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THE NATURE AND IMPACT OF THE INTERNATIONAL MARKET FOR SUGAR

BUREAU FOR PROGRAM AND POLICY COORDINATION, A.I.D.

DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT

Office of Program and Policy Coordination

A.I.D. Discussion Paper No. 24

THE NATURE AND IMPACT OF THE INTERNATIONAL MARKET FOR SUGAR

Keith Jay

A.I.D. Discussion Papers are circulated for the information of the addressees and their staffs. These papers are intended to serve several functions: to improve knowledge of analytical studies, research results and assistance policies among Agency personnel, to encourage the careful recording and analysis of Agency experience and problems by persons currently engaged in them; and to share such experience and ideas with interested persons outside the Agency. These papers are designed to stimulate and serve as background for discussion. They represent the views of the authors and are not intended as statements of Agency policy.

November, 1971

NOTE

This paper was prepared while the author was on the staff of the Bureau for Program and Policy Coordination in the Agency for International Development. The author gratefully acknowledges the suggestions of Edwin Cohen, Alexis Lachman and Constantine Michalopoulos. All remaining errors are the author's responsibility.

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THE NATURE AND IMPACT OF THE INTERNATIONAL MARKET FOR SUGAR

Most of the world's sugar production is domestically consumed; only a small fraction--roughly one-fourth in 1969--enters international trade.1/ The international flow of sugar is channeled through four separate and regulated markets: the U.S., the Commonwealth, the Socialist countries, and the so-called "Free Market".2/ Table 1 gives the 1966-68 average of trade in the four markets. A discussion of each of these markets follows:

Table 1

Exports to Major Trading Sectors, 1966-68 Average
(million metric tons

Total Production	65.4
Net Exports	16.5
Under U.S. Quota	4.2
U.K. Negotiated Price Quota	1.8
"Free Market"	9.1*
Centrally Planned	1.4

* Includes 1.9 million of re-exports by the centrally planned economies. The 1.9 has been subtracted from the exports to the centrally planned economies.

SOURCE: International Bank for Reconstruction and Development, Summaries of Medium and Long Term Price Forecasts for Selected Individual Commodities by the Bank Staff.

1/ Total world production of sugar in 1969 was 70 million tons while net exports were 17 million tons.

2/ There are several small sugar arrangements which, because of their very small size, are not discussed separately. Three such arrangements are: 1) the African and Malagasy Sugar Agreement, 2) the agreement between Portugal and her former colonies, and 3) the French agreement with her overseas departments.

The "Free Market"

The largest of the four major sugar markets is the "Free Market". This market, which encompasses over half of all sugar exports, is free only in the sense that the actual market price is not preset or administratively determined. The high degree of regulation which has been imposed upon supply by the various international sugar agreements has prevented the "Free Market" from really being a free market.

From 1955 to 1962 the movement of sugar on the Free Market was governed by the International Sugar Agreement. During the period 1963-1968, however, the sugar agreement was virtually non-operative. While the sugar agreement was not in force, the "Free Market" price of sugar fluctuated quite dramatically (see Table 2).

As a result of this price fluctuation, and the low price to which the market price of sugar had fallen by 1968, sugar exporters entered into a new International Sugar Agreement. The 1968 International Sugar Agreement, which covers 90 per cent of "Free Market" sugar exports[3/], imposes strict export quotas upon the signers. Although no price is set in the agreement, an explicit objective of the arrangement is to bring a certain degree of stability into the sugar market. A mechanism has been established to keep the price within what has been determined to be a desirable range. Each country is assigned a quota which moves according to a specified formula as the price moves within the 3.25 cents per pound and 6.5 cents per pound range.[4/] During the

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3/ The European Economic Community is the major exception.

4/United Nations, <u>United Nations Sugar Conference 1968</u>.

first two years of this new Sugar Agreement, the "Free Market" price of sugar has risen substantially.

The basic export quotas are listed in Table 3. As seen in that table, two-thirds of the "Free Market" quota is held by only five countries: Cuba, Australia, South Africa, Brazil and Taiwan.

Table 2

Raw Sugar Price
(yearly average - in cents per pound)

Year	Free Market Price
1954	3.26
1955	3.24
1956	3.47
1957	5.16
1958	3.50
1959	2.97
1960	3.14
1961	2.91
1962	2.97
1963	8.48
1964	5.86
1965	2.12
1966	1.86
1967	1.99
1968	1.98
1969	3.37
1970	3.75

SOURCE: Lamborn & Company, Inc., Lamborn Sugar Market Report, April 1970

Table 3

INTERNATIONAL SUGAR AGREEMENT, 1968

(Basic export tonnage under Article 40)*

	Thousands of tons
Argentina	25
Australia	1,100
Brazil	500
British Honduras	22
Colombia	164
Congo (Brazzaville)	41
Cuba	2,150
Czechoslovakia	270
China (Taiwan)	630
Denmark	41
Dominican Republic	75
European Economic Community	300
Fiji Islands	155
Hungary	51
India	250
Madagascar	41
Mauritius	175
Mexico	96
Peru	50
Poland	370
Roumania	46
South Africa	625
Swaziland	55
Thailand	36
Turkey	60
Uganda	39
West Indies	200
Bolivia	10
Central American Common Market	55
Ecuador	10
Haiti	10
Panama	10
Paraguay	10
Venezuela	17

* Peru, Argentina, and the Dominican Republic have been granted temporary increases in their basic quotas for 1971 and 1972.

SOURCE: International Sugar Agreement, 1968, Article 40.

The second major sugar market is the United States. The United States market is very important because the U.S. consumes over one-seventh of the total world production of sugar and imports over one-fourth of total world exports of sugar. In addition, the combination in the U.S. system of both widely distributed quotas and a high import price increases the political interest and the economic stakes.

The U.S. sugar quota system has its origins in the price support programs of the 1930's. The Jones and Costigan Act of 1934 provided the basic structure for all subsequent United States Sugar Acts. In fact, the 1971 sugar legislation represents only amendments to the Sugar Act of 1948.[5/]

The original and still primary purpose of the U.S. Sugar Act is to provide an adequate and stable income to domestic sugar producers. The price of U.S. sugar is maintained by setting a quota on the total amount of sugar available to the U.S. market. The size of this quota is set by first determining the desired price for sugar which it is hoped will achieve the stated farm income goals. This desired price is directly related to the parity index.[6/] A quota of total supply is set which it is felt will result in the prescribed domestic market price.

5/ The sugar act, like many laws, but particularly those involved with the U.S. farm program, is filled with nuances and exceptions. The description of the U.S. sugar program which follows does not, for reasons of clarity, present all the exceptions and minor adjustments.

6/ The term "parity index (1967 = 100)", as defined by the sugar act legislation is the index of prices paid by farmers for commodities and services, including interest, taxes, and farm wage rates, as published monthly by the Department of Agriculture. The 1971 act has added the use of the wholesale price index computed by the Department of Commerce as an additional variable to determine the appropriate price of sugar.

In addition to the price support the domestic producers also receive subsidy payments averaging around $13 per ton of raw sugar from the U.S. Government. These payments are financed out of funds derived from a processing tax on sugar and on the sugar import duty.

The overall quota is apportioned to domestic and foreign producers. The percentage allocation to these markets is made by Congress. Recommendations are made by the Department of Agriculture for domestic quotas, the State Department for foreign quotas, and by the Executive Branch on overall policy. The actual allocations made by Congress do not, however, always correspond to the recommendations it receives. The trend over the last twenty years has been toward increasing the percentage of domestic production in total supply. The percentage has moved up from around 50 per cent in the 1950's to its current level of slightly over 60 per cent.7/

The domestic production quotas are further broken down into five areas: mainland sugar beet, mainland cane (restricted to the states of Louisiana and Florida), Hawaii, Virgin Islands and Puerto Rico. Approximately one-half of the domestic quota is allocated to beet sugar and one-quarter to mainland cane sugar. The remainder of the quota is fairly evenly divided among Hawaii and Puerto Rico with only a nominal amount given to the Virgin Islands.

7/ Although the percentage allocation to domestic producers has been increasing on the basis of the basic quota, the shortfalls of Puerto Rico have lowered the actual allocations below the basic quota so that the actual domestic allocation has remained close to 56 per cent over the sixties.

The foreign quota is allocated on a country-by-country basis. The major individual recipient is the Philippines, which under the 1971 legislation is allocated a basic quota of 1,126,020 tons, or 26 percent of the total foreign quota. The countries of the Western Hemisphere account for another 60 per cent of the total foreign quota. Developing Africa has only 2 per cent of the foreign quota while the remaining developing and developed countries have 11 per cent.

Under the 1971 bill, any change in the total quantity of sugar needed to maintain the required domestic price level is distributed in the ratio of 65 per cent to mainland producers and 35 per cent to foreign producers.[8/] The foreign adjustments are distributed on the basis of each country's share of the foreign basic quota with the exception of Ireland and the Bahamas, whose quotas do not vary. The domestic adjustments are apportioned to the beet producers and the mainland cane producers on the basis of each one's contribution to the total mainland quota. The basic quota for domestic producers under the 1971 bill is as follows:

Area	Thousands of short tons
Domestic sugar beet	3,406
Mainland cane sugar	1,539
Hawaii	1,160
Puerto Rico	855
Total	6,960

SOURCE: Congressional Record, Volume 117, No. 143. September 29, 1971.

8/ Under the 1965 act there was a variable distribution. Any increase in consumption from 9.7 to 10.4 million tons was allocated entirely to foreign producers with the Philippines getting 10.9 per cent of the increase.

The exact final distribution of the quotas is hard to determine in advance due to the frequent occurrence of shortfalls and the method or distribution of these shortfalls-a shortfall is the quantity of a country's quota which it is unable to fill. If shortfalls occur, 30.08 is allocated to the Philippines while the remainder is distributed to the countries in the Western Hemisphere in proportion to their basic quota.9/ One exception to the above distribution method is the Central American Common Market where any shortfall by one member is divided among the other members. The inability of the Philippines to fill the shortfall allocated to it has resulted in the Latin American countries capturing 70 to 100 per cent of the total shortfalls in recent years rather than the 53 per cent which was their original shortfall allocation.

Currently the Cuban reserve quota is divided up, as temporary quotas, among all foreign producers, except the Philippines, Ireland, and the Bahamas, according to their basic quota. Barr ng any unforeseen political changes, this Cuban uota can be considered in practice an increase in the foreign quota of other countries. The recent shift of a large portion of the Cuban quota to other countries on a permanent basis further points up the unlikelihood of purchases from Cuba.

The determination of the distribution of the foreign quota produces a great deal of pressure from the various foreign countries

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9/ Under the 1965 act, the Philippines received 47.2 per cent of the shortfalls.

as each vies for a larger share of the foreign quota. The lobbying effort on the part of the foreign producers is a direct function of the following:

1) being primarily cane producers, they face a much lower cost structure than do beet producers,
2) the high price paid by the United States represents a windfall return to those fortunate enough to obtain a quota whether it be the foreign government or the foreign producer,
3) many of the countries which are covered under the quota system produce more sugar than is covered by the quota,
4) any sugar which cannot be sold under one of the quota systems must be sold on the "Free Market" which, because of the widespread protection of sugar producers in the major developed countries coupled with the residual nature of the "Free Market", commands a significantly lower price.

The "Free Market" is a residual market for many countries since sugar is sold first to the premium markets, and only after this high price market is filled will a country enter the "Free Market". In addition, the recently negotiated International Sugar Agreement has set quotas for the "Free Market" so that only a specified amount can be sold there. Australia in 1969 found itself unable to sell on any market 200 thousand tons of sugar.

The provisions of the Sugar Act of 1965 expired in 1971. An amended version of the 1965 act was passed in September 1971. The basic changes over the 1970 system which result from the 1971 Sugar Bill as seen in Table 4 are:

1) the establishment of 11.2 million tons as the basic U.S. sugar requirement to be used in calculating quotas in 1972--the Department of Agriculture's estimate of 1971 U.S. sugar consumption was 11.6 million tons,

2) an increase in the effective domestic quota of 0.36 million tons, 0.3 million tons of the increase was allocated to the mainland cane producers in Florida and Louisiana, the remaining .06 million tons was allocated to Hawaii,
3) a reduction in the Puerto Rico quota by 0.285 million tons and the Virgin Islands quota by 15,000 tons,
4) two countries were dropped--French West Indies and Virgin Islands--and three countries were added--Paraguay, Malawi, and Uganda,10/
5) an additional quota of up to 100 thousand tons in 1973 for the continental cane producers outside Louisiana and Florida,
6) a reduction in the Cuban reserve by 750 thousand tons,
7) the reduction of the proportion of unfilled quotas going to the Philippines from 47.2 per cent to 30.08 per cent,
8) the addition of a clause which allows the imposition of an import duty of up to $20 per ton on the sugar imports from any country against which the United States has outstanding claims as a result of nationalization or expropriation--this section is aimed primarily at Peru,
9) the institution of a quota on confectionary sugars at a level not to exceed 5 per cent of the amount of the same confections manufactured and sold in the United States in the previous year.

The transfer of the 0.3 million tons from Puerto Rico's and the Virgin Islands' quota to the mainland cane producers mentioned above was, in effect a reduction in foreign quotas. Any shortfall by Puerto Rico, which has been as large as 800 thousand tons in recent years, has been allocated to the Philippines and the Western Hemisphere Countries.

10/ Malawi will be given a quota of 15,000 tons in 1973. Panama's basic quota will be raised to 62,947 tons in 1973.

Table 4

Production Area	1965 Sugar Act Amendments (1) Final Quota for 1970	1965 Sugar Act Amendments (2) Demonstration of 1971 Quota computed @ 11.2 million tons	1971 Sugar Act Amendments (3) Basic Quotas	1971 Sugar Act Amendments (4) Temporary Quotas	1971 Sugar Act Amendments (5) Deficits and Deficit Prorations	1971 Sugar Act Amendments (6) Total Quota and Prorations
Total Domestic Areas	6,410,486	6,110,000	6,960,000		-550,000	6,410,000
Philippines	1,301,020	1,503,780	1,126,020		165,440	1,291,460
Mexico	652,559	58,249	354,771	117,996	71,564	544,331
Dominican Republic	678,209	575,312	401,154	133,424	80,920	615,498
Brazil	638,210	575,312	345,995	115,078	69,793	530,866
Peru	455,991	458,881	247,587	82,348	49,943	379,878
West Indies	216,645	199,579	129,121	42,945	26,046	198,112
Ecuador	92,860	83,710	51,084	16,991	10,305	78,380
French West Indies	68,149	62,782				
Argentina	78,509	70,772	47,950	15,948	9,672	73,570
Costa Rica	75,133	67,728	43,249	14,385	8,724	66,358
Nicaragua	75,133	67,728	40,429	13,447	8,155	62,031
Colombia	67,537	60,880	42,623	14,176	8,598	65,397
Guatemala	63,314	57,074	36,981	12,300	7,460	56,741
Panama	39,500	42,616	26,639	8,860	5,374	40,873
El Salvador	46,429	41,852	26,953	8,965	5,437	41,355
Haiti	26,176	31,962	19,431	6,462	3,919	29,812
Venezuela	32,079	28,918	38,548	12,821	7,776	59,145
British Honduras	15,782	14,539	21,311	7,089	4,299	32,699
Bolivia	7,599	6,850	4,074	1,356	822	6,252
Honduras	7,599	6,850	7,522	2,502	1,517	11,541
Bahamas	10,000	10,000	16,924	5,628	3,414	25,966
Paraguay	0	0	4,074	1,356	822	6,252
Australia	206,270	203,785	157,328	42,814		200,142

Table 4 (cont'd)

	1965 Sugar Act Amendments		1971 Sugar Act Amendments			
	(1) Final Quota for 1970	(2) Demonstration of 1971 Quota computed @ 11.2 million tons	(3) Basic Quotas	(4) Temporary Quotas	(5) Deficits and Deficit Prorations	(6) Total Quota and Prorations
Republic of China	85,946	84,910	65,501	17,825		83,326
India	82,508	81,514	62,994	17,143		80,137
South Africa	60,735	60,003	44,503	12,111		56,614
Fiji Islands	42,265	44,719	34,474	9,381		43,855
Mauritius	18,909	18,681	23,192	6,311		29,503
Swaziland	7,448	7,359	23,192	6,311		29,503
Thailand	18,909	18,681	14,416	3,923		18,339
Uganda	0	0	11,596	3,156		14,752
Malagasy Republic	9,740	9,623	9,402	2,559		11,961
Ireland	5,351	5,351	5,351			5,351

SOURCE: Calculation made by the Department of State for presentation to Congress during hearings on the 1971 Sugar Act; Congressional Record, Vol. 117, No. 143; H8798; and U.S. Department of Agriculture News, "Sugar Requirements for 1972 Proposed", October 1971.

The gain or loss in a country's quota that will result from the 1971 version is given in Table 5. These estimated changes in quotas are, however, dependent upon whether the Puerto Rican shortfall is in fact 550 thousand tons, as was assumed in the calculations.

The Impact of the U.S. Sugar Program

The presence of a quota system with a supported price and a system of subsidies has a direct impact on three groups: consumers, domestic producers and foreign producers. The most identifiable impact is on domestic consumers because the quota system directly implies that the price paid by the consumer for sugar is higher than that which would prevail if sugar were purchased on an open market.

The cost to the U.S. consumer of the quota system is derived by estimating what the market would be without the quantitative restrictions. A policy shift of this kind would have several consequences:

1) a shift in production from high cost domestic producers to lower cost foreign producers,
2) a decline in the price paid for sugar in the domestic market,
3) an increase in the free market price as a result of a) the shift in purchases from the U.S. foreign quota market to the free market by the amount of such quota; b) the shift in purchases from the domestic producers to foreign producers, and c) the increase in the total demand for sugar which results from the lower domestic U.S. market price.

The final position of the domestic market price, the domestic production, the foreign production and the domestic demand is a function of the domestic demand and supply elasticity, the foreign

Table 5

Changes in Country Sugar Quotas as a Result of the 1971 Sugar Act*

GAIN

Western Hemipshere	Tons	Per Cent	Others	Tons	Per Cent
Dominican Republic	40,186	7.0	Mauritius	10,822	57.9
Argentina	2,798	4.0	Swaziland	22,144	300.9
Colombia	4,517	7.4	Uganda	14,752	-
Venezuela	30,227	104.5	Malagasy Rep.	2,338	24.3
British Honduras	18,160	124.9			
Honduras	4,691	68.5			
Bahamas	15,966	159.7			
Paraguay	6,252	-			

LOSS

Mexico	43,918	7.5	Australia	3,643	1.8
Brazil	44,446	7.7	Rep. of China	1,584	1.9
Peru	79,003	17.2	India	1,377	1.7
West Indies	1,467	.7	Philippines	212,320	14.1
Ecuador	5,330	6.4	South Africa	3,389	5.6
Costa Rica	1,370	2.0	Fiji Islands	864	1.9
Nicaragua	5,697	8.4	Thailand	342	1.8
Guatemala	333	.6			
Panama	1,743	4.1			
El Salvador	497	1.2			
Haiti	2,150	6.7			
Bolivia	598	8.7			

* Derived from data given in Table 4.

supply elasticity, and the degree to which "windfall profits"11/ are present as a result of the various regulated markets.

For the purpose of illustrating the impact on consumers of a removal of the quota system, assume that: 1) The domestic demand elasticity is zero, i.e. there is no shift in the quantity demanded as a result of changes in the price. 2) As a result of the supply elasticities and the removal of "windfall profits" which were derived from the U.S. quota system, the free market price rose by 35 per cent of the U.S. premium--the U.S. premium is the difference between the "Free Market" price and the price received by exporters into the U.S. market.12/

In 1970 the total U.S. consumption of sugar was 11.6 million tons. The premium for sales into the U.S. market was 3.33 cents

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11/ "Windfall profits" are used here to represent any "economic profit" which goes to the foreign producers as a result of the premium price received in the U.S. market. These gains are a function of the quotas the country can obtain and not a result of a monopoly of the seller's side.

12/ The 35 per cent figure was used because it yields a market price of 4.92 cents per cound which is close to the estimated cost of production. The Department of Agriculture in "The United States Sugar Program", (Committee Print), U.S. Government Printing Office (Washington: 1971), stated that "most observers regard about five cents per pound of raw sugar as representative of production costs on average for most sugar exporting countries." (p.22) A second source, Thomas Bates in "The Long Run Efficiency of United States Sugar Policy", American Journal of Agricultural Economics, October 1968, estimated the cost per pound as 4.7 cents. Bates used a linear programming model which employed a set of supply and demand elasticities for a group of countries. He estimated that there would be savings of $498 million as a result of the removal of controls.

per pound, the domestic market price of 8.21 cents per pound minus duties and transportation costs of 1.13 cents per pound minus the free market price of 3.75 cents per pound. If the U.S. domestic price fell by 2.16 cents per pound (65 per cent of the 3.33 cents per pound premium), the savings to consumers purchasing 11.6 million tons would be $501 million per year. If, in addition, the tariff duty and the processing tax were eliminated in response to the removal of the sugar subsidy, an added savings of over $90 million would accrue to the consumer.

The second sector which is directly influenced by the sugar quota and for which the legislation was explicitly enacted is the domestic sugar producers. A distinction must be made between the cane producers and the beet producers. Sugar beet production has been historically higher cost than cane production. The continuance of significant sugar beet production in the United States as well as the other high cost temperate zone producing areas such as the EEC, the U.S.S.R., and Communist China depends upon the continued protection and subsidization of the industry. The subsidization and price policies are employed in a conscious effort to maintain domestic production of sugar in spite of the comparative disadvantage which it may face. This protection, however, requires a transfer of income from the consumer to the domestic beet producers.

It has been estimated that the removal of the quota system would reduce domestic sugar production in the U.S. by two-thirds, from 60 per cent of total consumption to less than 20 per cent.[13/] This reduction would virtually eliminate production of beet sugar and noncompetitive cane sugar. The beet producers, however, need not feel threatened since it is extremely doubtful that there will be any dismantling of the protective system. The added cost to an individual consumer of the quotas is very small in terms of his total budget and goes unnoticed, while the payments in the form of subsidies and higher prices are directly perceivable to the sugar producer. In addition, the sugar system has become part of the overall farm income policy and, as such, is shielded from attempts to alter it.

The third group directly affected by the U.S. sugar policy is the foreign producer. Since the quotas are allocated on a country-by-country basis there is a question regarding the distribution of effects, not only between foreign producers as a whole and domestic producers, but also between individual foreign countries. Unfortunately the ability to quantify the impact of the quotas on foreign countries is very limited.

A.I.D. is interested in the sugar quota question for two reasons. The first is the natural interest which A.I.D. has in the impact of

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13/ Donald Horton, "Policy Directions for the United States Sugar Program", American Journal of Agricultural Economics, May 1970.

any policy variable upon individual less developed countries as well as the less developed countries in general.

Because cane is a tropical and semi-tropical product, it by nature is concentrated in the less developed countries. Close to 95 per cent of U.S. foreign quotas are allocated to the developing countries. Table 6 gives the distribution of the foreign quotas both by region and by level of economic development. The major share of the total foreign quota goes to the Philippines and to Latin America.

Table 7 provides a comparison between the quota received by a country and the level of aid it receives. In addition, the level of total exports is presented to give some indication of the importance to the developing country of sugar exports in relation to its total exports.

The problem of efficiency--overlooking the whole subject of the high cost of the large domestic production and the overt inefficiency implied by the presence of highly paid lobbyists, which are a natural outcome of a quota system for the less developed countries--is of two forms. First, it is highly unlikely that the administratively set quotas create the same trade pattern that would result from free trade. Thomas Bates[14/] in his study of the sugar system pointed out that a significant proportion of our sugar imports come from

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14/ Bates, Thomas, op. cit.

Table 6

Division of Foreign Quota

By Region	Per Cent of U.S. Foreign Basic Quota Plus Temporary Quotas
Philippines	26.6
Western Hemisphere	59.9
Africa	3.4
Other	10.2

By Level of Economic Development

	Per Cent of U.S. Foreign Basic Quota Plus Temporary Quotas
Top 1/3 of UNCTAD List*	66.0
Middle 1/3 of UNCTAD List	17.8
Bottom 1/3 of UNCTAD List	1.2

* UNCTAD List contained in UNCTAD, Special Measures in Favor of the Least Developed Among the Developing Countries, TD/B/269.

Table 7

SUGAR QUOTAS, DEVELOPMENT AID AND EXPORTS

	Estimated 1972 Quota	$ Value of sugar sales to U.S.1/ (millions)	$ Value of total sugar exports 2/ (millions)	U.S. Aid (1968 expenditures) (million US $)	DAC Aid (1967-69 average) (million US $)	Total Exports 1968 (million US $)
Philippines	1291	182.87	182.87	6.12	117.00	946
Dominican Rep.	615	87.15	92.78	33.07	53.19	146
Mexico	544	77.08	84.28	3.13	116.89	1254
Brazil	531	75.17	112.67	120.87	179.00	1881
Peru	380	53.79	57.54	15.49	50.97	865
West Indies	198	28.05	127.03	12.24	16.56	1034
Ecuador	78	11.10	11.85	10.03	27.06	207
Argentina	74	10.42	12.29	10.61	26.98	1368
Costa Rica	66	9.40	10.22	4.27	15.06	172
Nicaragua	62	8.78	9.61	6.93	18.90	157
Colombia	65	9.26	21.56	82.71	146.91	558
Guatemala	56	8.03	8.86	5.22	21.00	222
Panama	41	5.79	6.54	10.25	15.39	100
El Salvador	41	5.86	6.68	5.54	12.35	213
Haiti	30	4.22	4.97	2.42	4.52	36
Venezuela	59	8.37	9.65	7.62	61.59	2857
Br. Honduras	33	4.63	8.63	.3	5.89	14
Bolivia	6	.89	1.64	25.30	39.06	153
Honduras	12	1.63	2.46	5.47	17.65	183
Bahamas	26	3.68	3.68	-	11.32	51
Paraguay	6	.89	1.64	3.44	19.57	48
Australia	200	28.34	149.64	-	-	3402
Rep. of China	83	11.80	59.05	9.49	71.80	802
India	80	11.35	32.99	323.00	1072.38	1754
South Africa	57	8.02	54.89	-	-	2105
Fiji Islands	44	6.21	34.05	-	6.07	50

Table 7 (Cont'd)

SUGAR QUOTAS, DEVELOPMENT AID AND EXPORTS

	Estimated 1972 Quota	$ Value of sugar sales to U.S.1/ (Millions)	$ Value of total sugar exports2/ (Millions)	U.S. Aid (1968 expenditures) (Million US $)	DAC Aid (1967-69 average) (Million US $)	Total Exports 1968 (Million US $)
Thailand	18	2.60	5.30	35.75	73.86	658
Mauritius	30	4.18	61.32	-	7.56	64
Malagasy Rep.	12	1.69	4.77	.71	20.80	116
Swaziland	30	4.18	18.15	-	9.39	
Uganda	15	2.09	5.01	3.15	20.96	186
Ireland	5	.76	.76	-	-	799

1/ Using the effective 1970 U.S. import price of $141.60 per ton

2/ The sum of 1) the dollar value of sugar to the U.S. calculated above, 2) the Free Market quota times the 1970 average price of 3.75 cents per pound, and 3) the British Negotiated quota times the negotiated price of $114 per ton .

SOURCE: Agency for International Development, Operations Report 1969; DAC, Annual Review 1970; United Nations, Statistical Yearbook 1969.

relatively high cost producers. It would be surprising if a system of quotas established by Congress would result in the procurement from the same sources as the market would. Of the criteria used by Congress to select recipients, efficiency is only one point. Some of the criteria which the House stated that it uses to establish quotas are: 1) friendliness, 2) dependability, 3) need, 4) distribution of benefits, and 5) existence of reciprocal trade agreements with the U.S. Whether the House in fact used these criteria and what weight each had are not known.

Second, there are allocative problems within the developing countries themselves. For example, it has been suggested that in certain countries the "windfall profits" which go to the sugar producers--particularly large estate holders--prevent either a shift in the productive use of resources within the country or a redistribution of ownership of the resources as in the case of land reform efforts.

The impact on the balance of payments of the less developed countries resulting from the U.S. sugar quota is, under almost any reasonable assumption, negative.[15/] Assume that, because of the removal of the quota system,

> 1) United States production of sugar drops to 20 per cent of total U.S. consumption,

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15/ As will be shown below, the removal of the quotas can easily lead to an increase in foreign exchange earnings by foreign countries even if the demand elasticity is less than 1.0. The increase in foreign exchange earnings derives from the large shift in demand from domestic sources to imports.

2) consumption rises by 860 thousand tons,

3) the domestic price falls 26.5 per cent, from 8.21 cents per pound to 6.05 cents per pound.[16/]

The increase in the foreign exchange earnings from sugar sales to the United States that would result from the removal of the quota would be $245 million.[17/]

The second reason for A.I.D. interest in sugar quotas is the 1969 report of the General Accounting Office (GAO) which argued

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16/ The price figure is the same as that used in an errlier example--4.92 ÷ 1.13. The figure is an estimate of a reasonable price impact. An exact functional relationship, such as a supply elasticity, is not explicitly given. The fact that the price is fixed in the U.S. market makes it hard to determine the nature of supply, particularly if there are "windfall profits" involved. The use of a weighted average of prices in all foreign markets might give an approximation of the supply side of the equation. If it is assumed that the exporter maximizes according to the combined profits of the four markets, then the hypothetical price derived from the weighting of four markets would yield the price which is used by the producer to determine the supply. If, however, production is primarily for the premium markets rather than the "Free Market" and exports to the "Free Market" are the results of deliberate over-production to insure the filling of the premium quota, a straight weighting system to estimate the supply price would not be correct.

17/ A price elasticity of demand of -.28 as calculated by Bates was used. The price decline of 26.5 per cent coupled with the -.28 elasticity yields an increase in consumption of 7.42 per cent. The 7.42 per cent increase in U.S. consumption gave a total consumption of 12.460 million tons (using the 1970 consumption figure of 11.6 million tons as a base). 80 per cent of total consumption, the new foreign share, is 9.968 million tons. The total foreign exchange from 9.968 million tons at $98.4 per ton is $981 million. There will be an increase in efficiency as a result of the liberalization, but it is not known how much of the $245 million is a net increase in foreign exchange earnings for the foreign countries. The quantity of unused resources as well as where substitution occurs affect the net figure. The more resources which have to be removed from other export sectors, the smaller the net gain in foreign exchange.

that the U.S. sugar quota program should be considered a part of the A.I.D. program in those cases where the quota is allocated to a less developed country.18/

The General Accounting Office went further and tried to quantify the aid component of the sugar quota system. The GAO argued that since 1) any sugar coming into the United States was purchased at the domestic raw sugar price, 2) the U.S. support price is generally well above the "Free Market" price, and 3) this "premium" obtained by the foreign seller is a net increase in their free foreign exchange above that which they would have received had the sugar been sold in the "Free Market", the "premium" should be considered as development assistance.

This argument by the GAO, which may at first appear logical, is of dubious merit both with respect to the calculations presented and the underlying logic of the argument. If a U.S. commodity import scheme which increases the sales of a less developed country is called foreign aid, by the same logic, it should also be said that any U.S. tariff which restricts a developing country's export earning in the United States should be deducted from the calculations of U.S. aid to that country. A look at the number and level of U.S. tariffs which are in effect on goods from the less developed countries--

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18/ Comptroller General of the United States, Foreign Aid Provided Through the Operations of the United States Sugar Act and the International Coffee Agreement Act 1969.

textiles, shoes, petroleum and agricultural products--would quickly show that these restrictions reduce the earnings of the less developed countries by far more than any increase in sales which may be due to the U.S. sugar premium.

Underlying the General Accounting Office figures of development aid derived from the U.S. sugar program is an explicit assumption that the U.S. Government can, in effect, take this premium away and purchase all its foreign sugar on the "Free Market" at the "Market Price" which existed when the U.S. was not in this market. That assumption is true only if it is assumed that the free market price represents the true cost structure and that the premium in the U.S. market represents only bilateral collusion profits and not a profit maximization over several markets as mentioned earlier. Actual cost studies point out that the production cost of the foreign producers is actually above the world "Free Market" price.[19/] The "Free Market" price would therefore likely rise if the U.S. purchased a large quantity from this market. The General Accounting Office figure therefore does not even represent "the quantity of foreign exchange that could be taken away".

An indication of the weakness of the GAO calculation and its sensitivity to shifts in the world market price can be seen in the illustrative figures given in Table 8. If, as a result of the purchase of the U.S. foreign sugar requirement on the "Free Market"

19/ see footnote 12.

Possible Foreign Exchange Impact of a Shift from the Foreign Quota to the "Free Market"

Prices	
Effective U.S. Import Price (1970) 1/	$141.60 per ton
"Free Market" Price (1970)	$ 75.00 per ton
Hypothetical Free Market Price (30 per cent increase over actual 1970 price)	$ 97.50 per ton
Trade	
U.S. Sugar Imports (1970)	5.2 million tons
Free Market Exports (1970)	8.6 million tons
Total Free Market if U.S. bought on Free Market	13.8 million tons
Free Foreign Exchange Provided	
By 1970 U.S. Sugar Imports	$ 736.32 million
By 1970 Free Market Exports	$ 645.00 million
Total from U.S. and Free Market (1970) 2/	$1,381.32 million
Hypothetical Example	$1,345.50 million

1/ U.S. market price minus shipping and duty.

2/ In order to maintain the differential between the domestic U.S. price and the hypothetical Free Market price it would be necessary to 1) allow the importer to reap the profits which result from the price differential, 2) impose a licensing arrangement by which the license is sold to the importer with the proceeds of that sale going to the government or 3) impose a tariff sufficient to raise the hypothetical import price faced by U.S. buyers to the U.S. sugar price level. The actual effect of such a non-itemized and non-premium price arrangement would be 1) a decrease in export revenues derived from sales to the U.S. market, due to a free market price below the premium price, and 2) an increase in revenue from sales to Free Market buyers, a result of the higher price these other buyers would have to pay.

One GAO suggestion is that the premium should be removed by imposing a higher tariff on the current quota system, the proceeds of the tariff being returned to the countries in the form of development assistance. This system has all the political dangers which accompany the identification of an item as aid, gives official sanction to the concept that the premium is in fact aid, and does not promote increased efficiency as the non-itemized system would. The GAO proposal is equivalent to having the exporting countries place an export duty on sales to the U.S. market. One variant of the GAO proposal would have the U.S. require quota recipients to impose uniform export duties on sales to the U.S. The widely varying cost structures argue against such a uniform system imposed by the U.S. If a country felt that there was indeed a surplus being derived from the sugar quotas, a profits tax would be the most efficient system of extracting the surplus. The non-itemized quota, the GAO proposal, and the required export duty represent relatively small shifts since the degree of protection in the developed countries remains unchanged..

instead of under the existing quota system, the free market price rose by 30 per cent, the total foreign exchange available to foreign producers selling the same quantity of sugar would be very close to that which is available under the quota system.[20/]

As stated earlier, it is unlikely that there will be radical shifts in the sugar market either for or against foreign producers. Although the domestic sugar lobby may be considered formidable, in view of the large areas included, the actual pressure toward drastic shifts is quite limited. Hawaii is close to capacity on its production of sugar cane, Puerto Rico has been able to fill less than a third of the quota allocated to it, and the Virgin Islands have supplied no sugar at all in recent years. Of the mainland sugar cane producers, Louisiana is estimated to be close to the limit of profitable acreage, while Florida may have significant unused potential. The beet sugar producers, because of the high cost of production, are dependent upon price and subsidy increases for any significant increases in output. Several times in recent years the beet producers have been unable to fill their quota in spite of the fact that subsidies of over $90 million per year are paid to domestic growers.

A major focus of domestic pressure is, therefore, toward the maintenance of the existing system which ensures a stable income to

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20/ The 30 per cent increase in the free market price yield a price of 4.875 cents per pound which is between the 4.7 cents per pound estimated by Bates and 5 cents per pound mentioned by the Department of Agriculture.

the domestic sugar producers. This is not to say that there is no pressure for increased domestic quotas. The states which could produce cane but to date have not had a quota--Texas and Arizona--have made a direct effort for a quota. In addition, there will always be domestic pressure for an increased quota with the underlying hope that if the added quota is there, it may be filled.

Given, therefore, the current U.S. price policy and the domestic supply factors, it is unlikely that there will be major reductions in the need for foreign supplied sugar. The maintenance of the current system is further strengthened by the basic "don't rock the boat" attitude of both domestic and foreign producers and the "no-change" policy of the administration regarding the sugar legislation.21/

The U.K. Negotiated Price Quota

The British Commonwealth Agreement was originally entered into in 1951 and is in force for an indefinite period. The prices and quotas established under the arrangement are revised every three years with a revision in 1971.

The agreement is not between the importing and exporting governments, however, but rather between the economic organizations which

21/ The President may soon form a commission to study the whole sugar question in preparation for 1974 when the current sugar legislation will terminate. One possible recommendation which could come out of such a study would be a shift to a tariff and general foreign quota system with a preferential tariff given to less developed countries. Domestically, there may be a shift from price support to income support with no real shifts in domestic production.

represent the sugar producers in Britain and the Commonwealth sugar exporters. Under this instrument both the United Kingdom and Canada are designated as preferential markets allowing Commonwealth sugar to be imported at a reduced tariff rate. In return for this preferential treatment the supplying countries undertake to limit their exports while the British Sugar Corporation limits national production.

According to the last revision, 1968, the United Kingdom has agreed to import 1.7 million tons from the Commonwealth countries at a fixed price of $109.20 per ton with an additional premium payment of $4.80 per ton to the producers in the less developed countries. Sugar imports above the 1.7 million ton level but below the overall ceiling of 2.8 million tons are purchased from the Commonwealth countries at the "Free Market" price. The division of sugar consumption between domestic and foreign suppliers as well as the quotas allocated to the Commonwealth countries is given in Table 9.

The current negotiations between the United Kingdom and the European Economic Community regarding Britain's possible entry into the Community have thrown doubt on the future of the whole Commonwealth System of preference including the Sugar Agreement. The original position of the European Economic Community had been to force a sharp reduction in sugar imports from Commonwealth members because the Community, with its high levels of protection for its sugar beet producers, had not only become self-sufficient in sugar production but had in fact become a net exporter in recent years. However, the recent

Table 9

United Kingdom Sugar Suppliers and Quotas

Sugar Suppliers (in per cent) (1968/69)

National Beet Production	32.3
Refined Sugar	2.1
Third Country	4.3
Commonwealth Countries	61.3
Total	100.00

Commonwealth Negotiated Quotas 1968
(thousands of metric tons)

	Quota Purchased at Negotiated Price	Quota Purchased at Free Market Price	Total Quota
Australia	340	333	673
Fiji Islands	142	105	247
British Honduras	21	17	38
India	25	119	144
Mauritius	386	159	545
Swaziland	86	42	128
West Indies	737	278	1015
East Africa	7	14	21
	1744	1067	2811

SOURCE: British Commonwealth Sugar Agreement, 1968 Review.

breakthrough in the negotiations has resulted in an agreement which will permit the Commonwealth sugar question to be resolved after the enlargement takes place and which will allow the current Commonwealth Agreement to continue in force until 1974. It is recognized, however, that some adjustment will eventually have to be made since the current community support price is twice as high as the negotiated price paid by the United Kingdom to the Commonwealth exporters.

Centrally Planned Countries

The major portion of the imports of the Socialist countries results from the trade between Cuba and the USSR. Since 1960, Cuba has had to restructure its sugar sales--sugar which used to go to the United States now goes to the Socialist countries. In 1965 a trade treaty was signed between Cuba and the USSR which committed Cuba to provide up to 5 million tons of sugar to the Soviet Union.[22/] The payment for the sugar exports is 20 per cent in convertible currency and the balance in merchandise. Partly as a result of the type of payment, Cuba has provided only about 2 million tons to the Socialist market each year but has sold an additional 2 million tons on the "Free Market". The USSR has had trouble absorbing the sugar which it buys from Cuba due to the Soviet efforts to become self-sufficient. The inability of the Socialist countries to absorb the Cuban sugar has resulted in a large quantity of re-exports. The demand for Cuban sugar from centrally planned countries may increase

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22/ International Sugar Organization, Sugar Yearbook.

in the 1970's due to the Soviet Union's decreased emphasis on domestic sugar beet production as evidenced in the most recent Five Year Agricultural Plan.

Conclusions

The following are some of the major conclusions which can be derived from an analysis of the international sugar market:

1. Virtually all international trade in sugar is regulated by agreements which affect the price and quantity.
2. The "Free Market" which comprises close to 50 per cent of the international trade in sugar, is not free. The International Sugar Agreement which covers 95 per cent of the "Free Market" trade is basically a price stabilization arrangement which employs export quotas as a means of obtaining stability.
3. The U.S. sugar market is unique both with respect to its size and its pricing policy. The U.S. accounts for one-fourth of the total sugar imports of the world, and the price that the U.S. has paid for its sugar imports has been significantly higher than the price in the other markets.
4. It is unlikely that there will be any <u>significant</u> shift in the basic U.S. sugar policy in the foreseeable future. Any changes which do take place are not likely to lower the level of domestic protection.

5. The net impact on the less developed countries of the protection of domestic sugar beet producers in the U.S. and other temperate zone countries such as the European Economic Community is undoubtedly negative. Estimates of the increase in foreign exchange that would accure to the developing countries as a result of the liberalization of only the United States restrictions on sugar trade are in the neighborhood of a quarter of a billion dollars per year.

6. The General Accounting Office's use of the "premium" received on sales of sugar in the U.S. market as a measure of the development aid which is derived from the U.S. sugar system is both incorrect and dangerous. It is incorrect because it assumes that the "Free Market" price reflects the true equilibrium price for all internationally traded sugar and that the premium, therefore, is pure "windfall" gain which could be foregone. It is dangerous not only because of the political problems which arise if it is assigned to development aid, but also because A.I.D. decisions which are based on this definition of development aid could in effect penalize those less developed countries which are major exporters of sugar.