

Program-Induced Behavior Affects the Data

Firms in the U.S. sugar industry had incentives to transfer ownership of sugar prior to the onset of marketing allotments in October 2002. Final FY 2002 ending stocks reported in November 2002 were about 400,000 tons below expectations based on forecasts and factors known only several months earlier. Based on the program-induced behavior seen in FY2002, ERS has attempted to foresee potential actions in FY 2004, given the May increase in OAQ levels and production forecasts for the remainder of the year.

The measure of anticipated beet sugar deliveries for food and beverage use is based on a model using weights for beet sugar production (.410) and total sugar deliveries for food and beverage use (.261). Based on data since 1991, the model explains about 70 percent of the variation of beet sugar deliveries. In fact, the model confirms that about 200,000 tons of refined sugar were sold ahead of allotments that would not have been sold otherwise. The table in this box illustrates the FY 2002 and FY 2003 sugar supply and demand with deliveries adjusted for pre-allotment sales. A 200,000-ton adjustment for raw sugar transfers to non-reporting entities is also included in the table. Adjusted ending stocks in FY2002 are much higher than reported by processor firms and the resulting stocks-to-use ratio is more consistent with market prices at that time.

Looking ahead, based on May 2003 WASDE estimates of beet sugar production (4.45 million STRV) and sugar deliveries for food and beverage use (9.600), the model predicts beet sugar deliveries of 4.33 million STRV. The beet sugar processors' share of the FY 2003 OAQ is 4.534 STRV, suggesting further incentives to sell about 200,000 tons of refined sugar ahead of the FY2004 OAQ and in excess of immediate market needs. If that becomes known when actual data are available in November 2003, similar to what happened in 2002, deliveries in the FY2004 sugar balance sheet would be decreased and FY 2003 would be increased. However, price analysis would be improved by factoring in an alternative similar to what is shown in the table for FY 2002.

Table 1--U.S. sugar production, supply, and distribution: May 2003 WASDE and an alternative

| Item | May 2003 WASDE 1/ | | Alternative 2/ | |
|-------------------------------------|-------------------|--------------|----------------|--------------|
| | 2001/02 | 2002/03 | 2001/02 | 2002/03 |
| Beginning stocks | 2,180 | 1,281 | 2,180 | 1,681 |
| Total production | 7,906 | 8,400 | 7,906 | 8,400 |
| Total Imports | 1,527 | 1,665 | 1,527 | 1,665 |
| Total supply | 11,613 | 11,346 | 11,613 | 11,746 |
| Total exports | 137 | 155 | 137 | 155 |
| Miscellaneous | 109 | -200 | -91 | 0 |
| Total deliveries | 10,085 | 9,790 | 9,885 | 9,990 |
| Domestic food & beverage | 9,897 | 9,600 | 9,697 | 9,800 |
| Other deliveries | 188 | 190 | 188 | 190 |
| Total Use | 10,332 | 9,745 | 9,932 | 10,145 |
| Ending stocks | 1,281 | 1,601 | 1,681 | 1,601 |
| Stocks-to-use ratio | 12.4 | 16.4 | 16.9 | 15.8 |

1/ WASDE = World Agricultural Supply and Demand Estimates report

2/ Alternative version adjusts the WASDE version for estimated sugar deliveries and shipment made by sugar processors in September 2002 in anticipation of FY 2003 marketing allotments.

Source: USDA.