



## **CAFTA and U.S. Sugar<sup>1</sup>**

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### **Introduction**

The Central American Free Trade Agreement (CAFTA) is a trade agreement between the United States and Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and the Dominican Republic. The agreement was put into law in 2005. Under the agreement the Dominican Republic will eliminate their sugar tariffs over a 15-year period. The United States will establish additional tariff rate quotas (TRQs) for the CAFTA countries beginning with an additional 107,000 metric tons in the first year. The quota amount increases to 151,140 metric tons by the end of the 15-year period. The United States is allowed to compensate exporters in an effort to limit sugar imports for stock management purposes. How large of an impact will CAFTA have on U.S. sugar producers?

CAFTA was announced in January of 2002, and signed in May of 2004. It was created to (1) promote U.S. exports to Central America, (2) support democratic and economic reforms in CAFTA countries, and (3) advance FTAA negotiations.

Because Central America is a major sugar-producing area, the U.S. sugar industry argued against and spent significant sums of money lobbying against the free trade agreement. Even though CAFTA passed, the lobbying efforts by U.S. sugar interests likely had a major impact on having the potential volume of imported sugar reduced.

### **Sugar Production, Consumption, and Exports**

In 2002/03, the United States produced 7.5 million metric tons of sugar and imported 1.48 million metric tons (Table 1). At the same time, U.S. domestic consumption of sugar totaled 9.11 million metric tons. Less than 10 percent of the U.S. sugar imports came from Central America. The CAFTA countries exported nearly 2 million metric tons of sugar worldwide in 2002/03, with 126,000 metric tons going to the United States. The largest CAFTA sugar producer is Guatemala (1.7 million metric tons), followed by El Salvador (453,000 metric tons), Costa Rica (379,000 metric tons), and Nicaragua (370,000 metric tons).

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The United States has an agricultural trade deficit with the CAFTA countries that has remained relatively constant over time. In 2003, the United States exported about US\$1.1 billion to CAFTA countries and imported about US\$2.1 billion from CAFTA countries (USDA/FSA, 2004). Guatemala is the largest CAFTA market for U.S. agricultural products and Costa Rica is its largest source of agricultural imports.

The main U.S. agricultural exports to CAFTA countries are wheat, corn, rice, and soybean meal. U.S. exports of these commodities to the CAFTA countries escalated from 2.3 million metric tons in 1998 to 3.8 million metric tons in 2002, an increase of 65 percent in five years. From 1998 to 2003, wheat exports increased from 623,480 metric tons to 944,566 metric tons, corn exports increased from 883,927 metric tons to 1.6 million metric tons, rice exports increased from 296,889 metric tons to 883,927 metric tons, and soybean-meal exports increased from 312,259 metric tons to 443,539 metric tons.

U.S. sugar imports are tied to the use of tariff rate quotas (TRQ). A certain level of imports governed by quotas is allowed in the United States duty-free, while imports above that level face a stiff tariff. The total TRQ for cane sugar has decreased significantly over time. The traditional total U.S. sugar TRQ for cane sugar was reduced from 2.2 million metric tons in 1995/96 to 1.3 million metric tons in 2002/03. From 1995/96 to 2002/03, the amount of sugar imported by the United States from CAFTA countries fell 52 percent.

A price floor is provided for U.S. sugar growers under the 2002 U.S. sugar program. A key element of this U.S. sugar policy is the nonrecourse loan program. This is administered by the Federal government in order to avoid loan forfeitures. In this manner, the U.S. sugar program operates at no cost to the government in the form of farm payments. The 2002 U.S. Farm Bill re-authorized marketing allotments as a critical tool to complement the U.S. sugar TRQ to balance the market and to avoid loan forfeitures. The re-authorization of marketing allotments that had been eliminated in the 1996 U.S. Farm Bill and the re-inclusion of the no-cost mandate

in the 2002 U.S. Farm Bill were profound changes for U.S. sugar producers and sugar processors.

A breakdown of average sugar production, exports, and U.S. TRQ allocations is given in Table 2 for 2002/03 to 2004/05. The share of U.S. raw sugar import quotas is given for 2003/04. Brazil is the largest sugar exporter in the world, averaging 15.1 million metric tons for the period 2002/03 to 2004/05. Guatemala (CAFTA member) ranks sixth in terms of sugar exports (Table 3).

## Overview of the 2004 U.S. Sugar Market

Sugar production in the United States is supported through a farm program administered by the Federal Government whose intent is to raise farm prices received by producers. In the 2002 Farm Bill, Congress instructed the Secretary of Agriculture to administer U.S. sugar policy at no cost to the government by avoiding sugar loan forfeitures. No other commodity program has ever been designed in such a way because large volume government-owned commodity stocks usually increase government program costs and has a depressing effect on commodity-market prices.

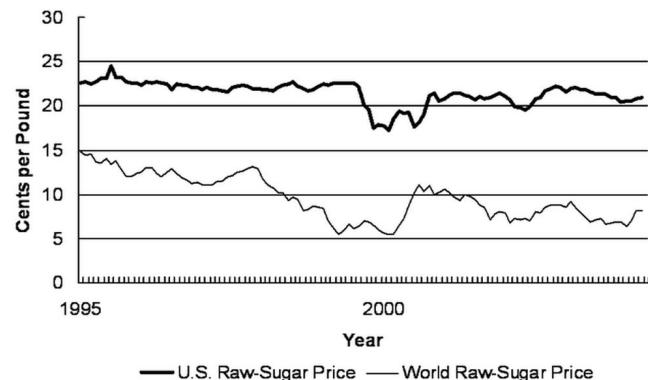
Although sugar (like rice, cotton, corn, or wheat) is a program commodity, the price-support provisions and mechanisms for the payment of sugar provisions are different compared to other U.S. commodities. The United States is a net importer of sugar, which is not the case for major commodities such as corn, wheat, cotton, and soybeans. For example, with other program crops, the U.S. Government determines support-price levels with government payments making up the difference between the price-support level and the market price; however, for sugar, market prices received by the growers are supported through an inventory-management approach that incorporates an import quota and a marketing-allotment program. In other words, the market prices for raw sugar produced from sugar cane and for refined sugar produced from sugar beets are supported through restrictions on the quantity of sugar available within the U.S. market.

Since the United States is a net sugar importer, the import quota is a critical element of the sugar price-support program. Each year, the U.S. Federal Government controls the quantity of sugar available in its domestic sugar market by restricting the amount of sugar foreign countries can export into the United States through TRQs/import quotas and by limiting domestic sales through marketing allotments. By balancing supply and demand through marketing allotments and import quotas, sugar prices for U.S. sugar growers and processors are supported at economically viable and stable levels. (Marketing allotments are triggered when U.S. sugar imports are too high (higher than 1.532 million U.S. tons). Congress designed the program to compensate for increased imports. Free trade agreements are capable of overloading the market and decreasing sugar prices, which could cause U.S. loan forfeitures.

Support of raw-sugar prices above the base loan rate of 18 cents per pound prevents the forfeiture of sugar stocks to the Federal Government. Large government-held stocks of sugar tend to put downward pressure on sugar-market prices. If the present loan-rate program is retained in the presence of the expansion of U.S. sugar imports, the loan rate, which is the basic governmental minimum price support for sugar, could be substantially reduced to prevent large forfeitures of sugar to the USDA's Commodity Credit Corporation (USDA/CCC).

Sharp increases in the U.S. sugar supply, from either increased imports or through increased domestic production, could affect the U.S. sugar-market price significantly. An example of the impact increased domestic sugar supply can have on market price occurred in 1999/2000. Increases in the U.S. production of both beet sugar and cane sugar since the mid-1990s have offset increases in its supply through the reduction of sugar TRQ imports allowed into the United States. From 1996/97 to 1998/99, U.S. sugar production increased from 7.205 million tons to 8.375 million tons. During this same period, TRQ imports of foreign sugar were reduced from 2.277 million tons to 1.256 million tons. Total U.S. sugar supply remained essentially unchanged at approximately 11.5 million tons. Raw-sugar prices in the United States remained fairly stable from 1996/97

to 1998/99, fluctuating narrowly between 21 cents per pound and 22 cents per pound (Figure 1).



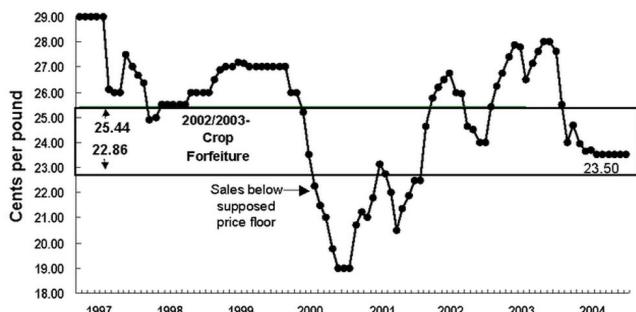
**Figure 1.** U.S. and world raw-sugar prices, 1995/96 to 2003/04. Source: USDA (2004a).

In 1999/2000, U.S. sugar supply increased primarily because of increased domestic production. The 9 million ton U.S. sugar market was oversupplied by approximately 300,000 to 400,000 tons, a 7.8 percent increase in production over the previous year (Roney 2004). Total sugar supply in the U.S. market increased to 12.317 million tons and ending stocks increased to 2.216 million tons (35 percent). The impact on the domestic raw-cane-sugar price and the wholesale refined-sugar-beet price was immediate. In July of 1999, raw-cane-sugar prices were 22.61 cents per pound, but by November of that year they had dropped to 17.45 cents per pound, a price decline of 22.8 percent (Figure 1).

Wholesale refined-sugar-beet prices were 27 cents per pound in August of 1999, but dropped to 19 cents per pound by the following June, a price reduction of 29.6 percent (Figure 2). A large share of the U.S. sugar sold from 1999 to 2001 was sold at market prices lower than the supposed U.S. sugar-price floor. There was another sharp decline in prices after 2002/03 due to excessive overall quantities (OAQs) in 2003/04 and potential OAQ levels announced for 2004/05. (This further re-emphasizes the vulnerability of U.S. market prices to an oversupply of sugar.)

The oversupply situation of 1999/2000 is an alert to the price-sensitive nature of the U.S. sugar market (Figures 1 and 2). WTO and NAFTA import requirements prevented the U.S. Administration from reducing imports to offset an unusually large U.S.

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**Figure 2.** U.S. wholesale refined-beet-sugar prices, 1996 to 2004. Source: USDA/ERS (2004a).

sugar crop. (The USDA, at that time, lacked the authority to limit the domestic marketing of U.S. sugar.) Oversupply from either domestic production or from increased imports can reduce market prices to U.S. sugar growers significantly. In the 2002 U.S. Farm Bill, marketing allotments that served to restrict or limit U.S. sugar production were re-instituted to prevent excess production. Ongoing international trade negotiations, however, could result in significant increases in the amount of foreign sugar being imported into the United States. Even with the domestic-marketing-allotment authority available to the USDA, the higher magnitude of potential sugar imports through trade negotiations could have significant consequences for the Florida and U.S. sugar industries since excessive imports could trigger federal marketing allotments.

## Increased U.S. Sugar Imports under CAFTA

### Background

The analysis presented below shows the impact of potential future free trade agreements, including CAFTA, on the economic viability of the U.S. sugar industry. Schmitz, Schmitz, and Seale (2005) use the MISS (*Modele Internationale Simplifie de Simulation*) world trade models and the GSPSM (*Global Sugar Policy Simulation Model*) to analyze the impact of additional U.S. sugar imports that are possible under potential future free trade agreements. The MISS and GSPSM models, which are based on a comparative static framework, can be used to simulate the effects of various trade-policy actions, including the allowance of additional sugar imports into the United States.

Results from these two models are based on demand and supply elasticities. Price elasticities measure the impact on prices from changes in quantities. For example, if the demand for sugar is price inelastic, then a small change in quantity consumed results in a large change in price. Conversely, if demand is price elastic, then a large change in the quantity consumed has only a small impact on price. Similar arguments hold for supply-price elasticities. The impact of added imports is dependent on elasticity estimates used by researchers. For example, the more price inelastic the demand for domestic sugar, the greater is the negative price impact from added sugar imports.

### Raw-Sugar Prices

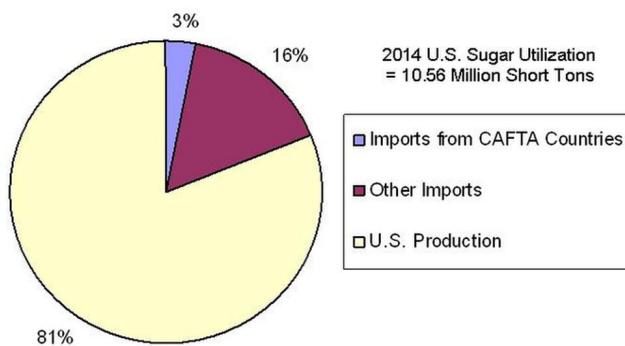
Table 4 provides empirical estimates of added imports of U.S. sugar, ranging from 25,000 metric tons to 2 million metric tons.

While world sugar prices are only slightly affected by additional imports, U.S. raw-sugar prices decline substantially. In MISS Model 1 (Table 4), the base U.S. raw-sugar price of 22.92 cents per pound dropped 27.71 percent to 16.57 cents per pound as a result of a 1 million metric ton increase in imports. Also, with 2 million metric tons of imports, prices fell to 11.87 cents per pound. (Note that the base price of 22.92 cents per pound is high relative to the January through July 2004 average market price of 20.53 cents per pound.) Under MISS Model 2 (Table 5), prices dropped from 22.92 cents per pound to 18.66 cents per pound for a 1 million metric ton increase in imports. We estimated that an increase of 2 million metric tons of U.S. sugar imports in MISS Model 1 would cause U.S. raw-sugar prices to decrease to 11.87 cents per pound, a decline of 48.24 percent (Table 4). An increase of 2 million metric tons of sugar imports in MISS Model 2 would decrease the U.S. sugar price to 13.54 cents per pound, a 40.91 percent drop from the base price (Table 5).

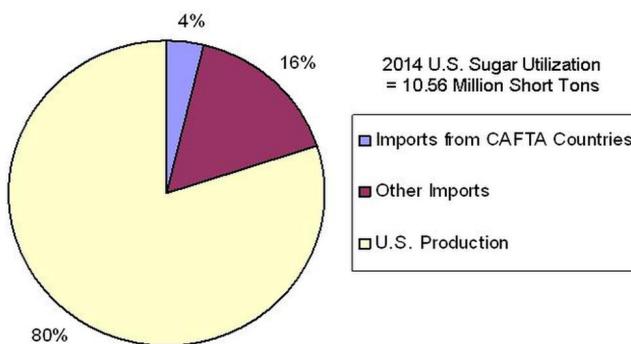
If U.S. sugar imports were increased 150,000 metric tons, which is larger than allowed under CAFTA in year one, world raw sugar prices would change less than 1 percent. Likewise, U.S. raw sugar prices would fall less than 5 percent.

## CAFTA and U.S. Sugar

The Center for Agriculture and Rural Development has also forecasted the impact of CAFTA on the U.S. sugar sector. The before and after CAFTA projections for U.S. sugar production, U.S. imports from CAFTA countries, and other imports are illustrated in Figures 3 and 4. In Figure 3, U.S. sugar production covers 81 percent of U.S. sugar utilization while CAFTA countries supply 3 percent. Figure 4 projections include the effects of CAFTA and assume 2014 is the eighth year of the agreement, giving a total sugar TRQ for the CAFTA countries of 488,000 short tons. If the additional CAFTA imports directly replace U.S. production, the impact of CAFTA on the U.S. sugar market is a 1 percent shift in market share from domestic production to the CAFTA imports. Assuming that sugar loan rates remain at their current levels, the biggest shift would be in government stock holdings of sugar.



**Figure 3.** Projected breakdown of U.S. sugar utilization in 2014 by source, assuming no CAFTA. Source: Hart (2005).



**Figure 4.** Projected breakdown of U.S. sugar utilization in 2014 by source, assuming passage of CAFTA. Source: Hart (2005).

## Conclusions

Under current legislation, the United States was required to import slightly over 1 million metric tons of sugar prior to CAFTA. Under CAFTA, the United States will be required to import roughly an additional 10 percent of sugar. This is nowhere near what many analysts expected in the early discussions of CAFTA. Our research gives estimates of price impacts for added sugar imports far exceeding those actually agreed to under CAFTA. The results presented are useful for the potential impacts of future free trade agreements.

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**Table 1.** Average sugar supply, production, and utilization in the United States and Central American countries for 2002/03.

Country	Beginning Stocks	Production	Total Imports	Total Supply	Exports	Domestic Consumption	Ending Stocks
-----1,000 Metric Tons-----							
United States	1,718	7,501	1,478	10,697	126	9,111	1,459
Costa Rica	78	379	0	457	166	220	74
El Salvador	22	453	0	475	232	225	21
Guatemala	84	1,696	2	1,782	1,238	479	79
Honduras	83	313	1	398	81	256	68
Nicaragua	103	370	0	473	200	190	90
Central America Total	370	3,211	3	3,585	1,917	1,369	331

Source: USDA/ERS (2003).

**Table 2.** Average CAFTA sugar production and exports for 2002/03 to 2004/05, share of U.S. raw sugar import quota for 2003/04, and additional import allocations under CAFTA.

Country	Production	Exports	U.S. TRQ Allocation (2003/04)	Additional Quota Allocation under CAFTA*
-----Metric Tons-----				
<b>CAFTA</b>				
Costa Rica	393,000	167,000	15,796	11,000
El Salvador	497,000	275,000	27,379	24,000
Guatemala	1,929,000	1,418,000	50,546	32,000
Honduras	347,000	53,000	10,530	8,000
Nicaragua	246,000	127,000	22,114	22,000
Dominican Republic	503,000	186,000	185,335	10,000
CAFTA Total	3,915,000	2,226,000	311,700	107,000

\* Year 1 of the CAFTA Agreement.  
Source: USDA/FSA (2004).

**Table 3.** Major sugar producers, exporters, and 2004/05 USDA forecasts.

Country	Production	Net Exports	Rank among Producers	Rank among Net Exporters
	<i>Million Metric Tons</i>		<i>Ranking Position</i>	
Brazil	27.55	16.70	1	1
Thailand	6.80	5.00	6	2
Australia	5.30	4.08	4	3
EU-25*	19.91	2.97	2	4
Cuba	22.30	1.55	12	5
Guatemala	1.90	1.43	14	6
Colombia	2.64	1.22	10	7
South Africa	2.55	1.00	11	8
Turkey	1.99	0.15	13	—

\* EU-25 = European Union  
Source: USDA/FSA (2004).

**Table 4.** Estimated world raw-sugar prices and U.S. wholesale raw-sugar prices at alternative levels of additional U.S. sugar imports (MISS Model 1 using Salassi, Kennedy, and Breau 2003 elasticities).

Additional U.S. Sugar Imports	World Raw-Sugar Price Estimates		Percent Change	U.S. Raw-Sugar Price Estimates		Percent Change
Metric Tons	US Dollars/MT	US Cents/lb	Percent	US Dollars/MT	US Cents/lb	Percent
0	169.72	7.70	—	505.39	22.92	—
25,000	169.77	7.70	0.03	501.35	22.74	-0.80
50,000	169.81	7.70	0.05	497.35	22.56	-1.59
75,000	169.86	7.70	0.08	493.37	22.38	-2.38
100,000	169.90	7.71	0.10	489.37	22.20	-3.17
150,000	169.98	7.71	0.15	481.79	21.85	-4.67
200,000	170.06	7.71	0.20	474.05	21.50	-6.20
300,000	170.25	7.72	0.31	458.95	20.82	-9.19
400,000	170.42	7.73	0.41	444.44	20.16	-12.06
500,000	170.59	7.74	0.51	430.19	19.51	-14.88
750,000	171.03	7.76	0.77	396.68	17.99	-21.51
1,000,000	171.46	7.78	1.02	365.35	16.57	-27.71
1,500,000	172.33	7.82	1.54	309.83	14.05	-38.70
200,000	173.23	7.86	2.06	261.58	11.87	-48.24

Note: Domestic sugar demand price elasticity is -0.14. Supply-price elasticity is 0.34 for US sugar-beet production and 0.18 for US sugar-cane production. World raw-sugar prices are estimated at 78.5% of world refined prices (1998 to 2002 average). US raw-sugar prices estimated at 85% of US wholesale refined sugar prices (1998 to 2002 average).

Source: USDA/ERS (2003); Salassi, Kennedy, and Breaux (2003); Schmitz, Schmitz, and Seale, Jr. (2005).

**Table 5.** Estimated world raw-sugar prices and U.S. raw-sugar prices at alternative levels of additional U.S. sugar imports (MISS Model 2 using the GSPSM Koo, Taylor, and Mattson 2003 elasticities).

Additional U.S. Sugar Imports	World Raw-Sugar Price Estimates		Percent Change	U.S. Raw-Sugar Price Estimates		Percent Change
Metric Tons	US Dollars/MT	US cents/lb	Percent	US Dollars/MT	US cents/lb	Percent
0	169.72	7.70	—	505.29	22.92	—
50,000	169.77	7.70	0.03	500.03	22.68	-1.04
100,000	169.90	7.71	0.11	494.78	22.44	-2.08
200,000	170.06	7.71	0.20	484.62	21.98	-4.09
500,000	170.59	7.74	0.51	455.30	20.65	-9.89
750,000	171.03	7.76	0.77	432.72	19.63	-14.36
1,000,000	171.46	7.78	1.03	411.44	18.66	-18.57
1,500,000	172.33	7.82	1.54	330.08	14.97	-34.68
2,000,000	173.93	7.84	1.89	298.60	13.54	-40.91

Note: Results based on GSPSM Koo, Taylor, and Mattsson price elasticities (2003). Supply-price elasticity is 0.22 for US sugar-beet production and 0.11 for US sugar-cane production. World raw-sugar prices are estimated at 78.5% of world refined prices (1998 to 2002 average). US raw-sugar prices estimated at 85% of US wholesale refined sugar prices (1998 to 2002 average).

Source: Authors' calculations.