U.S. Sugar Policies: Options and Impacts

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The demise of the U.S. Sugar Act on December 31, 1974 ended a period of 40 years during which the domestic sugar industry was insulated from the international sugar market. At almost the same time the Act expired, monthly world sugar prices reached a peak several times the previous record. These simultaneous events created unprecedented interest in sugar and, in particular, the role of the Government in sugar pricing.

The purpose of this paper is to briefly outline U.S. sugar policy directions. For the status quo alternative, world price projections under international free trade are provided. Program costs are estimated for policy options involving domestic price protection.

Policy Directions

Sugar policy options for the U.S. are summarized in figure 1. The first decision point concerns wheather to 1) continue the present course of free trade (nonrestrictive global quota and minimum legal fixed tariff) or 2) provide price protection for domestic producers. Two options are shown under the free trade alternative—participation or nonparticipation in an International Sugar Agreement (ISA). Secretary of State Kissinger has committed the U.S. to ISA negotiations, but active U.S. participation in an agreement with strong economic provisions is uncertain at this time. Historically, global sugar pacts set price corridors (upper and lower bounds) and specific bilateral trade assurances. By setting these terms unilaterally,

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the Sugar Act precluded U.S. participation in previous agreements.

Several policy approaches are possible if the U.S. adopts a protectionist position. Sugarbeets and sugarcane could be granted price protection under the existing Farm Bill through price supports and Government purchase and storage. A support-storage program for sugar would be extremely difficult to manage, and would have to be tied to import controls to be effective—the question mark associated with this option in figure 1 implies a feasible but unlikely policy option.

The "snapback" tariff option is also possible under existing legislation. Snapback refers to an automatic jump in the raw sugar duty from .625 cents to 1.875 cents per pound, raw basis, in the event the President elects not to announce an import quota. This option is also designated unlikely; it provides no control over the level of domestic price protection, and it would place the U.S. at a competitive disadvantage in obtaining sugar from foreign suppliers unless a price premium could be assured.

Without special legislation, the President also has the option of annually announcing a restrictive quota (i.e., at or near expected consumption less domestic production) either on a global or country-by-country basis. This could provide domestic price enhancement through supply restriction, but would create severe administrative and monitoring problems.

Protection through Congressional action could take a number of forms; extremes with respect to complexity are noted in figure 1. A direct deficiency payment program with target prices based on production costs would be one of the easiest legislative programs to administer. Unlike a price support plan, sugar storage would not be required. Passage of a Sugar Act comparable to the expired Act would involve unwieldy specifi-

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Fig. 1. Decision tree representation of domestic sugar policy
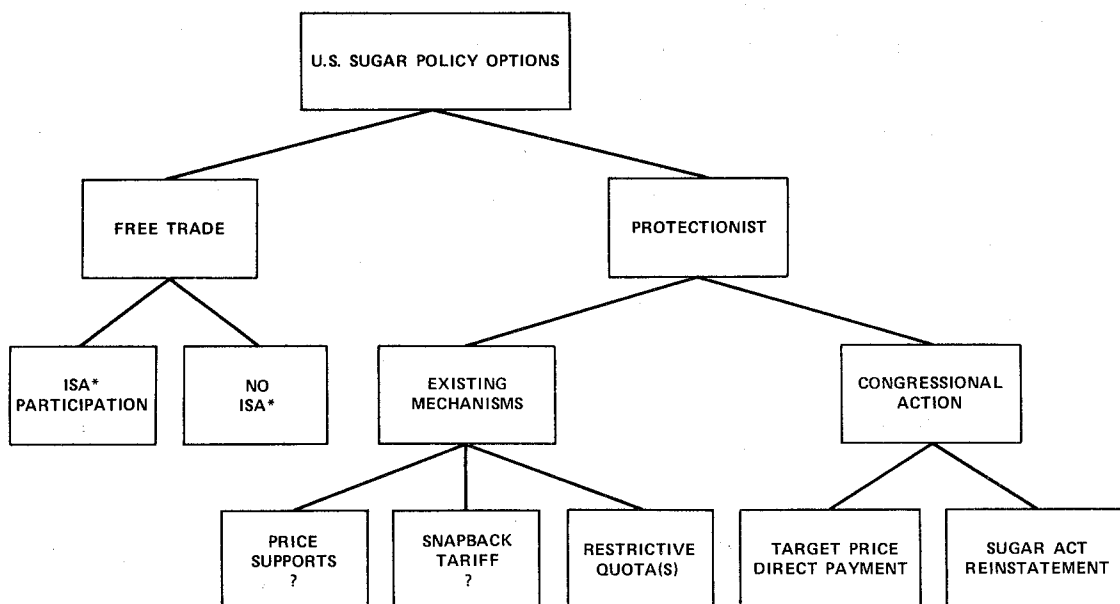
INTERNATIONAL SUGAR AGREEMENT WITH BINDING ECONOMIC PROVISIONS

cation of tariffs and quotas by Congress to "fine tune" domestic prices.
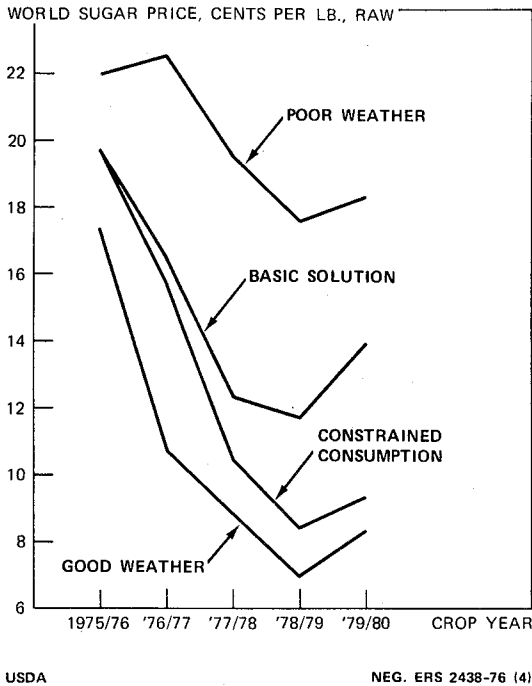
Free Trade Options

Presently, the U.S. is an integral part of the world sugar economy—monthly domestic raw sugar prices (New York spot) have exceeded the world quote (Caribbean ports) by a little more than transportation charges plus tariff since the Sugar Act expired. Hence, whether some form of sugar price protection is necessary to maintain a viable domestic industry depends heavily on the level of world prices under existing free trade arrangements.

A highly aggregate econometric model of the world sugar economy was used to project world prices under free trade [Jesse and Zepp]. Basically, the model contains seven functional and eight accounting and institutional equations relating U.S. and rest-of-world (ROW) production, consumption, stocks and prices. The period 1954/55 to 1974/75 was used for parameter estimation, with all variables on a world crop year (May 1-Apr. 30) basis. The model is fully recursive; some simultaneous relationships are modified to simplify

estimation and forecasting. Numerous assumptions with varying degrees of empirical validity were made concerning U.S. grower supply response, U.S. stock demand, population growth, high-fructose corn syrup (HFCS) production, bilateral trade agreements, and U.S. tariff policy. Prices used in estimation were undeflated; in evaluating forecasts, a general rate of price change comparable to the estimation period must be assumed.

Model forecasts of world sugar prices to 1980 for four scenarios are shown in figure 2. The basic solution uses preliminary 1975/76 Foreign Agricultural Service world production and recursively generated model point estimates beyond 1975/76. The "poor weather" and "good weather" cases reflect actual ROW sugar production consistently 5 percent below and above, respectively, model point projections over the entire projection period. The "constrained consumption" case limits per capita sugar consumption growth outside the U.S. to one-half the historical rate. The basic solution shows world prices dropping steadily to about 12 cents per pound in 1978/79 with an upswing in 1979/80. The three modifications show prices substantially different from those generated by the basic solution, but there is a remarkable similarity in price trends.
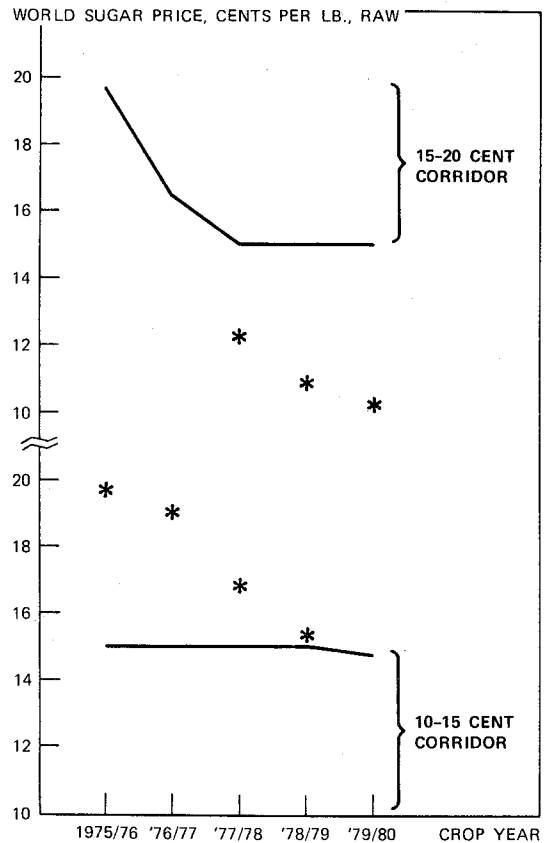
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Fig. 2. Summary of world sugar price projections under free trade

WORLD SUGAR PRICE, CENTS PER LB., RAW

POOR WEATHER

BASIC SOLUTION

CONSTRAINED CONSUMPTION

GOOD WEATHER

1975/76 '76/77 '77/78 '78/79 '79/80   CROP YEAR

USDA   NEG. ERS 2438-76 (4)

Fig. 3. Projected world sugar prices with corridor sugar agreements

WORLD SUGAR PRICE, CENTS PER LB., RAW

15-20 CENT CORRIDOR

10-15 CENT CORRIDOR

1975/76 '76/77 '77/78 '78/79 '79/80   CROP YEAR

NOTE: ASTERISK INDICATES PRICE IN ABSENCE OF CONSTRAINT

USDA   NEG. ERS 2439-76 (3)

The price projections cast some doubt on the need for a long-run support plan to maintain current domestic sugar production levels. A world market price decline is shown in all of the cases examined, and in some cases, this decline would unquestionably result in serious economic losses to U.S. producers as well as those in other countries. However, projected price recovery is rapid in all cases, and hence, the time frame of protection may be short. On the other hand, the question of price stability is not considered. The point price projections generated by the model camouflage potential price variability resulting from unusual weather, speculative behavior, and other non-systematic factors. It is possible that the primary value of a price protection policy may be in its stabilizing effect rather than in its price enhancement effect.

Implications of an International Sugar Agreement with price corridors were examined with the model by simulating agreements with lower and upper price bounds of 10-15 cents and 15-20 cents using the basic solution as a starting point. An International Sugar Agreement with a 10-15 cent

price corridor would likely result in an extremely low world sugar stock position until late in the decade, as the upper bound of the corridor would be below prices suggested by supply and demand conditions. There would probably be strong buyer pressure to purchase above the upper limit price due to the short stock situation. A 15-20 cent corridor would be expected to have little short-run effect, as projected prices fall within the range until 1977-78. In the longer run, there would be seller pressure to shade the minimum price, possibly jeopardizing the agreement. Hence, the setting of price limits is critical in corridor agreements to insure their preservation. If an international agreement is pursued, a system of flexible limits might be considered to minimize price pressures. While this would reduce the security incen-

Table 1. Selected sugar price support mechanisms; projected market indicators at world prices below U.S. target price of 14 cents per pound, raw[1]

| Policy Option | Raw Sugar Price | | U.S. Con- sumption | U.S. Production | | | Total Raw Sugar Cost | Program Costs[3] | | |
	World	U.S.		Sugar	HFCS[2]	Total		Consumers	Treasury	Total
	cents/lb.		- - - - *1,000 short tons, raw basis* - - - -				- - - - - - - - - *million dollars* - - - - - - - - - - -			
Quota(s) with	5.0	14.0	12,550	7,000	3,000	10,000	3,514	2,039	(32)[4]	2,007
premiums, .625	7.5	14.0	12,550	7,000	3,000	10,000	3,514	1,412	(32)	1,380
cent tariff	10.0	14.0	12,550	7,000	3,000	10,000	3,514	784	(32)	752
	12.5	14.0	12,550	7,000	3,000	10,000	3,514	157	(32)	125
Quota(s) with 100	5.0	14.0	12,550	7,000	3,000	10,000	3,514	2,039	(414)	1,625
percent variable	7.5	14.0	12,550	7,000	3,000	10,000	3,514	1,412	(287)	1,125
levy	10.0	14.0	12,550	7,000	3,000	10,000	3,514	784	(159)	625
	12.5	14.0	12,550	7,000	3,000	10,000	3,514	157	(32)	125
Target price—	5.0	6.5	13,050	7,000	200	7,200	1,696	163	977	1,140
Direct payment	7.5	9.0	12,900	7,000	1,500	8,500	2,322	161	645	806
	10.0	11.5	12,700	7,000	2,500	9,500	2,921	159	310	469
	12.5	14.0	12,550	7,000	3,000	10,000	3,514	157	(32)	125

[1] All programs include minimum U.S. tariff of .625 cents/lb., raw basis. Transportation and insurance are assumed to be .875 cents/lb., resulting in minimum U.S. (New York spot)—world (stowed, Caribbean ports) price difference of 1.5 cents/lb. Consumption levels are 1980 projections. All prices in 1975 dollars.

[2] HFCS = High-fructose corn syrup. Projected production levels based on announced expansion plans. Up to the quantities indicated (3 million tons, raw dry basis). HFCS is assumed to substitute pound for pound with sugar.

[3] Consumer costs reflect price premium over completely free trade, and include tariff costs. At world price of 12.5 cents, both consumer and treasury costs are comparable to existing program costs for all methods of protection. Treasury costs are deficiency payments and benefits are tariff revenues.

[4] Parentheses indicate negative cost (positive treasury contribution).

tive of agreements, it would also serve to reduce temptations to trade outside of agreement terms.

Protection Options

The viable protectionist policy options outlined in figure 1 basically involve price assurance through deficiency payments or supply management. While space does not permit discussion of possible plans from the standpoint of advantages and disadvantages to all affected parties, table 1 summarizes some gross impacts of three methods of domestic price protection; global or country-by-country quotas with both a fixed and variable (with world price) levy and a deficiency payment scheme. The assumed policy goal is to stabilize domestic sugar production at about existing levels (roughly 7,000,000 tons, raw basis). Recent ERS studies and updated ASCS cost of production figures suggest U.S. prices of about 14-16 cents per pound (raw basis, New York spot), in 1975 dollars, would likely achieve this goal [USDA, Jesse and Zepp; Zepp]. The time frame for evaluation of the policies is not crucial, but 1980 is used

to fix probable consumption and levels of high-fructose corn syrup production.

Using a 14 cent price, U.S. sugar production is identical for the three methods of support, but low world prices substantially curtail high-fructose corn syrup production under target price-direct payments. This emphasizes that, as under the expired Sugar Act, corn sweeteners enjoy a price "umbrella" with the quota systems. Hence, the degree of price production desired for corn fructose may be an important consideration in selecting a sugar policy if low world prices are expected.

Total program costs, comprised of the consumer overcharge (premium over world price) and treasury outlay, are identical for the three program variants at a 12.5 cents world price. Above this price, program costs are quite low, consisting only of the minimum tariff times total sugar use less U.S. treasury returns from imports. Hence, the form of a support program may be irrelevant if world sugar prices are expected to be at or near the supported price. Moreover, the costs of any direct support program in this event would not be large.

At low world sugar prices, the quota with

premium option yields the highest total program cost. Benefits equalling these costs are distributed among U.S. sugar cane and beet producers, corn fructose products, and foreign suppliers proportional to their contribution to total sugar supplies. With the quota-variable levy option, consumer costs are the same as the quota-premium case. But consumers do not benefit directly because the U.S.-world price premium for imports is recovered by the U.S. Treasury. Hence, the variable levy option appears attractive from the standpoint of lowering program costs. But this feature must be weighed against possible problems in attracting foreign supplies without a price incentive and in equitably redistributing resulting treasury revenues.

The direct payment plan consistently yields the lowest total costs of the support mechanisms considered. Consumer costs are attributable solely to the minimum .625 cent tariff, since the U.S. price is tied to the world price. There is an additional welfare gain at low prices, since consumption is substantially higher than for the quota schemes.

Probably the most noteworthy feature of the direct payment option is the high treasury cost at low world sugar prices, nearly $1 billion at 5 cents. While yielding lower costs, direct payment support is a highly visible support mechanism. This may bear on its political viability.

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