceding product review a pattern of interrelationships has begun to emerge. Weymar (22, p. 2) has developed a schematic diagram showing how the multitude of industry variables interact with

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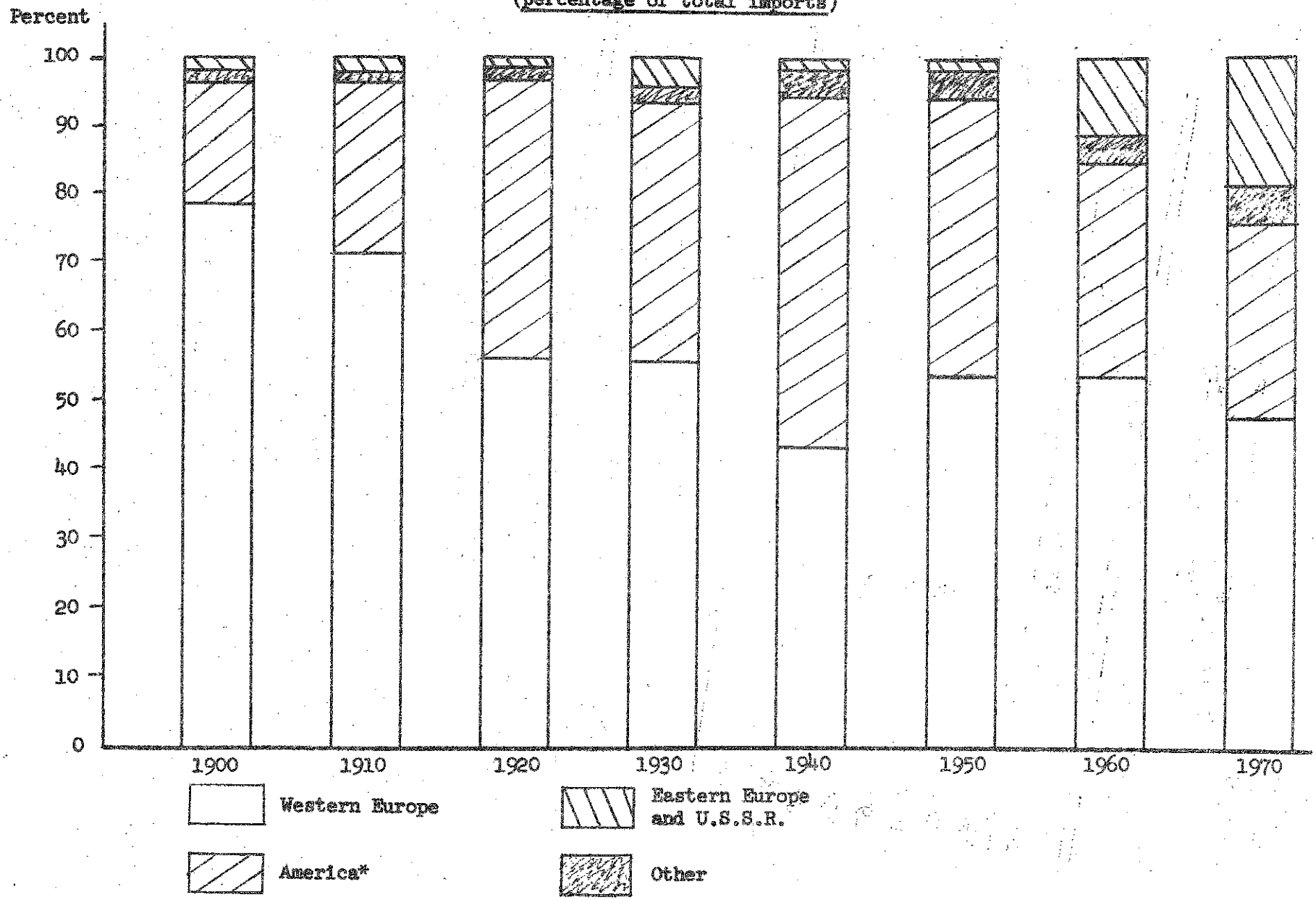
8/ Cocoa products can be converted into bean equivalents using these standard conversion factors:

cocoa butter	1.33
cocoa paste and nibs	1.25
cocoa powder and cake	1.18
chocolate	0.50
milk crumb	0.154

CHART 2. WORLD NET IMPORTS OF RAW COCOA
(percentage of total imports)



* Predominantly U.S.A.

Source: Gill and Duffus Group LTD., Cocoa Statistics, London, December 1972.

TABLE 5. WORLD NET IMPORTS OF RAW COCOA*
(percentage of total)

Year	W. Europe	E. Europe and U.S.S.R.	America
1900	79	1	18
1910	72	2	25
1920	57	1	40
1930	56	4	38
1940	43	1	52
1950	54	2	41
1960	54	11	31
1970	47	18	29

TABLE 6. MAJOR IMPORTING COUNTRIES*
(five year average, 1967-1971)

Country	Imports	Percent of World Total
	(1,000 long tons)	
U.S.A.	238.1	22.1
German Federal Republic	132.8	12.3
Netherlands	111.8	10.4
U.S.S.R.	104.4	9.7
United Kingdom	81.8	7.6
		62.1

* Source: Gill and Duffus Group LTD., Cocoa Statistics, December 1972.

TABLE 7. PER CAPITA CONSUMPTION IN BEAN EQUIVALENTS

(kilograms)

Country	Average Per Capita Consumption 1957-61	1967-71
World	.40	.40
U.S.S.R.	.13	.46
Germany, Democratic Republic	.71	1.05
Czechoslovakia	.88	1.29
Nigeria	.004	.008
Ivory Coast	.02	.02
Cameroon	.02	.04
Ghana	.03	.08
Brazil	.17	.21
Ecuador	1.18	1.24
Colombia	1.52	1.43
Japan	.13	.49
Israel	1.03	1.25
Australia	1.33	1.62
Canada	1.60	1.87
United States	1.61	1.82
Italy	.38	.58
France	1.18	1.57
Norway	1.25	1.92
Denmark	1.33	1.78
Sweden	1.40	1.74
Austria	1.66	1.81
United Kingdom	1.84	2.14
Belgium	1.95	2.44
Germany, Federal Republic	1.96	2.67
Netherlands	2.19	1.48
Switzerland	3.01	3.41

Source: FAO, Cocoa Statistics, various issues.

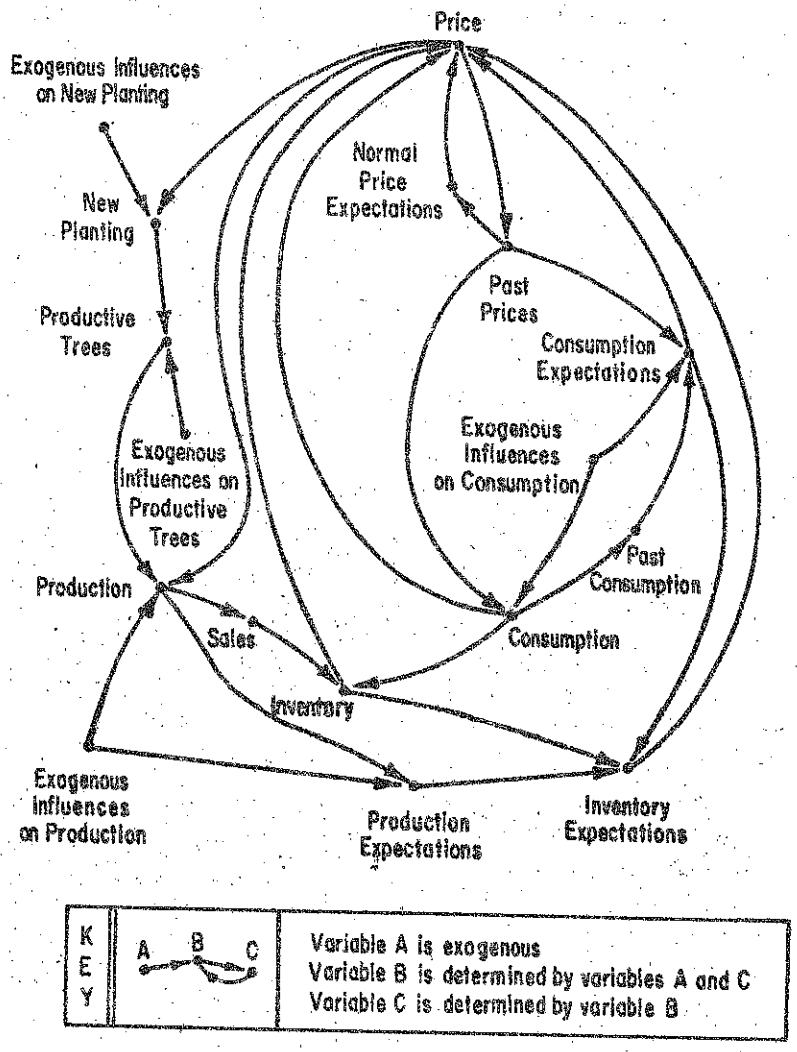
one another (Figure 3). The congregation of variables about the product pricing point reveals the complexity and the interaction among variables which precedes determination of the price of cocoa. The diagram also points out the major determinants of any other single industry factor. One observes, for example, that the two main factors affecting planting decisions are product price and such exogenous influences as may exist. When dealing with a perennial crop it is likewise worthwhile to consider the time lags which may be associated with any postulated interactions. New planting will ultimately influence production, sales, inventory, production expectations, and so on. But, while sales may affect inventory levels in the short run, there will be a considerable lag between the decision to plant new trees and the ramifications in the form of additional output which this production decision may ultimately make.

The aforementioned suggests a "cobweb" type behavior which may help to explain the interyear and interdecade production changes and influential factors which operate within the cocoa market. Theory though must be tempered by reality and the possibility exists for exogenous variables to override the classical endogenous determinants of supply and demand. Figure 4 portrays the classical cobweb model showing the disequilibrium between supply and demand at period one, and the resultant oscillations in price overtime. Farmers respond to price, but their inability to alter supply in the short run only aggravates the situation.

World cocoa prices are graphically represented in Figure 4. Though the graph shows the extreme fluctuations over time it does not show the equally wild intrayear fluctuations.9/ There appears to be no clear price trend with price averaging about 30 U.S. cents per pound. Since 1925 the market has witnessed a high exceeding 68 cents and lows of less than 4 cents. Also visible in Figure 5 are the production and consumption situations. Consumption is represented by grindings of raw cocoa beans and production by the availability. One might even superimpose a ten year lagged model on this graph taking the 50s as one time period, the 60s as the next and continuing the model into the 70s which are presently generating the highest prices for cocoa products in this century. This, of course, is speculation and requires a rigorous econometric analysis which is beyond the scope of this paper. Nonetheless the oscillations do suggest a need for stabilization if maximum resource allocation is to be achieved and an orderly market maintained. It is believed that the International Cocoa Agreement will affect some of these types of improvements.

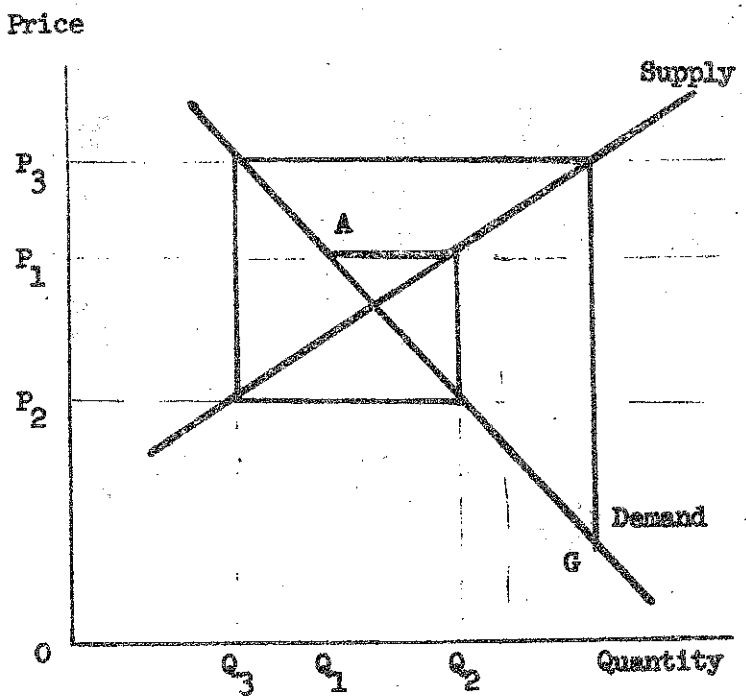
9/ The current price on the nearest contract (December 1973) is 58.78 cents per pound and prices have fluctuated from 30.20 to 76.95 during the life of this contract. Wall Street Journal, November 1973.

FIGURE 3. FLOW GRAPH OF COCOA INDUSTRY STRUCTURE



Source: Helmut F. Weymar, The Dynamics of the World Cocoa Market, Cambridge: M.I.T. Press, 1968, p. 2.

FIGURE 4. FLUCTUATING COCOA PRICES:
COBWEB MODEL WITH DIVERGENT OSCILLATION



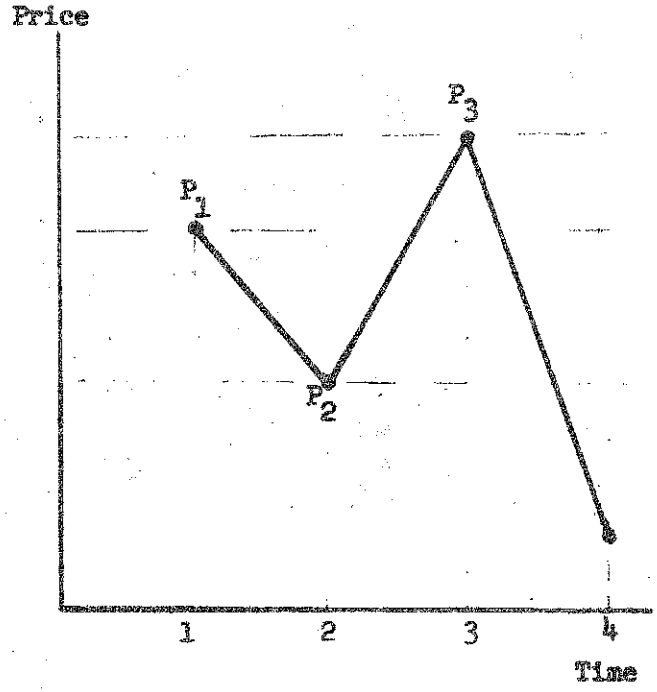
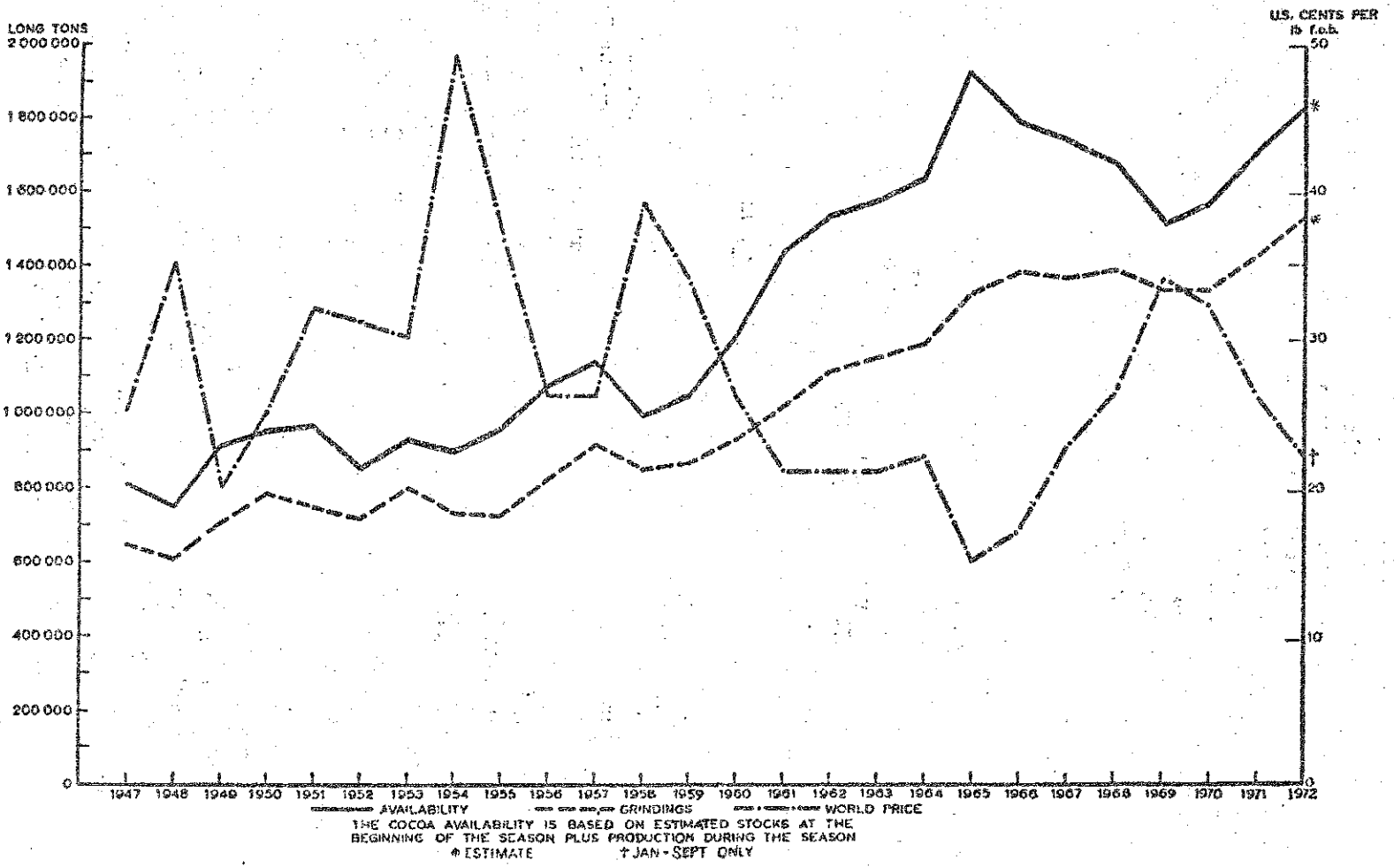


FIGURE 5. COCOA: POSTWAR SUPPLY AND DEMAND



Source: Gill and Duffus Group LTD., Cocoa Statistics, London, December 1972, p. 4.

One fairly reliable yardstick for judging the cocoa situation is the level of stocks in comparison to grindings (12, p. 3). Until recently cocoa manufacturers usually kept a minimum of three months supply on hand when prices were high and a six months supply when prices were low. Stocks are expensive to finance and maintain, and it appears that cocoa stocks have dropped to an average below two and one-half months in the 1969-72 period (see Annex D). What this new stocking policy means, whether it is a lasting phenomena, and the affects it will have on the marketing system have yet to be determined. Complicating the matter further will be the implementation of the ICA which is expected to influence stocking policy of manufacturers once operative.

Demand

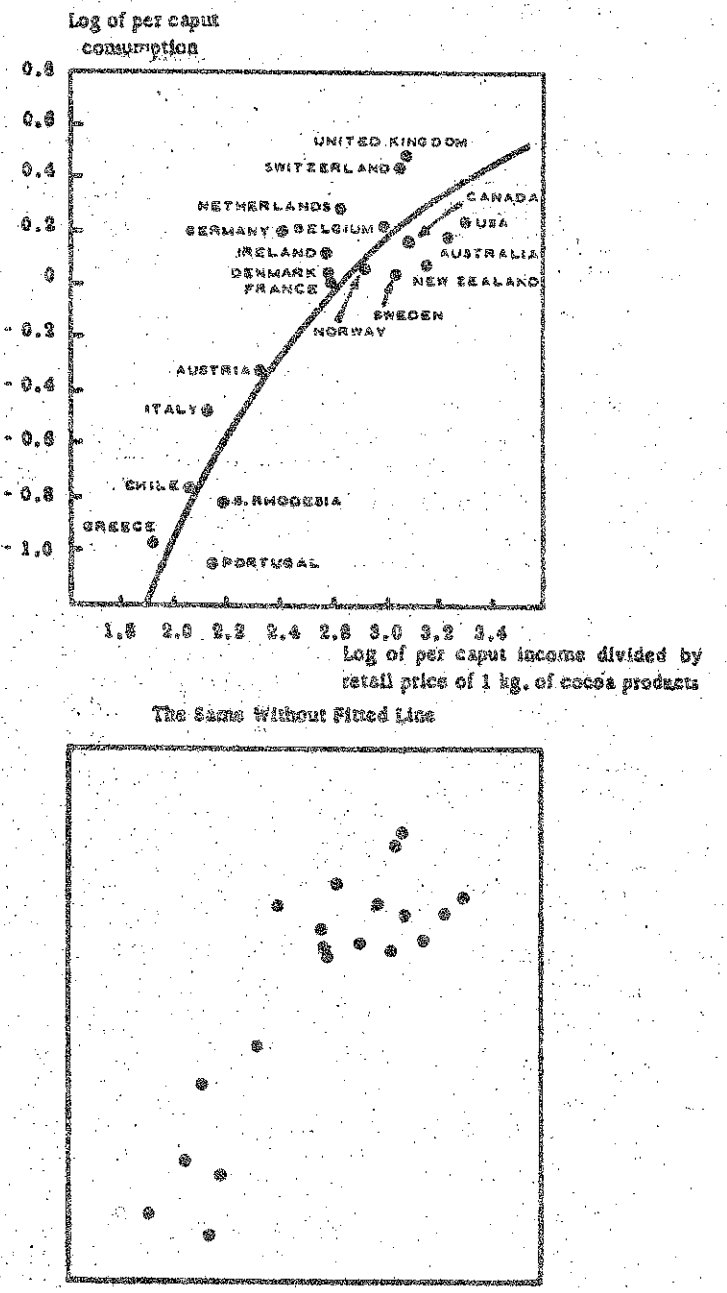
The demand for cocoa products and the prices they command will be influenced by consumer incomes, tastes and preferences, the availability of good substitutes and/or complementary products. Demand is also conditioned by the expansion of markets, population growth, and changes in income patterns among consuming countries. Price elasticities of demand for cocoa are usually reported as being negative with quoted figures of about -0.25 representative.10/ Such figures are confirmed by the Organization for European Economic Cooperation though they express reservations concerning the statistics used (16, Annex IV).

A negative price elasticity of demand may be interpreted as meaning that precentage increases or decreases in price will not be reflected on a one-to-one basis in product demand. Thus if the price were to go up by one unit, demand would fall only by one-quarter unit. The implication being that a concerted effort on the part of producers to withhold stocks would result in increased revenues and profits. Such statements, while undoubtedly true for the short run, must be tempered by the availability of substitutes for cocoa products and/or changes in the elasticity figure. Other fats and oils can be substituted for cocoa butter; decreasing the size of a chocolate bar reduces consumption as does increased use of fruits and nuts in the place of chocolate products (12, pp. 2-3). It should also be noted that only about 50 percent of chocolate products originate in the form of a cocoa bean; other ingredients are sugar, milk, fats and oils.

Income elasticity of demand must also figure in our analysis. Figure 6 suggests that per capita consumption of cocoa rises with increasing income. It also suggests that consumption of cocoa rises faster among low income countries than among high, i.e., the lower income countries have a higher income elasticity of demand than the high income countries. Bringing the point one step farther it suggests that there exists a saturation point, albeit one that has not been reached, where further consumption of cocoa will cease or perhaps decrease as incomes continue to rise (see Table 7 above).

10/ FAO reports elasticity of -.25; Behrman gives a figure of -.25, and IBRD uses a figure of -.30 (12, 2, 6, 7).

FIGURE 6. PER CAPUT CONSUMPTION OF COCOA AND PER CAPUT INCOME IN TERMS OF COCOA PRICES, 1953



Source: Organization for European Economic Cooperation, The Main Products of the Overseas Territories: Cocoa, Paris, 1956, p. 96.

Prospects for the Future

FAO statistics project income elasticities of demand ranging from .30 in North America to 1.20 in East Africa for cocoa (6, 7).[11] In the analysis the interaction of income with quantity consumed is reported as following the Engel curve presented in Figure 7. It is observed that as income increases, cocoa consumed also increases but at a decreasing rate. It has been hypothesized that at some point saturation will be reached; though this has yet to be observed in the real world.

Forecasting techniques are not very highly developed and must be tempered by many factors. FAO considers only population and income as endogenous variables and holds all other factors constant. A more realistic analysis would, in addition to recognizing such variables as weather, disease, and technology, have to take special cognizance of:

1. growth in world output;
2. stocking policy of traders and manufacturers;
3. purchases from the centrally planned countries;
4. changes in tastes and customs (e.g., reflecting concern with obesity and dental care); and
5. the effects of the International Cocoa Agreement which is now in effect.

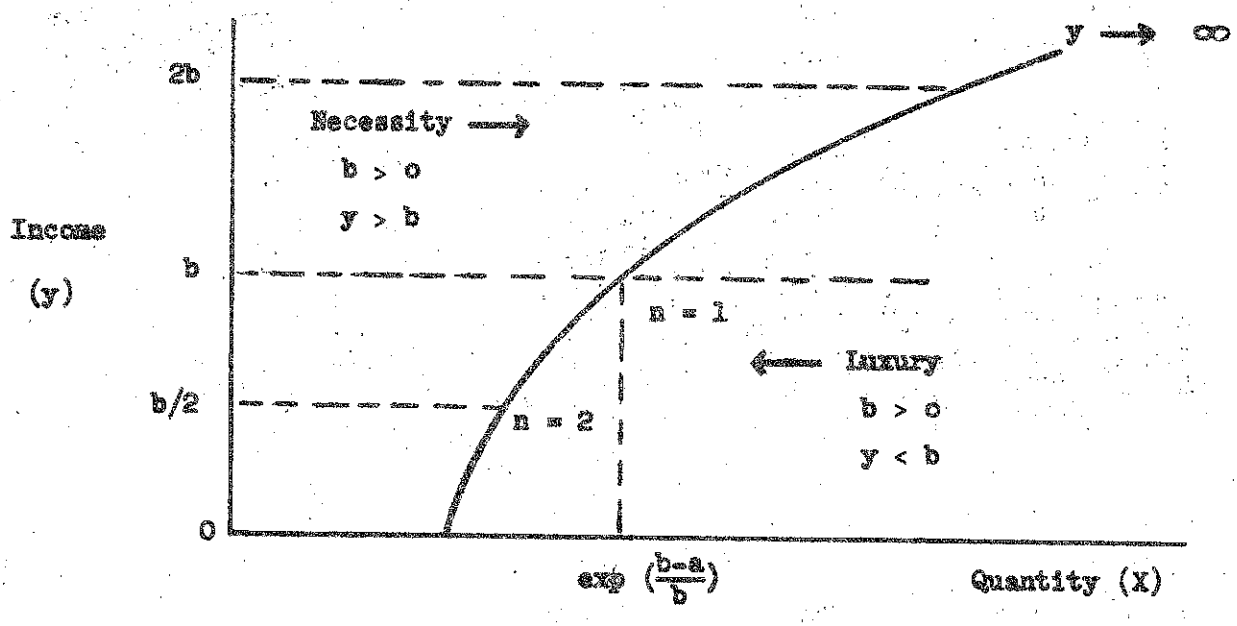
Growth in demand is expected to increase at an annual rate of 2.7 percent over the decade from 1970-80, with the most vigorous increases coming from the low income countries. Though the developed countries are expected to continue to consume 70 percent of production, Eastern European countries and the LDCs are also expected to increase their consumption as per capita income levels increase (6, pp. 224-230). This increase in production if translated into dollar figures comes to approximately $1,250 million of foreign exchange earnings (less local consumption) for the countries concerned. As stated earlier the commonly used price elasticity of demand for cocoa is -.25. Using this figure it is constructive to show demand for cocoa under alternative prices. From Table 8 a significant increase in demand is witnessed between the three pricings shown.

11/ Per capita income elasticity of demand, FAO projections (7, pp. 129-281).

Country	Elasticity	Country	Elasticity
World	.31	L. America	.72
N. America	.30	C. America	.62
W. Europe	.34	Near East	.58
Japan	.80	Asia and Far East	.91
W. Africa	.89	USSR - E. Europe	.78
E. Africa	1.20		

FIGURE 7. FORM OF ENGEL CURVE DEPICTING COCOA CONSUMPTION AND INCOME

Semi-logarithmic $y = a + b \log X$



Source: FAO, Agricultural Commodity Projections, 1970-1980, CCP 71/20, Rome, 1971, p. XLVII.

TABLE 8. DEMAND IN 1980 AT VARIOUS PRICES OF COCOA BEANS

(million tons)

	25¢/lb.	30¢/lb.	35¢/lb.
World	2.00	1.91	1.83
World--excluding the Centrally Planned Countries	1.68	1.61	1.55
Centrally Planned Countries	.32	.30	.28

Source: FAO, Agricultural Commodity Projections 1970-1980, Vol. II, CCP 71/20, Rome, 1971, p. 226.

Accompanying the projected increase in world production from 1.4 million tons in 1970 to 1.8 million tons in 1980 will be shifts in relative shares. In Africa, Ivory Coast is expected to show the greatest gain, increasing its market share from 12 to 15 percent with a 25 percent increase in production. In South America, Brazil is expected to show a decrease in its share of the world market from 12.5 to 10.9 percent. Table 9 shows the shares of the world market as proportioned among the major producing countries in 1970 and as estimated for 1980.

One might reasonably expect gradual increases in both production and consumption over the next decade with these two market forces remaining in approximate equilibrium. As the major producing countries are few in number, it is reasonable to assume that cocoa will continue to be of importance to their economies (excluding Brazil) with their relative shares of export earnings declining as manufacturing, other agricultural production, and services obtain greater importance. Given the many imponderables concerning forecasting the figures should be used only as the most general guidelines. Nonetheless they can serve as useful aids to planning and policy formulation.

Marketing

Marketing of cocoa beans can be easily divided between the domestic and international arenas. Prior to both the Second World War and the independence of most African countries domestic marketing was performed by large private trading firms. These firms purchased the raw agricultural commodities (i.e., palm kernel, coffee and cocoa) and were also the wholesale and retail sellers of imported goods to the colonies. Thus a two-way trade developed between the farmer and the trading company. Between these two levels were found many layers of brokers and subbrokers. This is not surprising considering the fragmented and dispersed nature of the small holdings and their remoteness from markets.

"Forward sales" were a feature of the market where sellers were in close contact with traders. Thus the farmer had access to the goods needed during the preharvest season and the seller realized assured supply,

TABLE 9. COCOA: PRODUCTION BY REGIONS AND COUNTRIES, 1970 AND PROJECTIONS FOR 1980

	Percentage of World Production 1/	
	1970	1980
AFRICA	71.5	74.1
Ghana	28.3	26.9
Nigeria	17.3	18.3
Ivory Coast	12.2	15.1
Cameroon	7.8	8.0
Others	5.9	5.7
LATIN AMERICA	25.6	22.9
Brazil	12.5	10.9
Others	13.0	12.0
ASIA	.7	1.0
OCEANIA	2.2	2.1

1/ Numbers may not add exactly due to rounding.

Source: FAO, Agricultural Commodity Projections 1970-1980, CCP 71/20, Rome, 1971, Vol. I., p. 227.

sales of his imported goods, and some speculative profits in years when cocoa prices were high. Reportedly prices to the producer were unstable in these markets with relatively poor communications and sizeable forward sales. Unfortunately during the prewar years there is no way to determine producer prices from historical f.o.b. prices (16, Annex III).

Subsequent to the Second World War statutory marketing boards were established in both Nigeria and Ghana.12/ The establishment of these boards was precipitated by a reported buying agreement among the exporting firms and a boycott of European goods and hold up of cocoa sales by Gold Coast farmers. This resulted in an inquiry by the Norwell Commission which could not substantiate the buying agreements but still recommended the establishment of producer cooperatives which would in turn sell to shipping agents. During the war years (Second World War) the West African Produce Control Board was established to purchase cocoa from established shippers and prevent the complete disruption of cocoa marketing which prevailed at times during the First World War. These controls eventually became the Cocoa Marketing Boards in 1947. The boards fix the price paid to the producer at the beginning of each year and purchase beans through licensed buying agents. The cocoa is eventually sold abroad by the marketing boards. In addition to fixing the purchase price, the boards also guarantee to purchase all the cocoa that is available.

In theory the boards act to stabilize the internal prices paid to the producer; incurring deficits in years of low cocoa prices and accumulating a surplus in years of high prices. There is often a large differential between prices received by the boards and prices paid to the producer. Table 10 reflects the proportion of export unit sales received by the producer. It does not show how well marketing board action in practice has corresponded with their stated theoretical objectives. The difficulties of generating revenues and the problems of taxation in the developing countries are widely discussed. It is acknowledged that taxation of exports, while perhaps not the most equitable solution, is easily accomplished, efficient, and usually results in the least political controversy. Thus it is hypothesized that 1) large revenues have accrued to the marketing boards, 2) much of these funds have been used for their stated purpose, along with establishing cocoa research centers and supporting extension activities, but 3) much of it also reverts to general revenues with the peasant farmers bearing the brunt of national development--urban and rural.

In addition to the marketing boards of West Africa there are other marketing vehicles prevalent in the domestic cocoa marketing system. Figure 8 portrays the flow of raw cocoa from producer through domestic marketing intermediary, to the international market place, finally ending at the retail outlet.

12/ At this time Ghana and Nigeria account for 50 percent of world production (5).

TABLE 10. PRODUCER PRICES AS PROPORTION OF EXPORT UNIT VALUES IN MAIN PRODUCING COUNTRIES[1/], 1958-71

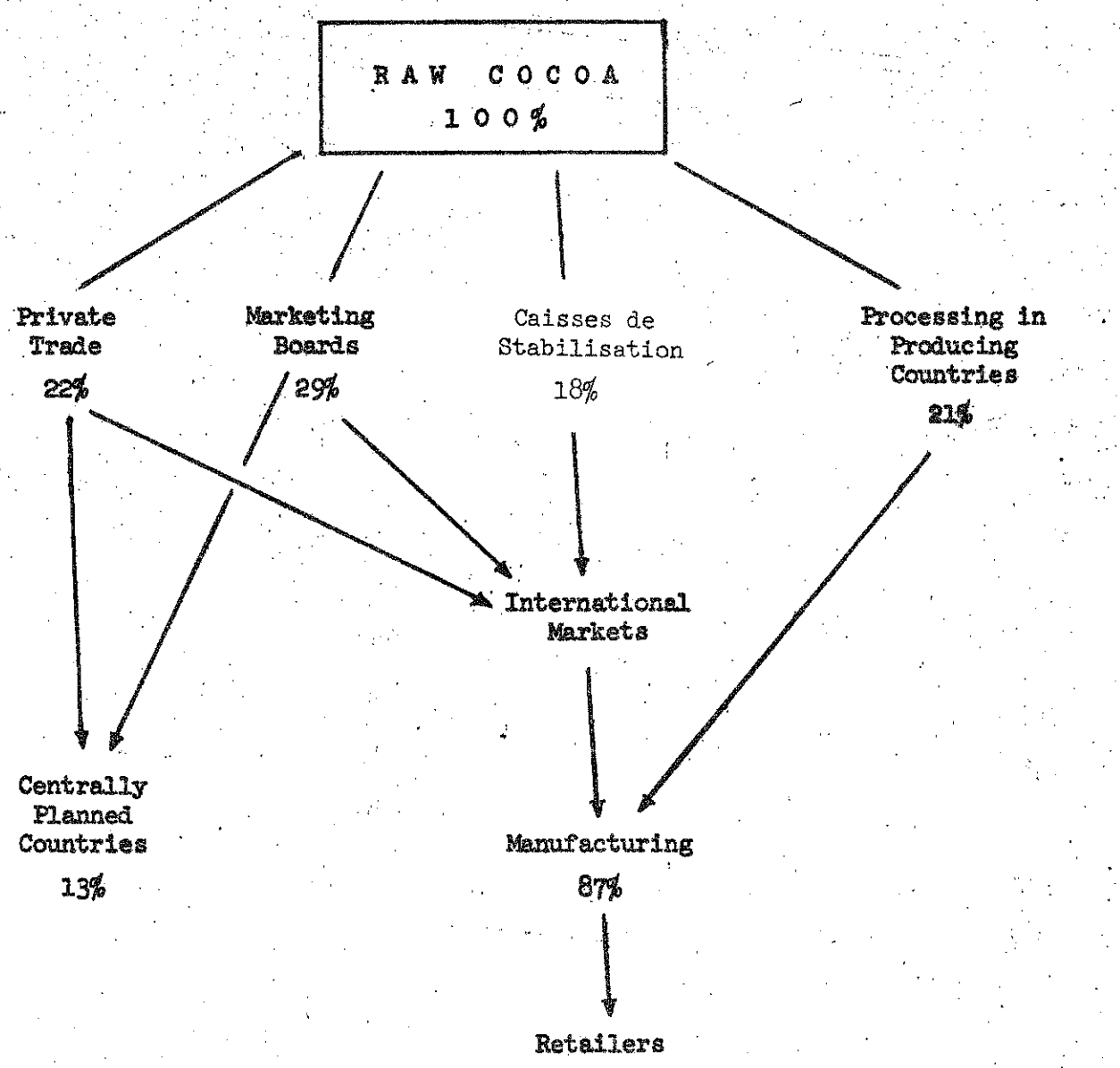
(percent)

Year	Ghana	Nigeria	Ivory Coast	Cameroon
1958	42	49	69	41
1959	43	57	54	43
1960	51	70	69	58
1961	66	60	86	75
1962	70	59	67	70
1963	65	58	62	62
1964	56	56	60	64
1965	67	75	81	90
1966	70	49	56	57
1967	57	41	53	48
1968	45	38	44	41
1969	43	41	33	34
1970	36	44	44	40
1971	48	58	57	53

1/ Actual producer prices are not published for Brazil.

Source: IBRD, "The World Cocoa Market," (unpublished report), 1973.

FIGURE 8. FLOW CHART OF COCOA MARKETING BY INSTITUTIONAL TYPE (WORLDWIDE)



Source: IBRD, "The World Cocoa Market," (unpublished report), 1973.

In addition to marketing boards the major vendors of cocoa beans are the private traders and the Caisses de Stabilisation which operates in French West Africa. The Caisses operate throughout French West Africa though the Ivory Coast and Cameroon are the two countries of major importance to the cocoa trade. The Caisses, unlike the marketing board, do not take possession of the physical crop and private traders do the buying and physical handling. The Caisses de Stabilisation were established in 1954 and they fix the export price which the private exporting companies will receive, fix prices to producers, and engage in research and promotion activities similar to the marketing boards. Differences between the fixed selling price and the actual market price received by the exporting firms are rectified either by an adjustment from the Caisses to the firm or a rebate from the firm to the Caisses. As with the marketing boards the Caisses serve to stabilize the internal market.

Alongside the Caisses de Stabilisation and the marketing boards are the operations of the private traders--prevalent in countries exclusive of the "Big Five" excepting Brazil.

Brazil is a special case since levies on cocoa exports support one of the best research and extension export crop units in the world.[13] The Comissao Executiva do Plano de Recuperacao Economico Rural do Lavoura Cacauerra (CEPLAC) was originally set up to rehabilitate the cocoa plantations of Bahia and has since evolved into a dynamic research-extension organization. In Brazil exporters are allowed minimum export prices and private traders handle the domestic marketing.

The principal international cocoa markets are located in New York and London, with markets of lesser importance located at Antwerp, Paris, Hamburg and Amsterdam (16, p. 108). Using the London market as an example, two types of institutions are found: the "actuals market" and the "terminal market." The actuals market is not a formal market but rather is descriptive of the real buying and selling of the physical product for immediate delivery. Brokers and dealers buy beans from importers either for their own account or for customers.[14] While this is not a public market, it appears that participants are knowledgeable and well informed of current transactions within the "market."

13/ Personal communication from Dr. Stahis Pannagides (IBRD, August 1973).

14/ Brokers usually act on orders from a manufacturer or cocoa user while dealers will take a position in the commodity; i.e., they buy when they do not have a customer for the goods. Some firms act as both dealers and brokers. Dealers usually service the smaller manufacturers.

The terminal market is the organized market referred to in the United States as the futures market. This is partially a "paper" market with only a small percentage of the actual trades ever terminating in a delivery of beans. The terminal or futures market provides a meeting place for manufacturers, dealers, sellers, trading companies and speculators. Manufacturers and dealers can reduce their risks by either hedging against their future needs or hedging transactions which they have already made. Manufacturers can assure themselves of a guaranteed supply in the future at a specified price. The function of the speculators is to provide the "numbers" necessary to a freely operating market. These speculators are the many buyers and sellers, all privy to the same information, who provide the environment of free competition and make it difficult for single market transactions or collusive agreements to influence the market. The actual accomplishments and the usefulness of the futures market can be argued pro and con; the argument will not be pursued in this paper. Suffice to say that the speculators assert their service to the industry by providing an orderly market while their opponents claim that they only magnify price changes and trends, serving only their own speculative desires.

Certain inherent features of the cocoa trade make the marketing process difficult. First the crop is seasonal in nature and though much of the crop is marketed throughout the year by the African marketing boards, the bulk of the marketing takes place from October to March. Next the variability in production from one year to the next must be considered. Production may vary by as much as 20 percent from one year to the next (16, p. 113). Lastly, the market is dominated by a few buyers and a few sellers. The marketing boards of a few African countries market half of the world crop, while on the other side there are, in reality, few manufacturers. For example, the ten largest firms in the U.K. supply 78 percent of the chocolate confectionery taken by the home market (16, p.114).

The Cocoa Agreement[15/]

The preceding survey of the cocoa economy provides some insight into the perceived need for a cocoa agreement. While consumption is growing at a fairly steady rate the vagaries of production are an unsettling force in the market. Production may vary by considerable quantities and the causal factor is not always the same. One year it may be weather, the next, disease problems are of consequence, the year after the lagged effects of previous years of low prices and lack of government support (which was reflected in low planting and replanting rates) may finally materialize and so on. The point of similarity between these factors is that none of

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15/ In addition to negotiations which took place under the aegis of UNCTAD, there are various cocoa research groups, the Cocoa Producers' Alliance (Ghana, Nigeria, Brazil, Ivory Coast, and Cameroon) and an FAO group called Sub-Group on Statistics of the Intergovernmental Group on Cocoa (previously called the Study Group on Cocoa).

them can be remedied by man in the short run and that they result in fluctuating production which leads to fluctuating prices. Proceeding further, fluctuating prices (if they are random) are difficult or impossible to predict and therefore may result in disastrous development plans at worst and resource misallocation at best. The cocoa producing and consuming countries see the cocoa agreement as the prescribed solution to many of their problems.

The International Cocoa Agreement (ICA) 1972 is intended to prevent excessive price fluctuations which adversely affect both short-term and long-term interests of both producers and consumers and to promote an orderly marketing of cocoa.16/ The agreement is the culmination of more than sixteen years of talks and was finally adopted in Geneva on 25 October 1972 after a six week negotiating conference called by the United Nations Commission on Trade and Development (UNCTAD). The ICA has been ratified and is scheduled to go into operation during the 1973-74 season (October to September).17/ Almost all producing and consuming countries have ratified the agreement, with the exception of the United States. The U.S., which imports about 25 percent of the world cocoa exports, has indicated that it will cooperate on a limited basis.18/ It is not expected that the United States' nonparticipation will have a disruptive effect on the agreement though it certainly does not help. The reason is that most other importing countries of consequence do belong, as do all major exporting countries. Therefore, the U.S. will be, in effect, a participant without belonging. There are not enough nonmember countries to supply U.S. needs.

The objectives of the agreement will be fulfilled by restricting cocoa exports through a quota system and by establishing a buffer stock with a capacity of 250,000 tons (18 percent of 1972-73 production). The buffer stock will be used to maintain prices between a minimum of 23 and a maximum of 32 U.S. cents per pound. Stocks will be sold when prices rise above 32 cents per pound and they will be purchased as prices fall, or purchased from supplies in excess of quotas.

The organization shall function through the International Cocoa Council and its Executive Committee. All decisions of the Council will be made by vote. Exporting and importing members each hold 1,000 votes. One hundred votes are equally divided among all the members (i.e., 100 to all importing and 100 to all exporting countries) with the remaining 900 distributed in proportion to basic quotas or to imports.

16/ References throughout this section are from the United Nations Cocoa Conference 1972-TD/COCOA. 3/9 unless otherwise specified.

17/ It is doubtful that it can have much effect this year due to the record cocoa prices and the lack of adequate supplies. The New York-spot "Accra" cocoa bean prices averaged 86 cents per pound during July 1973.

18/ In the past the U.S. has not joined the sugar or tin agreements (20, p. 6).

Basic quotas have been allocated to each country and will be reallocated after the first year of this three year agreement. Quotas were initially arrived at by taking the highest production since 1964-65 and these will be revised after the first year of operation. Table 11 shows the basic quotas for exporting countries; there is no basic quota for exporting members producing less than 10,000 tons of bulk cocoa, nor to producers of fine or flavor cocoa (Annex F).

Quotas are also regulated according to the portion of the year which has passed and with respect to the prevailing price. Exports during the first half of the marketing year (to March 30) are limited to 85 percent of the country's annual export quota, and exports to the end of the third quarter are limited to 90 percent of the annual export quota.

This insures that members will be in a position to comply with the quota restrictions as they relate to the prevailing price. Export quota adjustments will be made according to the following schedule:

Cents per pound	Quota (%)
Below 24	90
24 - 26	95
26 - 27	100
27.5 - 29	105
29 and above	no restrictions

In addition to the export quotas the ICA provides for the institution of a buffer stock and a manager responsible for buying and selling in accordance with the provisions of the agreement. The buffer stock is to be financed by a levy of one cent per pound on all cocoa exported by member producing countries. Cocoa from nonmember producing countries will also have to pay the levy before being allowed entry by importing members and all such transactions (exports and imports) will be controlled by certificates of contribution. During times of quota cuts, imports from nonmember countries will be restricted. In the event that additional finances are required for operation of the buffer stock, the International Monetary Fund will finance up to $60 million in loans.19/

When exporting members have beans in excess of their quotas, the manager will purchase these beans and make an initial payment of 10 cents per pound. Upon sale of the beans the manager will pay the balance, less transport, handling, storage and associated costs, to the original selling country. In the event that the buffer stock has reached its maximum $250,000 tons capacity,the manager will sell any further cocoa purchased to nontraditional sources (vegetable oil processers) with the producing country receiving the equivalent of the f.o.b. sale price.

19/ The IMF has loaned $27 million to the tin agreement for its buffer stock.

TABLE 11. BASIC QUOTAS ALLOCATED TO EXPORTING COUNTRIES UNDER THE INTERNATIONAL COCOA AGREEMENT

Exporting Countries	Production (thousands of tons)	Basic Quotas (percent)
Ghana	580.9	36.7
Nigeria	307.8	19.5
Ivory Coast	224.6	14.2
Brazil	200.6	12.7
Cameroun	126.0	8.0
Dominican Republic	47.0	3.0
Equatorial Guinea	38.7	2.4
Togo	28.0	1.8
Mexico	27.0	1.7
TOTAL	1,580.0	100.0

Source: United Nations, United Nations Cocoa Conference, 1972--Summary of Proceedings, (TD/COCOA. 3/9), Paris, 1973.

Other provisions of the ICA provide for expansion of trade in cocoa, promotion of consumption and dealings in processed cocoa products, and arbitration of disputes between member countries.

The International Cocoa Agreement is not the first commodity agreement enacted in recent times. Other agreements have achieved varying degrees of success or failure. There is a theoretical framework within which commodity agreements are proposed and structured, though in practice they are modified by noneconomic considerations. It is useful to proceed with a discussion of the theoretical aspects of commodity agreements, keeping in mind the ICA and its provisions, and making comparisons where appropriate. The paper concludes by pondering the short- and long-run implications of the International Cocoa Agreement.

Commodity Agreements--Types and Provisions

There are numerous types and variations of commodity agreements which may be used to correct problems associated with the marketing of primary commodities, especially those marketed by the developing countries. In the past the developing countries' share of world trade has steadily declined (13, p. 11). This is the result of both a weakening of primary product prices relative to those prices of manufactured goods, and a slower growth in volume. In this context it should be noted that 88 percent of the export earnings of developing countries are derived from primary product sales (13, p. 155).

In many instances there is an unhealthy concentration of export earnings eminating from one or two commodities (see Annex E for a detailed examination of commodity concentration in the export trade of developing countries). Though commodity arrangements are not a proxy for industrialization and diversification, they can ameliorate some of the problems associated with primary product marketing and export concentration. The type of commodity arrangement most suitable for a specific product will ultimately depend on the political possibilities for implementation, its peculiar characteristics and marketing considerations. The more important marketing considerations are:

a) whether the commodity is perishable or not. It is not technically possible to store fresh bananas for any length of time, and therefore a buffer stock arrangement would not seem appropriate.20/ In the same vein storage costs make certain types of commodity arrangements more attractive to specific commodities. One envisions a spectrum of storage costs ranging from high (tea) to medium (cocoa) to low or negligible (tin) as a crucial variable in deciding upon an appropriate marketing arrangement.

20/ This should not rule out the possibility of it ever being feasible. Shell eggs are commonly frozen and carried cheaply (13, p. 71).

b) The price and income elasticities faced by a commodity will also determine the approaches to marketing which are feasible. For example, a buffer stock for peanut oil may not be very useful considering the multitude of substitutes available.
c) If the product must compete with synthetic substitutes, e.g., rubber or sisal, then this seriously constrains the possibilities for increasing prices by withholding stocks.
d) The specific source of the marketing problem must be given recognition. Different solutions are called for if, for instance, frequent price fluctuations are associated with demand peculiarities or if the problem arises from frequent changes in supply.
e) Commodities having to compete with goods produced in the temperate zone (oilseeds and fats, grains, and the like) must develop a different marketing strategy than those which do not face this type of competition (e.g., tropical beverages--cocoa, coffee, and tea).

Associated with the aforementioned points are the goals and objectives of a specific commodity agreement and those of its members. The agreement may be trying to assure adequate supply, it may be trying to reduce price fluctuations, or it may seek to stabilize export earnings. Alternatively, its objective may be to check a prolonged fall in prices, it may wish to force some reallocation of resources or its goal may be to put prices on a new and higher plateau.[21] Keeping in mind the different goals and objectives, and the differing circumstances which may be operative in particular markets, we can now consider the various alternative agreements.

Multilateral contracts are one form of commodity arrangement. In this scheme exporters sell and importers buy stipulated amounts at specified prices (12, pp. 35-36). In the IBRD classification it would be called an export quota system. It implies that developed countries would purchase at fixed prices and there would be constant availability of export supplies. Such agreements may be designed to improve a market trend or to check a prolonged price fall. Examples of such agreements were the Coffee Agreement of 1968 and the Sugar Agreement of 1962. The tin and cocoa agreements contain quota provisions. Though the provisions are intended to alleviate problems they also present a few of their own. Aligning domestic supply with the assigned quota level, arranging for an equitable allocation of quotas and encouraging, not discouraging, reallocation of resources are problems which arise.

Bilateral agreements are prevalent in many trading situations. The international sugar market is riddled with such contracts. As a result the world sugar price only reflects the present supply-demand equilibrium of a residual of the total marketed crop. In the past, sixty percent of

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21/ Stabilizing price fluctuations and stabilizing export earnings are not two names for the same thing. It has been shown that for countries faced with a low price elasticity of demand, and whose export earnings consist largely of a single commodity, decreases in the price fluctuations on the international market will decrease export earnings (13).

world trade in sugar was handled under preferential agreements; the more important being the Commonwealth and U.S. quotas. Both systems have historically paid higher than the world price for sugar.

Attempts have been made at producer alliances (cocoa) and unilateral withholding though they have not proved successful.

International buffer stocks and/or funds are perhaps the most widely discussed and the least used of all commodity agreements.

> A buffer stock agency is an official organization operating on a national or international basis to stabilize a particular commodity market, usually in terms of maintaining market price at a defined level or within a defined range. For this purpose, it has access to stocks of the commodity which can be sold to defend the ceiling price and to cash resources which will be needed to preserve the floor price. (12, p. 3)

In the past only the tin agreement contained a buffer stock provision.[22/]

Buffer stocks are recommended where supply and demand irregularities are present. Such a facility will usually not lift prices to a higher plateau but is designed to maintain prices within a certain range. The objectives are to present an assured supply to the world market, reduce price fluctuations and allow for better planning and resource allocation by farmers and industries in participating countries. A buffer stock must have access to adequate financing and be skillfully managed by an "autonomous" agency. Lastly consideration is given to major issues involved in implementing a buffer stock.

1) The substitutability of the commodity must be analysed. It would not do much good to have a buffer stock for groundnut oil when no provisions are made for the other vegetable oils and fats.
2) The price range within which the commodity price will be free to fluctuate must be decided upon and taking into consideration any trends which may exist.
3) The points of intervention by the buffer stock management must be agreed upon.
4) The effects of reduced price fluctuations on supply and demand must be considered. It is probable that customers will reduce speculative stocks if the buffering effect works and an assured supply is available within a specified price range. On the supply side neither price nor buying capacity should encourage increases in production since this will only complicate the prospects for equalizing supply and demand.
5) The costs of storage weigh in heavily on any decision to develop a buffer stock.
6) Lastly, a method(s) and availability of edequate financing must be provided for (13, p. 120).

22/ International agreements have covered wheat, sugar, coffee, tin, rubber, tea, copper and olive oil. UNCTAD has recommended buffer stocks as a stabilization device for cocoa, natural rubber, sisal, jute, fats and oils, sugar, lead/zinc, and manganese ore (UNCTAD-TD/8, 1967, pp. 10-11).

The preceding discussion highlights the various provisions and types of arrangements available to the architects of commodity agreements.23/ It is likewise apparent which considerations were important to the ICA and the types of provisions which were made to accommodate them. It remains to consider what the implications of the agreement will be on member countries and what repercussions will follow in the international market place.

Conclusions

It is unlikely that the agreement will have an immediate effect on the market. The current price of cocoa on the world market is at historical highs and there are no buffer stocks of cocoa to sell. Considering the availability of external financing and currently accumulating revenues from export and import levies, maintenance of the floor price should not be a problem. Further, the size of the allowable buffer stock appears adequate at 250,000 tons and a problem similar to that experienced by the tin stocks (too thin) should not arise. For the time being there appears no way to maintain the ceiling price, though the current situation is probably a blessing for it will allow at least a year of "good times" during which the management can work out those problems which always plague neophyte organizations. In addition, the levy of one cent per pound is not really as noticeable when the price is 60 cents per pound as when it is 20 cents. The situation should encourage compliance and participation.

The agreement, through its quota provisions, will necessitate coordinating national and regional planning policy (regarding the cocoa sector) with the provisions of the agreement. Country sovereignty is somewhat lessened in this respect and as hardships or sacrifices are called for, strains within the organization will be visible. In this respect the ICA has also provided some "safety values." The initial agreement is only for three years at which time it will be renegotiated. Export quotas will be reevaluated after the first year. Both these provisions allow for flexibility and enhance the possibilities for success.

No mention, as yet, was made of the effects on consuming countries. The agreement should complicate slightly the necessary paper work associated with cocoa imports but should have no other effects for a few years. Eventually, manufacturers may be able to carry smaller inventories and be assured of a constant supply within a specified price range. As the agreement was ratified by almost all the producing countries and by enough importing countries so that their total imports equalled 70 percent of exports, there is no reason to assume dissatisfaction. It should not

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23/ There are other schemes and proposals concerning commodities. Other schemes which have been discussed are the Terms of Trade/Levy Scheme, the Minimum Export or Import Price Schemes and the General Compensatory Schemes. The reader is referred to FAO Commodity Policy Studies No. 22, "Approaches to International Action in World Trade in Oilseeds, Oils and Fats," Rome, 1971, or to the numerous other works on the subject by the U. N. organizations, the IMF or IBRD.

be forgotten that the ICA's implementation took 16 years of negotiating and a plethora of meetings which should have produced a sound agreement.

One significant unknown concerns the competence and skill of the buffer stock manager. The environment in which he must operate is a sophisticated one, and the transactions required of him delicate.

In the final analysis there appears no glaring possibility for failure and optimism toward the success of this venture need only be tempered by the relative lack of success of commodity agreements in the past.

ANNEXES

ANNEX A

Cocoa beans: Production in specified countries, average 1962-63/1966-67, annual 1967-68/1972-73 1/
(In thousands of metric tons)

Region and country	Average 1962-63/ 1966-67	1967-68	1968-69	1969-70	1970-71	1971-72	Forecast 1972-73
North America:							
Costa Rica	9.8	7.5	9.0	4.7	4.2	4.9	4.8
Cuba	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Dominican Republic	32.8	30.0	21.0	43.0	26.0	40.0	35.0
Grenada	2.5	2.8	3.1	2.9	2.8	3.0	3.0
Guatemala	.6	.7	.8	.8	.8	.8	.8
Haiti	2.3	2.0	2.0	2.5	2.0	2.0	2.0
Honduras	.2	.2	.3	.3	.3	.3	.3
Jamaica	2.0	2.4	1.5	1.8	1.8	2.0	2.0
Mexico	21.5	22.0	23.0	24.0	25.0	30.0	30.0
Nicaragua	.4	.5	.5	.5	.5	.5	.5
Panama	.8	.7	.6	.5	.5	.5	.5
Trinidad & Tobago	5.4	6.3	4.7	5.6	4.1	4.1	4.5
Other 2/	.6	.4	.4	.4	.4	.4	.4
Total	80.9	77.5	68.9	89.0	70.4	90.5	85.8
South America:							
Bolivia	1.8	1.5	1.5	1.5	1.5	1.5	1.5
Brazil	139.3	144.7	166.2	201.6	182.4	165.4	195.0
Colombia	15.6	18.0	18.5	15.3	16.6	17.0	18.5
Ecuador	42.8	70.0	53.0	55.0	65.0	60.0	60.0
Peru	2.1	1.7	1.7	2.0	2.0	2.0	2.0
Surinam	.2	.1	.1	.1	.1	.1	.1
Venezuela	20.4	24.7	19.3	18.3	18.9	19.0	19.0
Total	222.2	260.7	260.3	293.8	286.5	265.0	296.1
Africa:							
Angola	.4	.5	.5	.5	.5	.5	.5
Cameroon	83.1	91.5	103.8	108.0	112.0	123.0	105.0
Congo, Brazzaville	.9	1.5	1.5	1.5	2.0	2.0	2.0
Equatorial Guinea 3/	34.6	34.0	37.0	25.0	30.0	25.0	30.0
Gabon	3.9	4.1	4.5	4.5	5.0	5.0	5.0
Ghana	446.8	421.6	338.9	414.3	392.0	457.0	430.0
Ivory Coast 4/	122.3	146.8	142.7	180.3	176.3	224.0	190.0
Liberia	1.1	1.9	1.7	1.9	1.8	1.9	1.9
Malagasy Republic	.6	.7	.7	.8	.9	1.0	1.0
Nigeria 5/	229.7	238.6	195.0	225.0	323.0	263.0	290.0
Sao Tome-Principe	9.4	11.0	9.8	9.7	10.4	10.0	10.0
Sierra Leone	4.0	4.8	4.2	4.1	5.1	6.4	6.0
Tanzania	.1	.2	.4	.4	.4	.4	.4
Togo 4/	14.3	16.6	21.1	23.0	28.0	30.0	25.0
Zaire (Congo, K.)	4.9	5.0	5.0	5.0	5.0	5.0	5.0
Total	956.1	978.8	866.8	1,004.0	1,092.4	1,154.2	1,101.8
Asia:							
Indonesia	1.0	1.0	1.0	1.0	2.0	2.0	2.0
Malaysia	.8	1.6	2.0	2.3	2.5	2.8	3.0
Philippines	3.7	3.4	4.0	4.0	3.5	3.0	3.5
Sri Lanka (Ceylon)	2.1	2.0	2.0	2.0	2.0	2.0	2.0
Total	7.6	8.0	9.0	9.3	10.0	9.8	10.5
Oceania:							
New Guinea and Papua	18.4	24.0	27.2	22.3	29.0	27.0	29.0
New Hebrides	.6	1.0	.6	.8	.6	.7	.7
Western Samoa	3.4	1.8	2.8	3.4	2.5	3.0	3.0
Total	22.4	26.8	30.6	26.5	32.1	30.7	32.7
World total	1,289.2	1,351.8	1,235.6	1,422.6	1,491.4	1,550.2	1,526.9

1/ Estimates refer to an October-September crop year. 2/ Includes Dominica, St. Lucia, Guadeloupe, and Martinique. 3/ Includes Fernando Po and Rio Muni. 4/ Includes some cocoa marketed from Ghana. 5/ Includes cocoa marketed through Dahomey. Estimates are based on information as of November 10, 1972.

Source: U.S.D.A., F.A.S., Foreign Agriculture Circular - Cocoa, November 1972, p. 4.

ANNEX B

COCOA BEANS: GROSS IMPORTS BY SPECIFIED CONSUMING COUNTRIES, 1971 WITH COMPARISONS
(In metric tons)

Continent and country	Average 1960-64	1965	1966	1967	1968	1969	1970	197
North America:								
Canada	16,138	23,178	16,760	17,683	18,032	13,587	17,177	17,
United States	289,336	360,097	324,393	287,187	231,869	221,954	283,694	320,
Total	305,474	383,275	341,153	304,870	249,901	235,541	300,871	338,
Latin America:								
Argentina	6,020	9,828	11,351	7,444	7,521	6,160	8,225	8,
Chile	951	1,583	2,615	1,835	340	371	583	(3/
Colombia	7,464	13,721	17,678	10,727	9,930	9,535	14,493	15,
El Salvador	369	568	393	403	326	286	358	(3/
Peru	248	1,537	1,584	710	1,281	1,154	1,128	(3/
Uruguay	503	433	541	474	787	504	(3/)	(3/
Total	15,555	27,670	34,162	21,593	20,185	18,010	24,787	(3/
Western Europe:								
EC:								
Belgium-Luxembourg	14,790	17,134	16,653	17,178	15,957	15,915	18,617	20,
France	61,979	63,827	64,103	49,914	43,844	39,618	39,664	39,
Germany, West	130,694	166,928	148,238	137,776	137,211	131,461	124,863	144,
Italy	35,509	41,580	40,855	45,089	40,675	42,462	42,350	39,
Netherlands	100,636	119,336	116,553	109,965	112,876	109,732	115,997	119,
Subtotal	343,608	408,805	386,402	359,922	350,563	339,188	341,491	363,
Other Western Europe:								
Austria	10,720	13,170	10,455	10,744	13,633	12,542	13,713	14,
Denmark	4,270	5,165	4,480	4,523	3,795	4,014	4,016	4,
Finland	970	1,609	1,881	2,031	1,928	1,705	2,152	2,
Greece	3,091	4,047	4,359	4,756	4,698	4,056	5,188	5,
Iceland	29	50	25	35	26	16	53	(3/
Ireland	7,265	7,132	10,658	11,224	9,425	11,342	8,143	7,
Norway	4,344	5,431	4,996	5,280	4,536	3,913	5,682	5,
Portugal	1,528	2,501	2,435	2,259	2,588	2,583	2,496	3,
Spain	24,696	26,618	30,902	27,513	40,673	41,185	29,153	22,
Sweden	7,648	8,546	7,864	7,062	7,027	6,424	6,415	6,
Switzerland	15,353	14,992	14,340	13,082	14,822	13,258	18,005	20,
United Kingdom	100,124	82,315	107,762	88,562	77,457	102,317	82,169	84,
Yugoslavia	5,944	13,847	13,888	8,976	9,759	9,606	14,602	10,
Total	529,590	594,228	600,447	545,969	540,930	552,349	533,278	551,
Eastern Europe and USSR:								
Bulgaria	2,763	6,071	2,688	8,737	11,736	8,080	7,442	(3/
Czechoslovakia	13,119	14,075	19,251	15,464	12,858	16,824	21,847	(3/
Germany, East	13,660	15,341	17,960	16,252	19,151	16,076	19,487	(3/
Hungary	5,559	12,522	9,833	9,822	10,866	8,763	11,280	10,
Poland	11,645	17,298	12,290	19,998	22,556	20,813	14,311	23,
Romania	2,977	5,559	5,136	5,396	7,071	5,670	5,936	7,
USSR	49,520	88,800	56,500	81,700	109,000	98,600	99,900	138,
Total	99,243	159,666	123,658	157,369	193,238	174,826	180,203	(3/
Africa:								
Algeria	596	669	687	774	457	673	605	(3/
Egypt	662	1,210	1,344	406	1,034	1,453	1,170	(3/
Morocco	393	334	358	376	357	261	301	3
South Africa	4,449	3,452	4,077	6,299	6,485	4,361	4,162	4,
Tunisia	262	370	346	512	203	349	300	2
Total	6,362	6,035	6,812	8,367	8,536	7,097	6,538	(3/
Asia and Oceania:								
Australia	12,837	12,870	12,013	17,021	11,075	12,856	15,022	14,
China, Peoples' Rep. 2/	2,387	13,312	9,406	2,134	914	---	620	6
India	741	644	971	768	894	608	915	(3/
Israel	1,019	1,153	1,486	910	1,355	1,340	1,046	9
Japan	22,193	25,298	37,313	32,539	35,461	31,774	34,891	38,
Lebanon	398	445	449	421	468	304	(3/)	(3/
New Zealand	3,212	3,879	4,371	4,358	4,386	2,945	4,207	4,
Philippines	3,404	6,843	5,408	5,630	5,386	2,786	2,511	4,
Syria	119	76	78	95	209	56	392	2
Turkey	1,060	1,042	1,359	1,119	1,088	851	879	1,
Total	47,370	65,562	72,854	64,995	61,236	53,520	60,483	(3/
Grand total	1,003,594	1,236,436	1,179,086	1,103,163	1,074,026	1,041,143	1,106,160	(3/

1/ Preliminary. 2/ Imports based on export data of producing countries. 3/Not available.

Source: U.S.D.A., F.A.S., Foreign Agriculture Circular - Cocoa, November 1
p. 8.

ANNEX C

VALUE OF EXPORTS OF C@C@A PRODUCTS BY DEVEL@PING COUNTRIES

(a) Yearly average value for the period indicated, in US $ million.

(b) Share of cocoa products in the combined value of exports of cocoa beans and products, in percent (rounded)

(c) Rate of growth of the total value of exports of cocoa products by developing countries, in percent per annum

	1950-1954		1957-1961		1967-1971	
	Average (a)	Share (b)	Average (a)	Share (b)	Average (a)	Share (b)
Costa Rica	-	-	0.08	1	0.39	10
Cuba	0.33	60	0.15	20	n.a.	n.a.
Dominican Republic	5.45	24	7.43	35	0.37	2
Jamaica	1.14	57	1.03	65	0.55	41
Mexico	n.a.	n.a.	0.20	8	2.96	49
Trinidad and Tobago	0.01		0.10	2	0.03	1
Brazil	13.16	14	25.89	27	29.84	30
Ecuador	n.a.	n.a.	0.01	0	2.62	9
Venezuela	n.a.	n.a.	0.15	2	0.20	3
Cameroon	0.35	1	4.44	11	15.58	24
Ghana	3.64	2	2.18	1	28.17	12
Ivory Coast	-	-	-	-	18.00	18
Nigeria	n.a.	n.a.	n.a.	n.a.	15.60	9
TOTAL	24.12	5	41.54	8	114.02	14

	1950-54 to 1957-61	1957-61 to 1967-71	1950-54 to 1967-71
(c) Rate of growth (percent)	8.1	10.6	9.6

Source: IBRD, "The World Cocoa Market," (unpublished report), 1973.

ANNEX D

WORLD COCOA SITUATION, 1946-47 TO 1971-72

Cocoa Season (October-September)	A Gross World Crop	B Net World Crop[1/]	C Total Availability	D Calendar Year Grindings	E Surplus (+) or Deficit (-) (B-D or change in stocks)	F Closing Stocks (C-D)	G F in Terms of Months' Supply	H Calendar Year Price of Beans (Accra, Spot N.Y.)	I Deflated Price (1957-59=100)
	(thousand metric tons)							(U.S. ¢ per pound)	
1946-47	624	618	821[2/]	656	- 38	165	3.0	34.9	45.0
1947-48	603	597	762	616	- 19	146	2.8	39.7	45.2
1948-49	781	773	919	724	+ 49	195	3.2	21.6	25.9
1949-50	765	757	952	786	- 29	166	2.5	32.1	37.0
1950-51	810	802	968	749	+ 53	219	3.5	35.5	36.7
1951-52	655	648	867	721	- 73	146	2.4	35.4	37.7
1952-53	798	790	936	807	- 17	129	1.9	37.1	40.0
1953-54	781	773	902	738	+ 35	164	2.7	57.8	62.2
1954-55	799	791	955	726	+ 65	229	3.8	37.5	40.2
1955-56	841	833	1,062	820	+ 13	242	3.5	27.3	28.4
1956-57	899	890	1,132	905	- 15	227	3.0	30.6	30.9
1957-58	773	765	992	838	- 73	154	.2	44.3	44.1
1958-59	905	896	1,050	860	+ 36	190	2.6	36.6	36.4
1959-60	1,040	1,030	1,220	926	+104	294	3.8	28.4	28.2
1960-61	1,174	1,162	1,456	1,029	+133	427	5.0	22.6	22.5
1961-62	1,140	1,129	1,556	1,118	+ 11	438	4.7	21.0	20.9
1962-63	1,172	1,160	1,598	1,149	+ 11	449	4.7	25.3	25.2
1963-64	1,217	1,205	1,654	1,195	+ 10	459	4.6	23.4	23.3
1964-65	1,509	1,494	1,953	1,336	+158	617	5.5	17.3	16.9
1965-66	1,222	1,210	1,827	1,388	-178	439	3.8	24.4	23.0
1966-67	1,350	1,337	1,776	1,366	- 29	410	3.6	29.1	27.4
1967-68	1,349	1,336	1,746	1,407	- 71	339	2.9	34.4	31.6
1968-69	1,221	1,209	1,548	1,352	-143	196	1.7	45.7	40.4
1969-70	1,423	1,409	1,605	1,343	+ 66	262	2.3	34.2	29.2
1970-71	1,500	1,485	1,747	1,438	+ 47	309	2.6	26.8	22.2
1971-72	1,588	1,572	1,881	1,559	+ 13	322	2.5	32.3	25.6

1/ Net World Crop is Gross World Crop adjusted for one percent weight shrinkage.

2/ Opening stocks in 1946-47 were 200,000 long tons.

Source: IBRD, "The World Cocoa Market," (unpublished report), 1973.

ANNEX E

COMMODITY CONCENTRATION IN THE EXPORT TRADE OF DEVELOPING COUNTRIES, 1965

	Percentage Share of Commodities in Total Export Earnings	Three Commodities as Percentage Share of Total Export Earnings
Saudi Arabia	Petroleum 100	100
Libya	Petroleum 99, oilseeds 1	100
Mauritania	Iron ore 99, fish 1	100
Venezuela	Petroleum 93, iron ore 5, coffee 1	99
The Gambia	Oilseeds and vegetable oils 83, fodder 14, fish 1	98
Mauritius	Sugar 96, tea 2	98
Iraq	Petroleum 94, dates 2, barley 1	97
Cuba	Sugar 86, nickel and oxide 6, tobacco 5	97
Liberia	Iron ore 73, rubber 22, coffee 1	96
Iran	Petroleum 90, cotton 4, hides and skins 1	95
Zambia	Copper 92, tobacco 1, corn 1	94
Sierra Leone	Diamonds 64, iron ore 19, oilseeds 10	93
Ceylon	Tea 63, rubber 16, coconut products 14	93
Senegal	Oilseeds and vegetable oils 79, phosphate 8, fish 4	91
Panama	Bananas 51, petroleum 30, fish 10	91
Rwanda	Coffee 52, tin 36, pyrethrum 2	90
Gabon	Timber and products 47, mang. ore 28, petroleum 15	90
Congo (Brazz.)	Timber 44, diamonds 43, oilseeds and veg. oils 3	90
Trin. & Tobago	Petroleum 82, sugar 6, fruits 1	89
Chad	Cotton 77, livestock 8, petroleum 4	89
Ctrl. African Rep.	Diamonds 54, cotton 20, coffee 15	89
Uganda	Coffee,48, cotton 27, copper 13	88
Cambodia	Rice 49, rubber 33, corn 5	87
Uruguay	Wool 47, meat 32, hides 8	87
Sudan	Cotton 46, oilseeds and veg. oils 30, gum arabic 11	87
Dahomey	Oilseeds and veg. oils 78, cotton 5, coffee 3	86
Chile	Copper 70, iron ore 11, nitrates 4	85
Ghana	Cocoa beans 66, timber 12, diamonds 7	85
Colombia	Coffee 64, petroleum 18, bananas 3	85

continued . . .

ANNEX E (continued)

Niger	Oilseeds and veg. oils 64, livestock 16, pulses 5	85
Ethiopia	Coffee 67, oilseeds 8, hides and skins 8	83
Guinea	Alumina and bauxite 65, coffee 10, bananas 8	83
Guyana	Bauxite and alumina 41, sugar 27, rice 14	82
Viet-Nam	Rubber 73, tea 6, oilseeds and veg. oils 2	81
Ivory Coast	Coffee 38, timber 27, cocoa beans 16	81
Malawi	Tobacco 38, tea 28, oilseeds and vegetable oils 15	81
Surinam	Bauxite 74, rice 4, fish 2	80
Bolivia	Tin 72, lead 4, silver 4	80
Burma	Rice 62, teak 13, oilseeds 5	80
Somalia	Bananas 46, livestock 28, hides and skins 6	80
Ecuador	Bananas 53, coffee 15, cocoa 11	79
Nigeria	Oilseeds and veg. oils 37, petrol. 26, cocoa beans 16	79
Algeria	Petroleum 52, wine 17, citrus 9	78
Jamaica	Alumina and baux. 47, sugar 23, bananas 8	78
Togo	Phosphates 33, cocoa beans 25, coffee 20	78
Upper Volta	Livestock 58, oilseeds and veg. oils 12, cotton 7	77
Malaya	Rubber 44, tin 28, iron ore 5	77
Indonesia	Rubber 30, petr. 38, oilseeds and veg. oils 7	75
El Salvador	Coffee 51, cotton 20, oilseeds and veg. oils 3	74
Dominican Rep.	Sugar 49, bauxite and conc. 9, coffee 6	74
Philippines	Coconut products 35, timber 21, sugar 17	73
Afghanistan	Fruits and nuts 34, karakul skins 23, cotton 16	73
Nicaragua	Cotton 46, coffee 18, oilseeds and veg. oils 8	72
Laos	Tin 61, coffee 5, teak 5	71
United Arab Rep.	Cotton 56, rice 8, petroleum 7	71
Costa Rica	Coffee 42, bananas 25, sugar 4	71
Guatemala	Coffee 49, cotton 18, sugar 3	70
Mali	Livestock 33, fish 20, oilseeds and veg. oils 17	70
Haiti	Coffee 55, sugar 7, sisal 6	68
Pakistan	Jute and products 51, cotton 12, rice 5	68
Angola	Coffee 47, diamonds 16, sisal 5	68
Honduras	Bananas 42, coffee 18, timber 8	68
Congo, Dem. Rep. of	Copper 52, veg. oils 7, diamonds 7	66
Cameroon	Cocoa beans 23, coffee 23, aluminum 17	63

continued . . .

ANNEX E (continued)

Tunisia	Phosphates 34, olive oil 21, iron ore 5	60
Syrian Arab Rep.	Cotton 44, barley 8, livestock 7	59
Thailand	Rice 34, rubber 16, tin 9	59
Paraguay	Meat 33, timber 17, cotton 8	58
Brazil	Coffee 44, iron ore 7, cotton 6	57
Argentina	Wheat 25, meat 22, corn 10	57
Malagasy Rep.	Coffee 32, spices 16, meat 7	55
Tanzania	Sisal 22, cotton 19, coffee 13	54
Peru	Fishmeal 22, copper 18, cotton 13	53
Morocco	Phosphates 25, citrus 14, fresh vegetables 14	53
Cyprus	Copper 24, citrus 18, potatoes 10	52
Kenya	Coffee 30, tea 13, sisal 8	51
Rhodesia	Tobacco 34, asbestos 8, copper 5	47
Mozambique	Cotton 18, cashew nuts 16, sugar 9	43
India	Jute and products 23, tea 14, iron ore 5	42
China, Rep. of	Sugar 13, bananas 11, rice 9	33
Mexico	Cotton 19, sugar 7, coffee 5	33
Lebanon	Citrus 8, other fresh fruit 8, pulses 8	24
Korea, Rep. of	Fish 9, iron ore 4, tungsten ore 4	17

Source: IBRD, The Problem of Stabilization of Prices of Primary Products, A Joint Staff Study, Part I, Washington, D.C., 1969, p. 153.

ANNEX F

FINE OR FLAVOR COCOA PRODUCERS

(1) Countries producing fine or flavor cocoa exclusively:

Dominica	Sri Lanka
Ecuador	St. Lucia
Grenada	St. Vincent
Indonesia	Trinidad and Tobago
Jamaica	Venezuela
Madagascar	Western Samoa
Panama	

(2) Countries not producing fine or flavor cocoa exclusively:

	Percent of Production
Costa Rica	25
Sao Tomé and Principe	50
Australia (Papua, New Guinea)	75

Source: United Nations, United Nations Cocoa Conference, 1972--Summary of Proceedings, (TD/COCOA. 3/9), Paris, 1973.

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