PROCEEDINGS

Agriculture Outlook '92

New Opportunities for Agriculture

68th Annual Outlook Conference

United States Department of Agriculture

Washington, DC December 3-5, 1991

ANNUAL AGRICULTURAL OUTLOOK CONFERENCE
United States Department of Agriculture
Washington, D.C. 20250-3900

Outlook '92 For Release: Wednesday, December 4, 1991

RESTRUCTURING IN CENTRALLY-PLANNED ECONOMIES AND THE OUTLOOK FOR SUGAR

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I will take this opportunity to look, not only at the U.S. and world sugar outlook for the coming year, but at the longer-run impacts on the world sugar market of the amazing events which are happening in formerly centrally-planned economies.

US Sweetener Outlook

U.S. sugar production for fiscal 1991/92 is forecast by USDA at 7.325 million short tons, raw value,[1] down slightly from our September forecast, but up 400,000 tons, or 6 percent from the last year (Fig. 1). The 3 previous crops were all affected by weather problems of one sort or another, and yet in all 3 years, sugar production was still above 6.5 million tons, higher than any year prior to 1986 with the exception of 1975. Total U.S. sugar production appears to be on an upward trend.

Beet sugar production in 1991/92 is forecast at 3.925 million short tons, of which 125,000 tons is forecast to be produced from the desugaring of molasses (Fig. 2). For 1991/92 beet harvested acreage is up about .7 percent to 1.386 million acres, and yields are forecast up slightly at 20.3 tons per acre. Last year's beet sugar production was 3.855 million tons.

Cane sugar production in 1991/92 is forecast at 3.4 million tons, up about 250,000 tons from last year (Fig. 3). This is down 50,000 tons from the September forecast. Louisiana is forecast up almost 350,000 tons from the prior freeze-damaged crop, while Florida is forecast at 1.775 million tons, off about 30,000 tons. It would be very difficult to duplicate last years' record-breaking conditions even with slightly higher acreage. Hawaii is forecast at 750,000 tons, continuing a decline which began about a decade ago.

The declining trend in U.S. sugar consumption of the decade prior to 1986 has been decisively reversed (Fig. 4). From the low point, 7.794 million tons in 1985/86, consumption rose by about a million tons in 5 years to 8.773 million

[1] Volumes are in raw value, unless otherwise noted.

tons last year, an average increase of 2.5 percent a year. Annual per capita sugar consumption has risen in the last 5 years from about 60 to about 65 pounds, an average annual increase of about 1.7 percent. The percent increase in sugar consumption has exceeded that of HFCS consumption the last two years. Whether this trend will continue or not will depend upon many factors, including :

- o The public image of sugar compared to other basic foods, such as fats and oils, in an increasingly health-conscious society.
- o Eating trends in the American diet, such as the popularity of sweet as opposed to salty snacks, and the increasing accessibility of sweet snacks at points of purchase.
- o The pace of development of price-competitive substitute sweeteners with characteristics similar to sugar, which might include both caloric and low-calorie sweeteners.

Sugar consumption in fiscal 1990/91 was buoyed by the Gulf war and spot shortages of HFCS. As we don't expect a reoccurrence of these events, USDA is forecasting fiscal 1991/92 consumption to rise 1.7 percent, slightly below the 5-year trend increase of 2.5 percent, to 8.925 million tons.

USDA's forecast of ending stocks on September 30, 1992 is 1.434 million tons (Fig. 5). This is below last year's ending stock level of 1.513 million tons, and, if realized, would result in a stocks-to-total-use ratio of 15.25 percent, slightly below last year's 16.03 percent.

The U.S. raw sugar price was above 23 cents for 6 consecutive quarters in 1989 and 1990, but has fallen to a range of 21.25 to 21.75 cents a pound during the last 3 quarters (Fig. 6). The market has been relatively steady this year, with few events causing big price moves. Barring any major shocks, and if USDA forecasts for the coming year hold up, the recent price pattern may continue into next year.

The Midwest wholesale price for refined beet sugar has come down from levels above 30 cents (list) for most of 1990 to the 25-cent range in 1991 (Fig. 7). The list price of HFCS-55 was actually above that of refined sugar during several months this last summer. Lower raw sugar prices and prospects of a larger volume of beet sugar undoubtedly contributed to declining beet sugar prices.

HFCS use is forecast at 6.225 million tons for 1991, about 1.6 percent above last year's 6.125 million tons (Fig. 8). Most HFCS trade is with Canada. Until 1989, trade was almost entirely Canadian exports into the U.S. Rising Canadian sugar prices in 1990 stimulated Canadian use of HFCS, reducing availability of exports to the U.S. and even drawing some U.S. HFCS into Canada. It should be noted that the existence of discrepancies between different sources of HFCS data reduces the reliability of these figures.

World Sugar Market

Turning to the world market, I want to first review USDA's forecasting record for the 1990/91 crop (Fig. 9). (Note that USDA numbers for world sugar are in metric tons, raw value.) The first forecast was in May 1990, and saw a world balance deficit of about 2.3 million tons. At the time, the world price was

above 15 cents. At last year's Outlook conference, our numbers showed a much smaller deficit of 400,000 tons, and the price was then about 10 cents. Now, we estimate that there was, in fact, a surplus of 3.6 million tons; prices in the last year have at times sunk below 8 cents. For the 1990/91 year, the shift in the balance from the first forecast to final numbers was about 6 million tons from the deficit to the surplus side.

Now I turn to 1991/92 (Fig. 10). A big production story is the drop in EC production from 17 million tons last year to about 15.5 million tons this year, due to reductions in area and yield in France, and weather problems in other countries. Among other larger producers, increases in production are expected in India, up 400,000 tons; Brazil, 600,000 tons; the U.S., 400,000 tons; China, 350,000 tons; and Thailand, almost 500,000 tons. Declines are expected in the USSR, 500,000 tons; Cuba, 300,000 tons; Australia, 370,000 tons; and Mexico, 150,000 tons. Overall world production is expected to fall from last year by less than half a percent, from 113 to 112.6 million tons.

Among major sugar consumers, only the Soviet Union is forecast for a significant consumption decline of 300,000 tons, from 13.6 to 13.3 million tons. The largest consumption increases are forecast in India, up over 600,000 tons; Brazil, up 250,000 tons; the U.S., up 140,000 tons. Mexico, China, Indonesia, Pakistan, the Philippines and Iraq are all forecast up about 100,000 tons. Overall, world consumption is forecast up about 2 and a half million tons, an increase of 2.2 percent.

The big story this year revolves around events in the (former) Soviet Union and adjacent countries, as well as Cuba. Events in these countries will have a great impact on the world sugar market, and present the greatest uncertainties for forecasters. Will there be a significant further deterioration in the economy of the Soviet Union, which would further reduce sugar consumption, production, or both? If a new war breaks out somewhere, would sugar demand be affected? And how much will the Middle East demand pick up in the aftermath of the Gulf war? Cuba faces shortages of petroleum, fertilizers, and spare parts, as well as increasing exposure to the world price. Cuba also faces the necessity of seeking out new markets as its trade shifts to a hard-currency, market-oriented basis.

The world raw sugar price (Contract No. 11, New York) rose from about 4 cents in 1984/85 to average almost 14 cents in 1989/90, as the world stocks-to-use ratio fell from almost 30 percent to under 18 percent (Fig. 11). Note USDA ending stocks are as of the end of each country's crop year, and not measured at one particular point in time. When the stocks-to-use level rose for the first time in recent years in 1990/91, the price fell back to average just over 8 cents a pound. The USDA forecast for 1991/92 is for almost no change in the stocks-to-use ratio, and for an addition to world sugar stocks of 800,000 tons.

Our 1991/92 world balance forecast in May was for a surplus of 1.2 million tons (Fig. 12). The balance forecast in September was almost unchanged from May at 1.1 million tons. Even as the forecast surplus has shrunk to the current 800,000 tons, world sugar prices have strengthened somewhat from lows in the second quarter of 1991 (Fig. 13). Given current production and consumption forecasts, and if there are no large shocks, the world price should stay roughly within its range of the last 6 months for the remainder of

the marketing year.

Long-Run Impacts of Restructuring of Formerly Centrally-Planned Economies

The formerly centrally-planned economies are undergoing profound changes. For this discussion, the group includes Poland, Hungary and Czechoslovakia (now the Czech and Slovak Federal Republics, or CSFR); the USSR (statistically, this still includes the former Republics of Lithuania, Latvia and Estonia); and Bulgaria, Romania, Yugoslavia and Albania. Sorting out the implications of such radical changes for the world sugar market is difficult, particularly until the actual direction of economic policy in each country is revealed, and some stability arises out of the current chaotic pace of change. However, I will attempt to trace some implications of this "restructuring" on the world sugar market, not in the short run, but over a longer run of 5-10 years.

I was privileged to spend two weeks in Poland recently, and will briefly describe Poland's sugar industry to give you a feel for one country in the region. Poland's 78 sugarbeet factories produce about 1 1/2 to 2 million tons of sugar a year. In the U.S., about half as many factories produce twice as much sugar. Most of Poland's factories were built before World War II, and are small and inefficient; sugar recovery losses are about twice as high as in neighboring countries of Western Europe.

Poland has between 350,000 and 400,000 sugarbeet farmers. Average total farm size is about 7 hectares (17 acres), and average sugarbeet area is about 1 hectare (2.5 acres). The typical farm still uses horses for field work and harvests beets by hand. Most farms are privately held, so that Poland does not face as big a task of breaking up State farms as some of the other Eastern European countries. Most farms are composed of several small parcels of land spread around a small village, and travelling between parcels increases field costs.

There is now no minimum price for sugarbeets, and some factories are having difficulty persuading farmers to grow beets; some beet farmer organizations have protested against low sugarbeet prices. In some regions, factories now have to compete against each other for beets, resulting in beets being transported much further than necessary and some factories running below capacity.

I visited a Polish sugarbeet factory, which last year produced 50,000 tons of sugar. It receives beets from about 15,000 farmers, almost twice the number of sugarbeet farmers in the entire U.S. Up to now there has been no feasible way for the factory to pay farmers on the basis of quality, but only for quantity: thus farmers have little incentive to improve sucrose content or engage in more efficient management practices. Factory managers are busy attempting to raise efficiency as rapidly as they can, but face some very large hurdles.

As of January 1, 1990, Poland embarked on a "big bang" move toward a market economy. Prices were liberalized and sky-rocketed, and the exchange rate was allowed to float. The retail price of sugar had been fixed for decades at 10.5 zlotys per kilogram until the early 1980s, and then had slowly risen to a (fixed) price of 165 zlotys by 1988. Sugar price controls were lifted on August 1, 1989; the 1990 average price rose to 5000 zlotys per kilogram. The

exchange rate also rose: at the current exchange of about 10,000 zlotys per dollar, one kilogram of sugar at retail costs 50 cents (23 cents a pound). The drastic fall in real income in Poland in the last few years has hurt consumption of almost everything, including sugar; the impact of the sugar price rise is not so clear, as it is the relative price which counts.

The sugar factories, which had previously been organized into 11 "groups", were made basically self-governing and broken into individual units. The practice of importing Cuban raw sugar for refining in beet factories, which had been forced on the factories by central planners, has ended. There has been a re-emergence of "sugar banks" which are closely affiliated with the factories. These entities, a form of which existed prior to World War II, seem to provide not only credit but some coordination functions for the factories.

Plans for full "privatization" of the factories were not complete as of a few weeks ago, but the aim is to distribute ownership shares of factories among managers, employees, farmers, the sugar banks, the government, and the public. A Ministry of Transformation is responsible for these arrangements.

It is difficult to characterize Poland's sugar policy, as it is still evolving. In 1990 an Agricultural Marketing Agency was set up, which has provided some intervention price support. Last year, when Poland's 1990/91 sugar crop was unusually large at the same time that consumption was falling, the Agency provided export subsidies for about 500,000 tons of sugar. But the industry apparently cannot count on similar subsidies in the future, as funds are very scarce. Neither the Agency nor any other branch of the Polish government has publicly stated a definitive sugar policy.

The only apparent border measure for sugar which Poland has in place is a tariff on imported sugar, which was recently raised to 40 percent. Suppose that white sugar is available for about 12 cents a pound, fob London (more or less the current price), and transportation costs to Poland are 2 cents a pound. The upper limit on the Polish wholesale price would be 40 percent above that, about 20 cents a pound. If the tariff is, in fact, the only border measure, (one can never be sure, with things changing so rapidly) then the current sugar price in Poland (23 cents a pound, retail) is perhaps already being set by the world market, and Poland would be among the very few countries in the world whose domestic sugar price reflects the world price.

Much of what happens to Polish sugar policy will depend on the new government, just now being formed after elections in late October. In the elections, dozens of parties won substantial votes, and the Communist party came in second to a reformist party. There will be a crush of demands on the new government from all sides, not the least from sugar processors and beet farmers who will press for a "sugar policy".

This portrait of the sugar sector in Poland sets the stage for a consideration of hard decisions which all of these countries will face in the coming months and years with respect to agricultural policy. I want to now examine the choices facing these countries.

Each country's basic political and economic policies lie somewhere on the spectrum between public and private control of resources. This is the

vertical dimension of the diagram (Fig. 14). This is a simplification, of course, and no country will be at either extreme. Likewise, the degree of price intervention can be high or low. The most free-market country would be located in the region of P-L, while the most centrally-planned country would be in the region of G-H. Countries with basically private control of resources, but with price interventions, would be in the area of P-H. Note that a high degree of market price intervention can result in either "high" or "low" prices. I have characterized questions of market price intervention as "GATT Issues", and questions of basic control over resources as "Restructuring Issues".

The countries which have announced intentions to become market economies are starting out from the region of G-H, where they have had public control of resources and a high degree of price intervention (which often meant very low controlled sugar prices). They have announced plans to "restructure" and move toward a system of private control of resources, or to move downward in the diagram. With some exceptions, and with a great deal of uncertainty in the case of the USSR, they seem to be making progress in that direction.

Moves toward less market price intervention, (rightward on the horizontal plane) are far less certain. Free market economics is often more difficult to implement in agriculture than in other sectors of the economy, and perhaps more difficult to implement with sugar than with other agricultural commodities. Poland, CSFR, and Hungary, for example, have declared intentions to move toward private control of resources, but have begun to implement policies which will continue a relatively high degree of government sugar price control. Where will these countries end up?

(Note, that not all of the points below apply to all countries.) The following points would tend to favor a continuation of government market price intervention:

- There is a history and tradition of sugar price intervention, world-wide, and sugar is often a key commodity politically; countries seem to want to be self-sufficient in sugar.

- Continuing sugar price intervention requires a smaller, less-drastic change from the status quo.

- There will be very strong lobbies for price intervention, and very weak lobbies against. (Note: here, there is a presumption that price intervention raises producer price, not lowers it.)

- Agriculture is considered unique, and not something to be left to the vagaries of the market; perceptions of food security can result in very powerful political forces.

- Many of these countries will want to join the EC. They may perceive that implementing an "EC-style" sugar policy would make an eventual union easier.

- Unemployment is a very big issue, especially in the immediate short-run period following a "big bang" transformation towards a market economy. This illustrates the short-run "Machiavellian" imperative, which can

result in high long-run costs. Price intervention could mean the difference between success and failure for many sugar factories and farms in the next few years.

The following forces would tend to favor a lower degree of market price intervention:

- There have been announcements from some of the governments that, in principal, they favor allowing markets to set prices: call this the "philosophical" imperative.

- Other industries and sectors are facing the whirlwind of competition, especially from overseas; sugar producers may not succeed in justifying why they should get unique treatment.

- Budget constraints will be severe, reducing government price support options (although using border measures and forcing consumers to pay for producer support would still be an option).

My own guess is that the former centrally-planned economies will opt for sugar regimes which will involve a rather high degree of price intervention, which would move them into the same corner as most countries of the world with regard to sugar policy. This scenario implies relatively high, stable sugar prices, and attendant low risks for capital investment. If risks in other sectors remain high, perhaps due to less border protection, the relative profitability of sugar would rise.

What is the scope for improvements in sugar production efficiencies? The 1988-90 average sugarbeet yield was 26.7 tons per hectare in the USSR, 35.4 tons per hectare in Poland, and 51.6 tons per hectare in Denmark, which is close to the average for the EC (Fig. 15). These differences cannot be fully accounted for solely by soils and climate. During the same period the recovery rate of sugar per ton of sugarbeets was 10.4 percent in the USSR, 13 percent in Poland, and 16.1 percent in Denmark.

Suppose that countries such as Poland and the USSR could, over a period of 5-10 years, bring their yield per hectare and factory recovery rates halfway up to the levels achieved in Denmark. With unchanged acreage, Poland's sugar output would increase from 1.96 to 2.7 million tons, a 38 percent increase (Fig. 16). Sugar production in the USSR would rise from 9.3 to 17.3 million tons, a staggering 8-million-ton (87 percent) increase.

Can yields and recovery rates improve without massive capital investments? I think the answer is, yes. For example, most Polish farms do not have good communications, and are small. Better communications alone would help spread improved practices and technologies. Within a very few years there will likely be improved management practices, forced on the farmers by factories struggling harder than ever to reduce costs. Western technology is already moving into Eastern Europe at a rapid pace. And over time, the average farm size will no doubt grow. The restructuring of the economy will put pressure on all resource owners to improve efficiency or fail.

In fact, only modest amounts of capital investment will be required to make the first strides toward substantial improvements in both the field and the

factory. Rationalization which reduced the number of factories and farms would probably contribute to increased sugar output. Efficiency gains will continue to be made in the Western countries, presenting a moving target for others trying to catch up.

What about sugar consumption? If Western-style price intervention becomes the norm, the relative price of sugar will rise in most countries, as it was commonly held down by price controls. Since per capita sugar consumption in these countries is already well above the world average, and even above Western levels, it seems likely that sugar consumption growth will slow or perhaps even stagnate. In time, low calorie sweeteners, at present hardly used, may also become more popular.

This combination of rising production and stagnating consumption in a significant part of the world would, other things equal, tend to put downward pressure on the world sugar price.

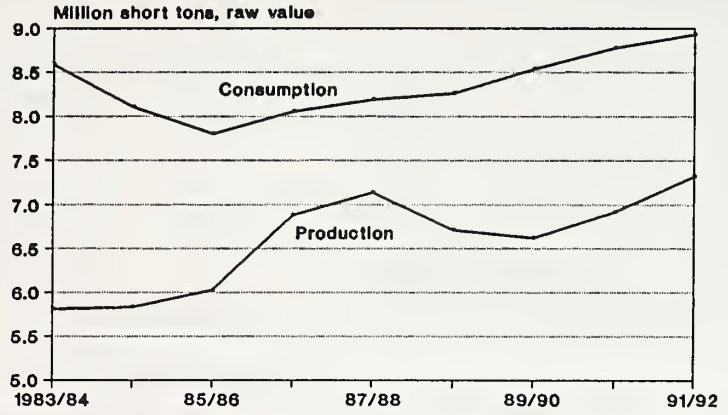
Other things may not, of course, stay the same. For example, GATT negotiations are continuing. Reductions in sugar price supports, such as are currently being considered in the GATT negotiations, would result in consumers and producers around the world being exposed to the results of changes in supply and demand, more of the time. Such reductions in price support, if they come to pass and are in fact faced by a significant share of world sugar consumers and producers, would be an offset to the downward pressure on the world price mentioned above. The world sugar price would also become less volatile.

In the last few years, many formerly centrally-planned economies have moved toward political freedom and economic openness at a breathtaking pace. By and large, the political changes have been in the direction of the political systems of the Western democracies. I believe that these have been very positive developments.

However, if these countries adopt the Western model for their sugar policies, production efficiency and incentives will rise and consumption will be inhibited, but most important, the world sugar price will be no closer to being driven primarily by market signals than it was before restructuring.

Figure 1

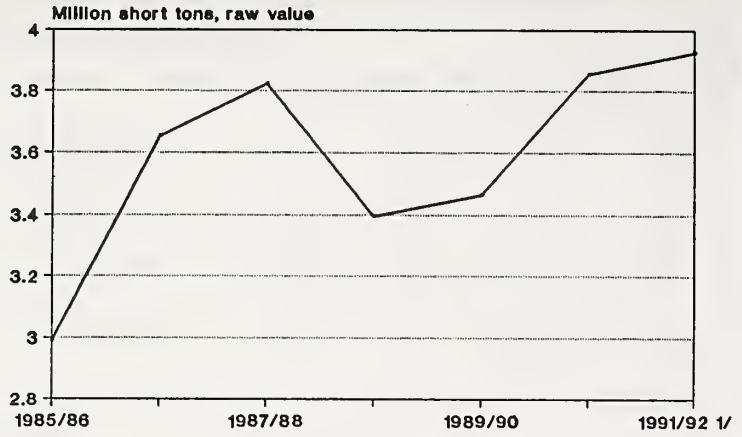
U.S. Sugar Production and Consumption, Fiscal Years



Source: USDA.

Figure 2

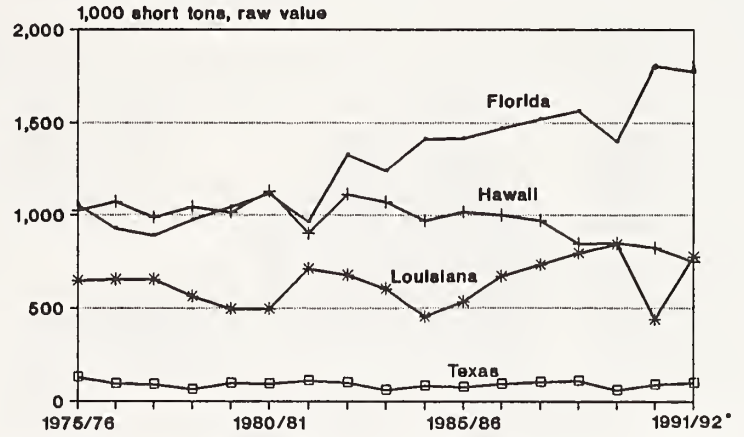
U.S. Beet Sugar Production, Fiscal Years



1/ Forecast.
Source: USDA.

Figure 3

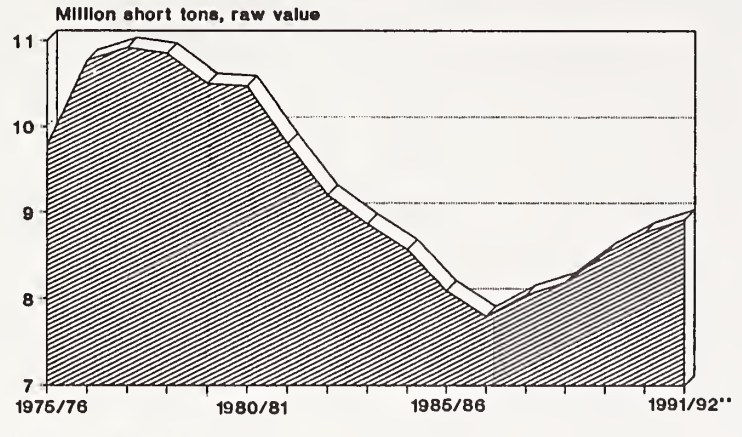
U.S. Cane Sugar Production, Fiscal Years



* Forecast.
Source: USDA.

Figure 4

U.S. Sugar Consumption, Fiscal Years*



* Based on sugar deliveries
** Forecast.
Source: USDA.

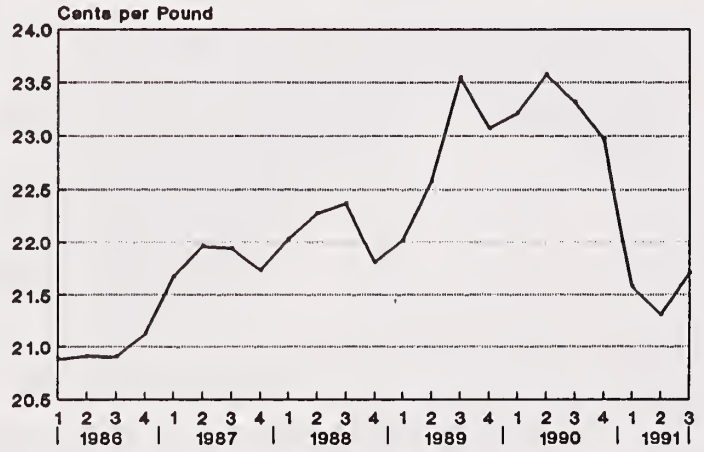
Figure 5

Selected U.S Sugar Statistics, Fiscal Years

Description	1989/90	1990/91	Forecast 1991/92
	1,000 short tons, raw value		
Production	6,623	6,915	7,325
Quota Imports	1,950	2,298	1,527
Deliveries	8,531	8,773	8,925
Ending stocks	1,210	1,513	1,434
Stocks-to-use ratio	13.15	16.03	15.25

Figure 6

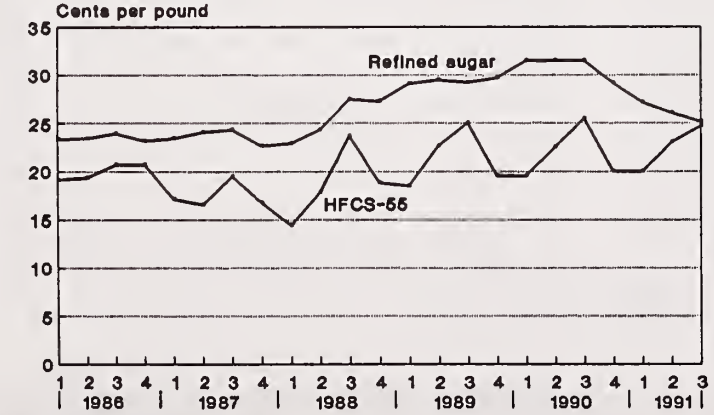
U.S. (#14)Raw Sugar Prices, Quarterly



Source: USDA

Figure 7

HFCS-55 and Wholesale Refined Sugar Prices, Quarterly



Source: Milling and Baking News.

Figure 8

U.S. Key HFCS Variables

Description	1985	1990	Estimate 1991	Forecast 1992
	1,000 short tons, dry basis			
Production	5,213	6,183	6,300	6,425
Imports	185	157	150	140
Exports	20	116	110	150
Total food use	5,275	6,125	6,225	6,350

Sources: Bureau of the Census and ERS, USDA.

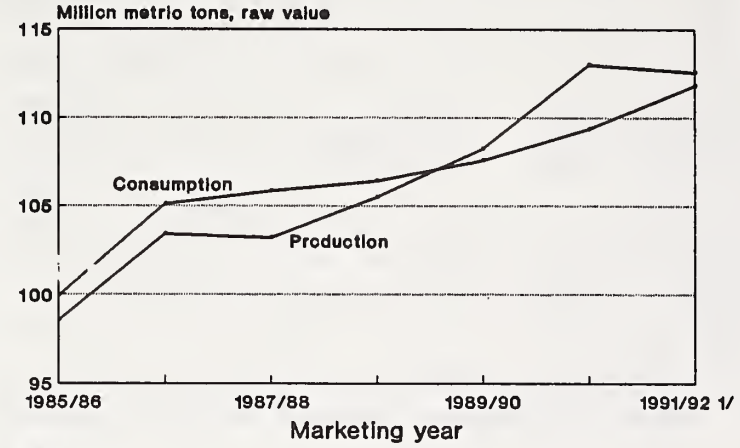
Figure 9

USDA Forecasts of 1990/91 World Sugar Balance

Date	Production	Consumption	Balance
May '90	107.2	109.5	-2.3
Nov. '90	109.9	110.3	-0.4
Sept. '91	112.8	109.3	3.5
Nov. '91	113.0	109.4	3.6

Figure 10

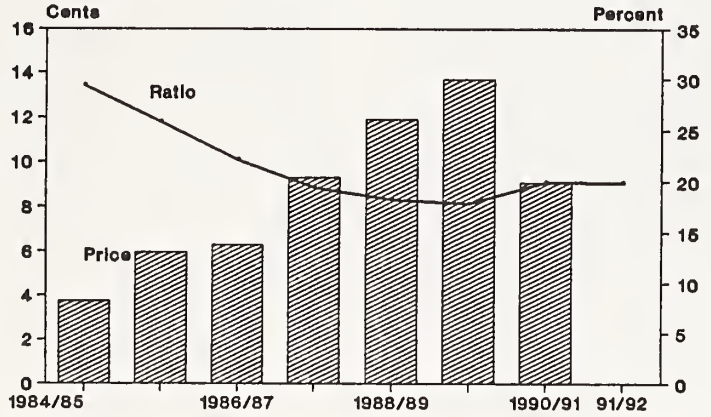
World Sugar Production and Consumption



1/ Forecast.
Source: USDA.

Figure 11

Annual Average World Price and Stocks-to-Use Ratio



Source: USDA.

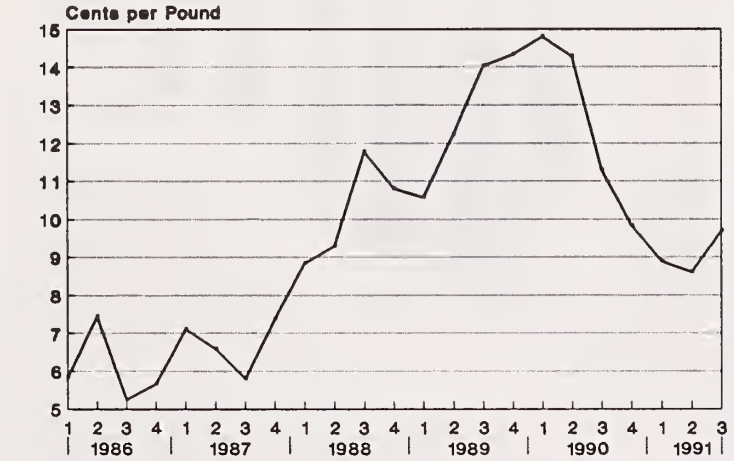
Figure 12

USDA forecasts of 1991/92 world sugar balance

Date	Production	Consumption	Balance
May '91	112.6	111.4	1.2
Sept. '91	113.2	112.1	1.1
Nov. '91	112.6	111.8	0.8

Figure 13

World (#11)Raw Sugar Prices, Quarterly



Source: USDA

Figure 14

Fundamental economic policy choices

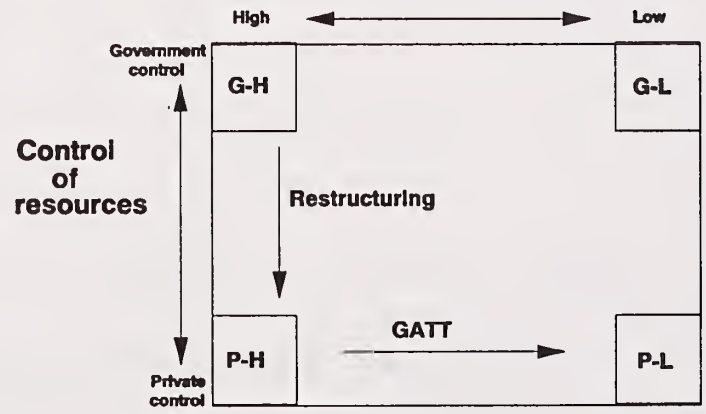


Figure 15

Sugar yields and recovery rates

Description	Unit	Denmark	Poland	USSR
Area harvested	1,000 ha.	67	425	3,334
Yield	Mt/ha.	51.6	35.4	26.7
Recovery rate	Percent	16.1	13.0	10.4
Sugar per ha.	Mt/ha.	8.3	4.6	2.8

* 1988-90 average

Figure 16

Sugar Projections if Yields and Recovery Rates Rise Halfway Towards the Level of Denmark

Description	Unit	Poland	USSR
Area harvested (1988-90 average)	1,000 hectares	425	3,334
Yield	Tons/hectare	43.50	39.15
Sugarbeet production	Million tons	18.5	130.5
Recovery rate	Percent	14.55	13.25
Sugar production	Million tons	2.7	17.3
Sugar production Increase over 1988-90 average:	Percent	38	87
	Tons	0.74	8.0