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Sugar and Sweeteners Outlook

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NAFTA and World Sugar June 2013

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On May 23, 2013, the U.S. Department of Agriculture (USDA) released the World Production, Supply and Distribution (PSD) for centrifugal sugar. Included in the May 2013 sugar PSD were new supply and use estimates for the 2012/13 marketing year, first projections of supply and use for 2013/14, and some revisions to older data. The USDA estimates 2012/13 world sugar in surplus at 10.110 million metric tons raw value (MTRV) and projects a smaller 2013/14 surplus of 6.707 million MTRV. World stocks-to-use are estimated at 23.4 percent in 2012/13 and projected at 22.7 percent in 2013/14. World stocks-to-use have averaged 23.8 percent since 1989/90 but only 20.0 percent in the 4 years prior to 2012/13. World exports are projected in 2013/14 to increase substantially by 2.255 million (MTRV) to 59.191 million MTRV. Exports from Brazil are expected to grow 1.650 million MTRV to 29.300 million MTRV.

Each year the *Sugar and Sweetener Outlook* of the Economic Research Service (ERS) makes calendar year estimates of total sweetener deliveries that are available for food and beverage consumption by U.S. consumers. U.S. deliveries of total sweeteners for human food and beverage use for 2012 are estimated at 20.350 million tons, slightly higher than 2011 deliveries of 20.320 million tons. Neither refined sugar deliveries nor high fructose corn syrup (HFCS) deliveries changed that much from the previous year. On a per capita basis, U.S. sweetener deliveries for 2012 were 129.5 pounds, down 0.7 pounds from 2011 and down 19.7 pounds from the 149.2 pounds in 2000. After adjusting for food losses prior to consumption, per capita sugar consumption (intake) for 2012 is estimated at 41.3 pounds, the same as last year. HFCS per capita consumption is estimated at 27.1 pounds, down 0.3 pounds from 2011 and down 9.7 pounds, or 26.4 percent, since 2000.

On June 12, 2013, the USDA released its latest estimate/projection of 2012/13 and 2013/14 sugar supply and use for the United States and Mexico in the *World Agricultural Supply* and *Demand Estimates*. 2012/13 Mexico sugar production is estimated at 6.840 million mt, a large 625,000 mt increase from May, based on an increased harvested area estimate and better than expected yields. 2012/13 exports are increased by 100,000 mt to 1.718 million mt. All of the increase is expected to go the U.S. market. The remainder of the supply

increase augments ending stocks and is expected to lead to strong exports to the United States in first quarter (October – December) of 2013/14. Overall 2013/14 sugar exports are forecast at 1.937 million mt, with all but 110,000 mt going to the U.S. market. 2013/14 ending stocks are projected at 1.172 million mt. The implied stocks-to-consumption ratio is 27.5 percent, far above the 22.0 percent level traditionally considered to be optimal.

All changes to the U.S. sugar supply and use balance are through changes in imports. In 2012/13, imports from Mexico are estimated at 117,000 short tons, raw value (STRV) higher than last month. Low returns to exporting to the U.S. market are expected to decrease tariff-rate quota (TRQ) imports by 54,000 STRV. 2012/13 ending stocks increase by 63,000 STRV to 2.231 million STRV, implying a stocks-to-use ratio of 19.0 percent. The primary effect of the 2012/13 increase in Mexico's sugar exportable surplus is to increase U.S. imports in early 2013/14. Imports from all sources are forecast at 3.810 million STRV and ending stocks are forecast at 2.680 million STRV. The implied 2013/14 stocks-to-use-ratio is a high 22.4 percent.

World Sugar

On May 23, 2013, the U.S. Department of Agriculture (USDA) released the World Production, Supply, and Distribution (PSD) for centrifugal sugar. Included in the May 2013 sugar PSD were new supply and use estimates for the 2012/13 marketing year, first projections of supply and use for 2013/14, and some revisions to older data. The USDA bases most of its estimates and projections on information contained in various Sugar Annuals published through the Global Agricultural Information Network (GAIN) of USDA's Foreign Agricultural Service (FAS).[1] These reports for major sugar-producing and consuming countries were reviewed in last month's *Sugar and Sweetener Outlook*, and summaries are provided below.

Table 1 shows supply sources (beginning stocks, production, and imports) and use (exports, domestic consumption, and ending stocks) for major countries and aggregate regions. World exports are projected in 2013/14 to increase substantially by 2.255 million metric tons raw value (MTRV) to 59.191 million MTRV. Exports from Brazil are expected to grow 1.650 million MTRV to 29.300 million MTRV. Brazil sugarcane production is expected to rise by 8.3 percent, but a smaller proportion of the crop—48 percent compared with 50 percent in 2012/13—is forecast to be used for producing sugar instead of ethanol due to lower returns from exporting sugar. Nonetheless, sugar production is projected 4.7 percent higher than last year, up to 40.4 million MTRV, due to the larger sugarcane crop.

Sugar production in India for 2013/14 is projected at 25.3 million MTRV. Although production is down 7.7 percent relative to 2012/13, it is still much higher than the low point of the last sugar cycle, when production was only 15.95 million MTRV in 2008/09. India is forecast to import 1.5 million MTRV in 2013/14, while exporting as much as 600,000 MTRV. Ending stocks are projected at 9.75 million MTRV, equal to 4.5 months of consumption.

Sugar production in Thailand is expected to recover from 2012/13 drought conditions by 600,000 MTRV to a total of 10.5 million MTRV. Exports are projected at 8.5 million MTRV, up 500,000 MTRV from 2012/13. Exports only 5 years ago were less than 5 million MTRV.

Other major sugar exporters are expected to contribute to overall export supply expansion in 2013/14. Production in both Australia and South Africa continue recovering from the extreme weather conditions experienced in 2010/11 and 2011/12—excessive rainfall and cyclone damage in Australia and extreme dryness in South Africa. Australian exports are expected to rise 300,000 MTRV from last year to 3.4 million MTRV. South African exports are expected to rise to 500,000 MTRV, up from last year's 400,000 MTRV and up from only 272,000 MTRV in 2011/12.

Guatemala is expected to export 1.655 million MTRV, up 15,000 MTRV, and Colombia is expected to export 880,000 MTRV, up 60,000 MTRV. Colombian sugar production has finally recovered from the excessively wet conditions of 2009-11 but still faces increased competition from ethanol production from the underlying sugarcane crop.

Russia is expected to increase sugar imports by 330,000 MTRV to 1.03 million MTRV. This increase partially offsets a small expected decline in production but should also allow consumption to expand by 200,000 MTRV to 5.715 million MTRV. Russian sugar imports are only 45 percent of their value in the period 2008/09 through 2010/11. China is forecast to import 2.6 million MTRV in 2013/14, enough to allow consumption to increase 1.204 million MTRV to 16.604 million MTRV while keeping ending stocks at about the same level as in 2012/13.

The European Union (EU) is forecast to import 3.8 million MTRV in 2013/14, about the same as estimated for 2012/13. Most imports come from traditional developing-country suppliers covered under European Partnership Agreements and under the Everything-But-Arms agreement. Significant imports enter under

[1] http://gain.fas.usda.gov/Lists/Advanced%20Search/All Items.aspx .

Table 1 -- World sugar production, supply, and distribution

		2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
		1,000 metric tons, raw value					
North America							
Canada	Beginning stocks	206	203	200	235	253	260
	Total sugar production	61	70	94	130	130	125
	Total imports	1,255	1,114	1,135	1,103	1,167	1,195
	Total supply	1,522	1,387	1,429	1,468	1,550	1,580
	Total exports	93	37	89	83	46	45
	Total use	1,226	1,150	1,105	1,132	1,244	1,275
	Ending stocks	203	200	235	253	260	260
Mexico	Beginning stocks	1,975	623	973	806	1,024	1,230
	Total sugar production	5,260	5,115	5,495	5,351	6,588	6,240
	Total imports	160	861	306	505	145	145
	Total supply	7,395	6,599	6,774	6,662	7,757	7,615
	Total exports	1,378	751	1,557	985	1,715	1,610
	Total use	5,394	4,875	4,411	4,653	4,812	4,876
	Ending stocks	623	973	806	1,024	1,230	1,129
United States	Beginning stocks	1,510	1,392	1,359	1,250	1,801	1,967
	Total sugar production	6,833	7,224	7,104	7,700	8,179	7,787
	Total imports	2,796	3,010	3,391	3,294	2,633	3,119
	Total supply	11,139	11,626	11,854	12,244	12,613	12,873
	Total exports	123	192	225	244	181	181
	Total use	9,624	10,075	10,379	10,199	10,465	10,655
	Ending stocks	1,392	1,359	1,250	1,801	1,967	2,037
Total North America	Beginning stocks	3,691	2,218	2,532	2,291	3,078	3,457
	Total sugar production	12,154	12,409	12,693	13,181	14,897	14,152
	Total imports	4,211	4,985	4,832	4,902	3,945	4,459
	Total supply	20,056	19,612	20,057	20,374	21,920	22,068
	Total exports	1,594	980	1,871	1,312	1,942	1,836
	Total use	16,244	16,100	15,895	15,984	16,521	16,806
	Ending stocks	2,218	2,532	2,291	3,078	3,457	3,426
Caribbean							
Cuba	Beginning stocks	135	102	114	59	109	149
	Total sugar production	1,340	1,250	1,150	1,400	1,600	1,600
	Total imports	23	0	0	0	0	0
	Total supply	1,498	1,352	1,264	1,459	1,709	1,749
	Total exports	727	538	577	815	840	850
	Total use	669	700	628	535	720	749
	Ending stocks	102	114	59	109	149	150
Dominican Republic	Beginning stocks	35	10	14	34	49	55
	Total sugar production	510	520	510	553	565	550
	Total imports	34	77	49	49	48	40
	Total supply	579	607	573	636	662	645
	Total exports	239	261	204	207	227	222
	Total use	330	332	335	380	380	380
	Ending stocks	10	14	34	49	55	43
Other Caribbean	Beginning stocks	132	132	142	128	123	128
	Total sugar production	189	168	187	182	190	210
	Total imports	457	453	423	436	423	420
	Total supply	778	753	752	746	736	758
	Total exports	170	143	153	143	127	150
	Total use	476	468	471	480	481	480
	Ending stocks	132	142	128	123	128	128
Total Caribbean	Beginning stocks	302	244	270	221	281	332
	Total sugar production	2,039	1,938	1,847	2,135	2,355	2,360
	Total imports	514	530	472	485	471	460
	Total supply	2,855	2,712	2,589	2,841	3,107	3,152
	Total exports	1,136	942	934	1,165	1,194	1,222
	Total use	1,475	1,500	1,434	1,395	1,581	1,609
	Ending stocks	244	270	221	281	332	321
Central America							
Guatemala	Beginning stocks	609	592	382	127	257	430
	Total sugar production	2,381	2,340	2,048	2,499	2,600	2,600
	Total imports	0	0	0	0	0	0
	Total supply	2,990	2,932	2,430	2,626	2,857	3,030
	Total exports	1,654	1,815	1,544	1,619	1,640	1,655
	Total use	744	735	759	750	787	797
	Ending stocks	592	382	127	257	430	578
Other Central America	Beginning stocks	440	436	537	538	594	618
	Total sugar production	2,071	2,194	2,128	2,462	2,637	2,697
	Total imports	0	138	0	0	0	0
	Total supply	2,511	2,768	2,665	3,000	3,231	3,315
	Total exports	803	1,050	967	1,146	1,301	1,370
	Total use	1,272	1,181	1,160	1,260	1,312	1,343
	Ending stocks	436	537	538	594	618	602

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Table 1 -- World sugar production, supply, and distribution - *continued*

		2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
		1,000 metric tons, raw value					
Total Central America	Beginning stocks	1,049	1,028	919	665	851	1,048
	Total sugar production	4,452	4,534	4,176	4,961	5,237	5,297
	Total imports	0	138	0	0	0	0
	Total supply	5,501	5,700	5,095	5,626	6,088	6,345
	Total exports	2,457	2,865	2,511	2,765	2,941	3,025
	Total use	2,016	1,916	1,919	2,010	2,099	2,140
	Ending stocks	1,028	919	665	851	1,048	1,180
outh America							
Brazil	Beginning stocks	215	-1,135	-835	-285	-285	-535
	Total sugar production	31,850	36,400	38,350	36,150	38,600	40,400
	Total imports	0	0	0	0	0	0
	Total supply	32,065	35,265	37,515	35,865	38,315	39,865
	Total exports	21,550	24,300	25,800	24,650	27,650	29,300
	Total use	11,650	11,800	12,000	11,500	11,200	11,260
	Ending stocks	-1,135	-835	-285	-285	-535	-695
Colombia	Beginning stocks	170	416	405	390	335	300
	Total sugar production	2,277	2,294	2,280	2,270	2,210	2,400
	Total imports	139	185	160	322	310	290
	Total supply	2,586	2,895	2,845	2,982	2,855	2,990
	Total exports	585	870	830	876	820	880
	Total use	1,585	1,620	1,625	1,771	1,735	1,745
	Ending stocks	416	405	390	335	300	365
Argentina	Beginning stocks	105	266	-22	81	232	446
	Total sugar production	2,420	2,230	2,030	2,150	2,300	2,350
	Total imports	23	0	73	5	0	0
	Total supply	2,548	2,496	2,081	2,236	2,532	2,796
	Total exports	543	778	210	194	256	500
	Total use	1,739	1,740	1,790	1,810	1,830	1,840
	Ending stocks	266	-22	81	232	446	456
Other South America	Beginning stocks	1,230	1,413	1,241	1,503	1,577	1,590
	Total sugar production	3,299	2,954	3,290	3,358	3,393	3,403
	Total imports	1,493	1,679	1,886	1,674	1,781	1,754
	Total supply	6,022	6,046	6,417	6,535	6,751	6,747
	Total exports	536	531	469	478	499	555
	Total use	4,073	4,274	4,445	4,480	4,662	4,623
	Ending stocks	1,413	1,241	1,503	1,577	1,590	1,569
Total South America	Beginning stocks	1,720	960	789	1,689	1,859	1,801
	Total sugar production	39,846	43,878	45,950	43,928	46,503	48,553
	Total imports	1,655	1,864	2,119	2,001	2,091	2,044
	Total supply	43,221	46,702	48,858	47,618	50,453	52,398
	Total exports	23,214	26,479	27,309	26,198	29,225	31,235
	Total use	19,047	19,434	19,860	19,561	19,427	19,468
	Ending stocks	960	789	1,689	1,859	1,801	1,695
urope							
European Union	Beginning stocks	3,130	2,232	1,433	1,974	3,146	2,969
	Total sugar production	14,014	16,687	15,699	18,110	15,623	15,940
	Total imports	3,180	2,561	3,755	3,410	3,800	3,800
	Total supply	20,324	21,480	20,887	23,494	22,569	22,709
	Total exports	1,332	2,647	1,113	2,348	1,500	1,500
	Total use	16,760	17,400	17,800	18,000	18,100	18,100
	Ending stocks	2,232	1,433	1,974	3,146	2,969	3,109
Other Europe	Beginning stocks	677	608	567	502	454	444
	Total sugar production	905	929	977	952	919	914
	Total imports	978	736	664	758	772	779
	Total supply	2,560	2,273	2,208	2,212	2,145	2,137
	Total exports	333	282	387	333	336	316
	Total use	1,619	1,424	1,319	1,425	1,365	1,377
	Ending stocks	608	567	502	454	444	444
ormer Former Soviet Union 12							
Russia	Beginning stocks	550	481	399	350	390	275
	Total sugar production	3,481	3,444	2,996	5,545	5,000	4,900
	Total imports	2,150	2,223	2,510	510	700	1,030
	Total supply	6,181	6,148	5,905	6,405	6,090	6,205
	Total exports	200	34	17	300	300	200
	Total use	5,500	5,715	5,538	5,715	5,515	5,715
	Ending stocks	481	399	350	390	275	290
Other Former Soviet Union	Beginning stocks	1,520	963	790	948	1,352	1,359
	Total sugar production	2,567	2,319	2,361	3,318	3,063	2,663
	Total imports	1,664	2,149	2,111	1,380	1,629	1,644
	Total supply	5,751	5,431	5,262	5,646	6,044	5,666
	Total exports	652	759	708	860	1,044	1,056
	Total use	4,136	3,882	3,606	3,434	3,641	3,706
	Ending stocks	963	790	948	1,352	1,359	904

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Table 1 -- World sugar production, supply, and distribution - *Continued*

		2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
		1,000 metric tons, raw value					
Total Former Soviet Union	Beginning stocks	2,070	1,444	1,189	1,298	1,742	1,634
	Total sugar production	6,048	5,763	5,357	8,863	8,063	7,563
	Total imports	3,814	4,372	4,621	1,890	2,329	2,674
	Total supply	11,932	11,579	11,167	12,051	12,134	11,871
	Total exports	852	793	725	1,160	1,344	1,256
	Total use	9,636	9,597	9,144	9,149	9,156	9,421
	Ending stocks	1,444	1,189	1,298	1,742	1,634	1,194
North Africa							
Egypt	Beginning stocks	544	690	529	129	350	160
	Total sugar production	1,612	1,820	1,830	1,980	2,000	2,020
	Total imports	1,382	978	1,120	1,480	1,050	1,200
	Total supply	3,538	3,488	3,479	3,589	3,400	3,380
	Total exports	100	330	550	389	400	400
	Total use	2,748	2,629	2,800	2,850	2,840	2,820
	Ending stocks	690	529	129	350	160	160
Other North Africa	Beginning stocks	484	307	302	332	372	419
	Total sugar production	520	438	436	440	410	410
	Total imports	2,722	2,611	2,741	3,388	3,727	3,870
	Total supply	3,726	3,356	3,479	4,160	4,509	4,699
	Total exports	112	132	480	423	575	585
	Total use	3,307	2,922	2,667	3,365	3,515	3,695
	Ending stocks	307	302	332	372	419	419
Total North Africa	Beginning stocks	1,028	997	831	461	722	579
	Total sugar production	2,132	2,258	2,266	2,420	2,410	2,430
	Total imports	4,104	3,589	3,861	4,868	4,777	5,070
	Total supply	7,264	6,844	6,958	7,749	7,909	8,079
	Total exports	212	462	1,030	812	975	985
	Total use	6,055	5,551	5,467	6,215	6,355	6,515
	Ending stocks	997	831	461	722	579	579
Sub-Saharan Africa							
South Africa	Beginning stocks	227	79	100	158	161	126
	Total sugar production	2,350	2,265	1,985	1,897	2,020	2,175
	Total imports	137	105	138	193	200	150
	Total supply	2,714	2,449	2,223	2,248	2,381	2,451
	Total exports	1,230	754	400	272	400	500
	Total use	1,405	1,595	1,665	1,815	1,855	1,885
	Ending stocks	79	100	158	161	126	66
Other Sub-Saharan Africa	Beginning stocks	2,024	1,987	2,101	2,037	2,018	2,191
	Total sugar production	5,412	5,455	5,744	5,871	5,969	6,039
	Total imports	4,424	4,299	4,596	4,870	5,106	5,336
	Total supply	11,860	11,741	12,441	12,778	13,093	13,566
	Total exports	1,856	1,624	1,965	1,849	1,863	1,890
	Total use	8,017	8,016	8,439	8,911	9,039	9,492
	Ending stocks	1,987	2,101	2,037	2,018	2,191	2,184
Total Sub-Saharan Africa	Beginning stocks	2,251	2,066	2,201	2,195	2,179	2,317
	Total sugar production	7,762	7,720	7,729	7,768	7,989	8,214
	Total imports	4,561	4,404	4,734	5,063	5,306	5,486
	Total supply	14,574	14,190	14,664	15,026	15,474	16,017
	Total exports	3,086	2,378	2,365	2,121	2,263	2,390
	Total use	9,422	9,611	10,104	10,726	10,894	11,377
	Ending stocks	2,066	2,201	2,195	2,179	2,317	2,250
Middle East							
Turkey	Beginning stocks	405	505	549	463	355	155
	Total sugar production	2,100	2,530	2,274	2,262	2,128	2,200
	Total imports	5	5	5	5	5	5
	Total supply	2,510	3,040	2,828	2,730	2,488	2,360
	Total exports	5	69	74	49	33	20
	Total use	2,000	2,422	2,291	2,326	2,300	2,260
	Ending stocks	505	549	463	355	155	80
Other Middle East	Beginning stocks	2,696	1,459	1,489	1,569	1,540	1,572
	Total sugar production	819	1,342	1,106	1,136	1,150	1,150
	Total imports	6,698	7,629	7,527	8,271	9,109	9,398
	Total supply	10,213	10,430	10,122	10,976	11,799	12,120
	Total exports	1,173	1,066	1,660	1,478	1,152	1,225
	Total use	7,581	7,875	6,893	7,958	9,075	9,308
	Ending stocks	1,459	1,489	1,569	1,540	1,572	1,587
Total Middle East	Beginning stocks	3,101	1,964	2,038	2,032	1,895	1,727
	Total sugar production	2,919	3,872	3,380	3,398	3,278	3,350
	Total imports	6,703	7,634	7,532	8,276	9,114	9,403
	Total supply	12,723	13,470	12,950	13,706	14,287	14,480
	Total exports	1,178	1,135	1,734	1,527	1,185	1,245
	Total use	9,581	10,297	9,184	10,284	11,375	11,568
	Ending stocks	1,964	2,038	2,032	1,895	1,727	1,667

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Table 1 -- World sugar production, supply, and distribution - *Continued*

		2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
		1,000 metric tons, raw value					
South Asia							
India	Beginning stocks	12,296	5,880	6,223	6,299	6,850	9,530
	Total sugar production	15,950	20,637	26,574	28,620	27,430	25,320
	Total imports	1,358	2,431	405	188	1,300	1,500
	Total supply	29,604	28,948	33,202	35,107	35,580	36,350
	Total exports	224	225	3,903	3,757	550	600
	Total use	23,500	22,500	23,000	24,500	25,500	26,000
	Ending stocks	5,880	6,223	6,299	6,850	9,530	9,750
Pakistan	Beginning stocks	1,163	550	830	1,470	1,340	610
	Total sugar production	3,512	3,420	3,920	4,520	4,670	4,540
	Total imports	125	1,030	1,040	0	0	450
	Total supply	4,800	5,000	5,790	5,990	6,010	5,600
	Total exports	75	70	70	350	1,000	200
	Total use	4,175	4,100	4,250	4,300	4,400	4,500
	Ending stocks	550	830	1,470	1,340	610	900
Other South Asia	Beginning stocks	865	721	671	677	692	702
	Total sugar production	290	255	295	265	290	290
	Total imports	1,958	1,998	2,200	2,399	2,236	2,278
	Total supply	3,113	2,974	3,166	3,341	3,218	3,270
	Total exports	11	22	10	10	10	10
	Total use	2,381	2,281	2,479	2,639	2,506	2,558
	Ending stocks	721	671	677	692	702	702
Total South Asia	Beginning stocks	14,324	7,151	7,724	8,446	8,882	10,842
	Total sugar production	19,752	24,312	30,789	33,405	32,390	30,150
	Total imports	3,441	5,459	3,645	2,587	3,536	4,228
	Total supply	37,517	36,922	42,158	44,438	44,808	45,220
	Total exports	310	317	3,983	4,117	1,560	810
	Total use	30,056	28,881	29,729	31,439	32,406	33,058
	Ending stocks	7,151	7,724	8,446	8,882	10,842	11,352
East Asia							
Japan	Beginning stocks	454	559	568	529	543	550
	Total sugar production	927	901	700	740	750	750
	Total imports	1,279	1,199	1,331	1,230	1,162	1,215
	Total supply	2,660	2,659	2,599	2,499	2,455	2,515
	Total exports	1	1	1	1	1	1
	Total use	2,100	2,090	2,069	1,955	1,904	1,965
	Ending stocks	559	568	529	543	550	549
China	Beginning stocks	3,965	3,784	2,355	1,621	4,140	5,473
	Total sugar production	13,317	11,429	11,199	12,341	13,977	14,050
	Total imports	1,077	1,535	2,143	4,430	2,800	2,600
	Total supply	18,359	16,748	15,697	18,392	20,917	22,123
	Total exports	75	93	76	52	44	44
	Total use	14,500	14,300	14,000	14,200	15,400	16,604
	Ending stocks	3,784	2,355	1,621	4,140	5,473	5,475
Other East Asia	Beginning stocks	554	654	632	675	665	706
	Total sugar production	65	70	70	70	65	65
	Total imports	2,604	2,513	2,621	2,552	2,738	2,798
	Total supply	3,223	3,237	3,323	3,297	3,468	3,569
	Total exports	305	347	422	424	423	428
	Total use	2,264	2,258	2,226	2,208	2,339	2,433
	Ending stocks	654	632	675	665	706	708
Total East Asia	Beginning stocks	4,973	4,997	3,555	2,825	5,348	6,729
	Total sugar production	14,309	12,400	11,969	13,151	14,792	14,865
	Total imports	4,960	5,247	6,095	8,212	6,700	6,613
	Total supply	24,242	22,644	21,619	24,188	26,840	28,207
	Total exports	381	441	499	477	468	473
	Total use	18,864	18,648	18,295	18,363	19,643	21,002
	Ending stocks	4,997	3,555	2,825	5,348	6,729	6,732
Southeast Asia							
Thailand	Beginning stocks	2,651	2,556	2,343	2,983	2,810	2,060
	Total sugar production	7,200	6,930	9,663	10,235	9,900	10,500
	Total imports	0	7	19	0	0	0
	Total supply	9,851	9,493	12,025	13,218	12,710	12,560
	Total exports	5,295	4,930	6,642	7,898	8,000	8,500
	Total use	2,000	2,220	2,400	2,510	2,650	2,750
	Ending stocks	2,556	2,343	2,983	2,810	2,060	1,310
Philippines	Beginning stocks	547	558	707	870	838	838
	Total sugar production	2,150	1,800	2,520	2,400	2,450	2,500
	Total imports	0	250	0	0	0	0
	Total supply	2,697	2,608	3,227	3,270	3,288	3,338
	Total exports	239	101	507	282	250	350
	Total use	1,900	1,800	1,850	2,150	2,200	2,250
	Ending stocks	558	707	870	838	838	738

- *Continued*

Table 1 -- World sugar production, supply, and distribution - *continued*

		2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
		1,000 metric tons, raw value					
Other Southeast Asia	Beginning stocks	1,215	881	1,314	1,156	1,056	1,442
	Total sugar production	3,218	3,060	3,013	3,103	3,195	3,305
	Total imports	4,650	6,019	6,138	6,064	6,657	6,856
	Total supply	9,083	9,960	10,465	10,323	10,908	11,603
	Total exports	370	368	447	461	473	468
	Total use	7,832	8,278	8,862	8,806	8,993	9,112
	Ending stocks	881	1,314	1,156	1,056	1,442	2,023
Total Southeast Asia	Beginning stocks	4,413	3,995	4,364	5,009	4,704	4,340
	Total sugar production	12,568	11,790	15,196	15,738	15,545	16,305
	Total imports	4,650	6,276	6,157	6,064	6,657	6,856
	Total supply	21,631	22,061	25,717	26,811	26,906	27,501
	Total exports	5,904	5,399	7,596	8,641	8,723	9,318
	Total use	11,732	12,298	13,112	13,466	13,843	14,112
	Ending stocks	3,995	4,364	5,009	4,704	4,340	4,071
Oceania							
Australia	Beginning stocks	400	487	413	193	64	86
	Total sugar production	4,814	4,700	3,700	3,733	4,247	4,540
	Total imports	41	78	163	138	125	130
	Total supply	5,255	5,265	4,276	4,064	4,436	4,756
	Total exports	3,522	3,600	2,750	2,800	3,100	3,400
	Total use	1,246	1,252	1,333	1,200	1,250	1,250
	Ending stocks	487	413	193	64	86	106
Other Oceania	Beginning stocks	157	140	111	106	101	101
	Total sugar production	300	213	195	235	220	220
	Total imports	284	261	298	248	303	303
	Total supply	741	614	604	589	624	624
	Total exports	264	186	144	195	180	180
	Total use	337	317	354	293	343	343
	Ending stocks	140	111	106	101	101	101
Total Oceania	Beginning stocks	557	627	524	299	165	187
	Total sugar production	5,114	4,913	3,895	3,968	4,467	4,760
	Total imports	325	339	461	386	428	433
	Total supply	5,996	5,879	4,880	4,653	5,060	5,380
	Total exports	3,786	3,786	2,894	2,995	3,280	3,580
	Total use	1,583	1,569	1,687	1,493	1,593	1,593
	Ending stocks	627	524	299	165	187	207
World							
World	Beginning stocks	43,286	30,531	28,936	29,907	35,306	38,406
	Total sugar production	144,014	153,403	161,923	171,978	174,468	174,853
	Total imports	43,096	48,134	48,948	48,902	49,926	52,305
	Total supply	230,396	232,068	239,807	250,787	259,700	265,564
	Total exports	45,775	48,906	54,951	55,971	56,936	59,191
	Total use	154,090	154,226	154,949	159,510	164,358	168,146
	Ending stocks	30,531	28,936	29,907	35,306	38,406	38,227

Source: USDA, FAS, PSD database.

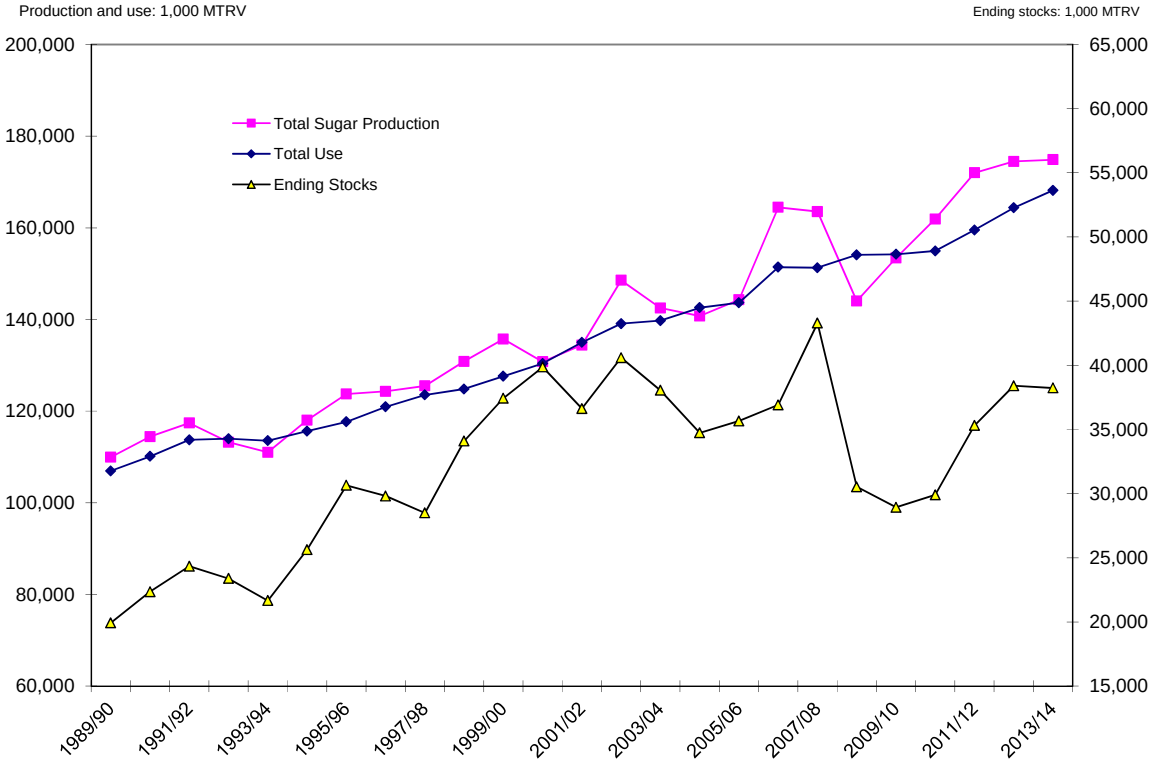
the CXL and Balkan tariff-rate quotas. Although important 2 years ago, additional import tenders are not expected at high levels in 2013/14. Regulated EU beet and cane sugar production for 2013/14 is forecast at 15.9 million MTRV. This consists of 14.4 million MTRV of EU quota sugar for domestic food use and 1.5 million MTRV for quota sugar exports. Additional EU beet sugar production beyond the regulated market is expected to total 2.4 million MTRV. This sugar is used for nonfood industrial uses, including the biochemical and bioethanol industries. Sugar imports for industrial uses will likely be limited due to the high level of unregulated over-quota sugar in the EU.

U.S. sugar imports are difficult to predict because of the role of policy. Imports for 2013/14 are projected at 3.119 million MTRV. All other factors constant, this level of imports produces an ending stocks-to-use ratio of 18.8 percent. About 50 percent of U.S. imports are expected to be sourced from Mexico.

Trends in World Sugar Supply and Use

Figure 1 shows world sugar production, consumption, and ending stocks from 1989/90 through 2012/13. World sugar production and consumption have been increasing at about the same rate per year: 2.08 percent for production and 1.91 percent for consumption. Consumption growth has been fairly steady from year to year, whereas production growth has shown more variability. Since 1999/2000, world sugar production has increased, on average, 2.715 million MTRV per year. Ending stocks have shown more cyclical activity—increases of 2 to 3 years' duration, followed by decreases lasting 1 to 2 years. Ending stocks for 2013/14 are projected at 38.272 million MTRV, about the same as 2012/13 and slightly above the 36.2 million MTRV average since 1999/2000.

Figure 1
World sugar production, consumption, and ending stocks, 1989/90-2013/14

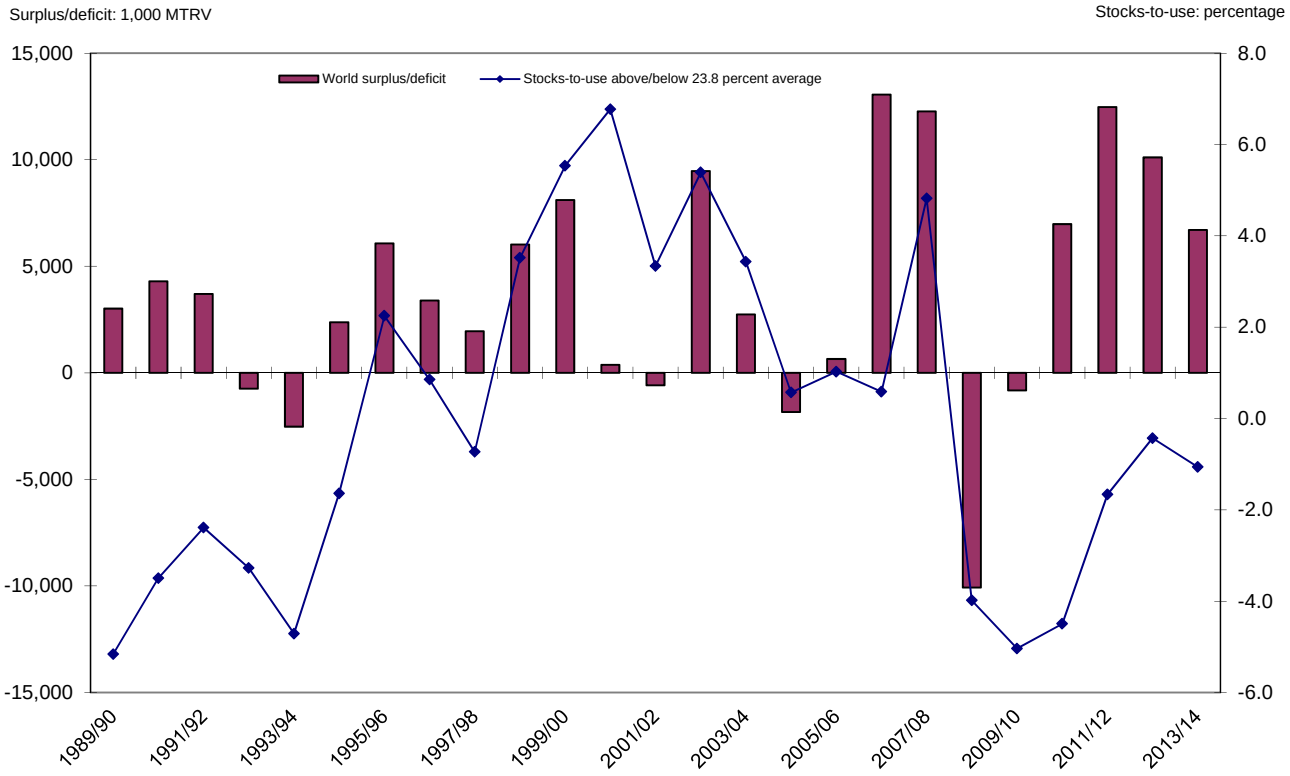


Source: United States Department of Agriculture, Foreign Agriculture Service, Production Supply and Distribution database.

Figure 2 shows the world sugar surplus/deficit, calculated as the difference between world sugar production and consumption, and the ending-year stocks-to-use ratio. In the 24 years since 1989/90, world sugar has been in surplus (with production exceeding consumption) 18 times. The largest deficit of 10.18 million MTRV occurred in 2008/09, when Indian production decreased 12.68 million MTRV from the previous year, or 44 percent. The USDA estimates 2012/13 world sugar in surplus at 10.110 million MTRV and projects a 2013/14 surplus of 6.707 million MTRV.

In the record world sugar deficit year of 2008/09, the world ending stocks-to-use ratio fell to 19.8 percent, at that time the lowest level since 1993/94. The next year, the ratio fell to 18.8 percent—with more production offsetting lower beginning stocks, flat consumption, and no stock buildup. Stocks have since grown, with the stocks-to-use ratio at 23.4 percent in 2012/13 and projected at 22.7 percent in 2013/14.

Figure 2
World sugar surplus/deficit and stocks-to-use ratios



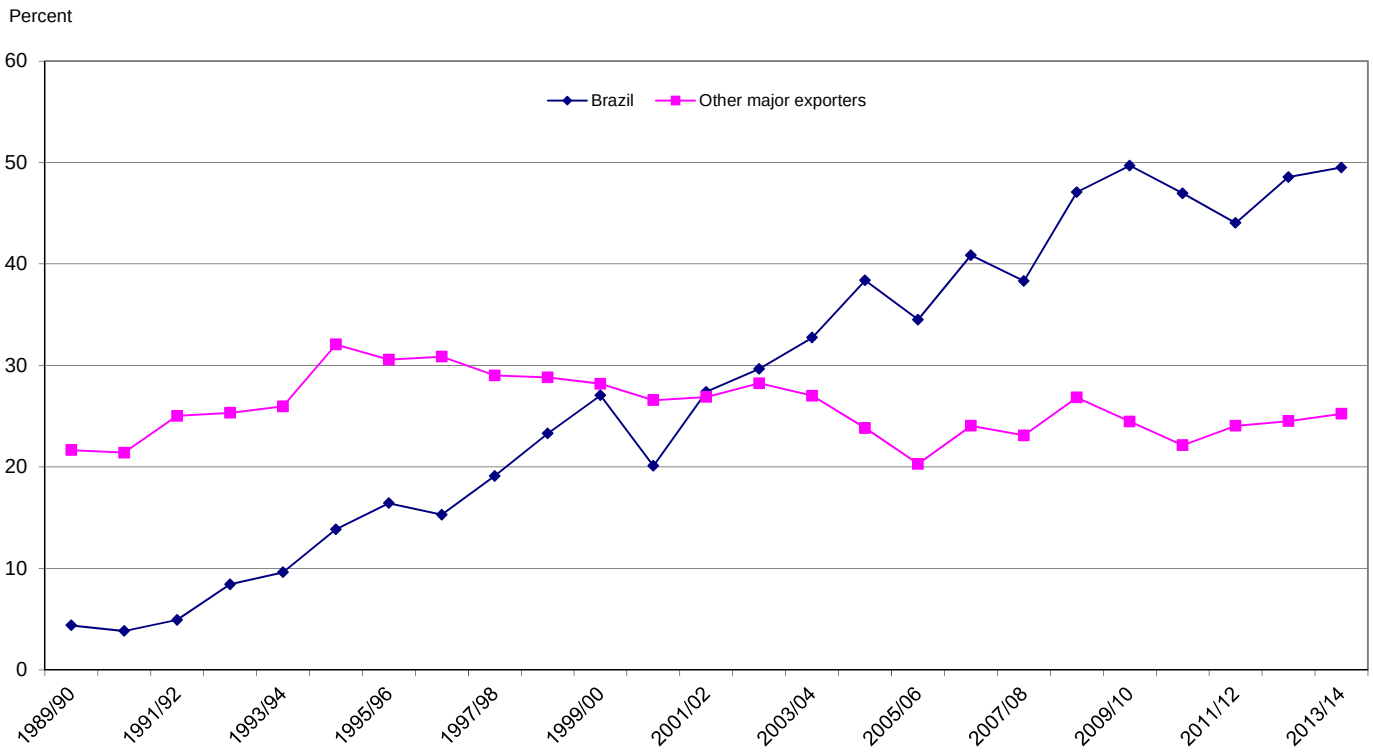
Source: United States Department of Agriculture, Foreign Agriculture Service, Production Supply and Distribution database.

Brazil and the World Sugar Export Market

Figure 3 shows the world export market share for sugar since 1989/90 for Brazil and other major sugar exporters (Australia, Colombia, Guatemala, South Africa, and Thailand). Brazil gained fairly consistently in its world export market share, starting below 5 percent and achieving 49.7 percent in 2009/10. Brazil's share fell to an average 45.5 percent for 2010/11 and 2011/12, but has recovered to 48.6 percent in 2012/13 and a projected 49.5 percent in 2013/14. Other major exporters' shares have averaged 25.9 percent, with little tendency to grow or contract over time.

LMC International reports that Brazilian Center/South sugar production costs, especially in dollar terms, have been increasing significantly the last several years but may now be leveling off (fig. 4). The last several years have seen the sugarcane crop aging due to underinvestment in the field. An older crop is more subject to yield variability resulting from less than optimal weather. (A major switch from manual to mechanical harvesting has limited yield growth, as well.) Replant rates have recovered in 2012, but it will take several years to restore a more optimal age profile. Nonetheless, Brazil, especially in the Center/South region, retains cost advantages from large average mill size (economies of scale) and long crushing seasons (high rate of capacity utilization).

Figure 3
World sugar export market share, 1989/90-2013/14

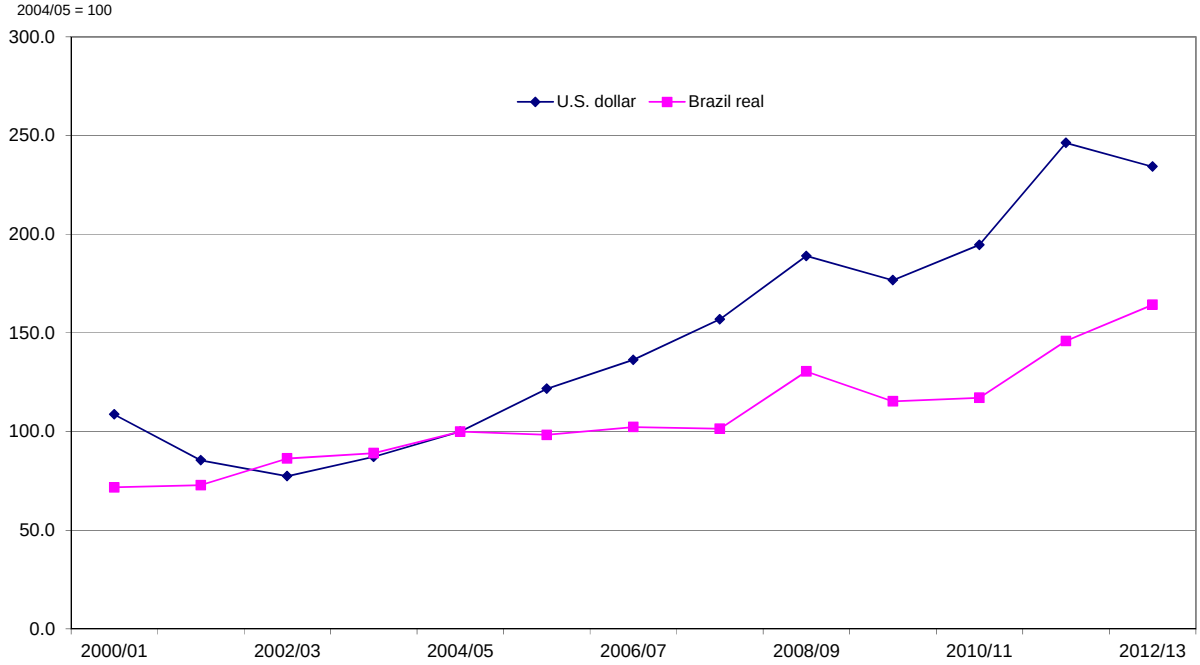


Source: United States Department of Agriculture, Foreign Agriculture Service, Production Supply and Distribution database.

As figure 4 shows, costs measured in U.S. dollars have increased proportionally more than costs measured in Brazilian *real*. Dollar costs are relevant for signaling international competitiveness because world sugar prices are quoted in dollars. The *real* appreciated 88.5 percent from 2002/03–2011/12. During this time, *real* costs increased 69.0 percent and dollar costs increased 218.4 percent. The *real* has depreciated some 15.5 percent this past crop year; therefore, production costs in dollars have actually fallen 4.9 percent in spite of a rise in *real* costs of 12.6 percent. Figure 5 shows average costs of other major exporters declining relative to those of Center/South Brazil and reaching near-parity in 2011/12. The exchange rate depreciation has helped reassert the Center/South competitiveness in 2012/13.

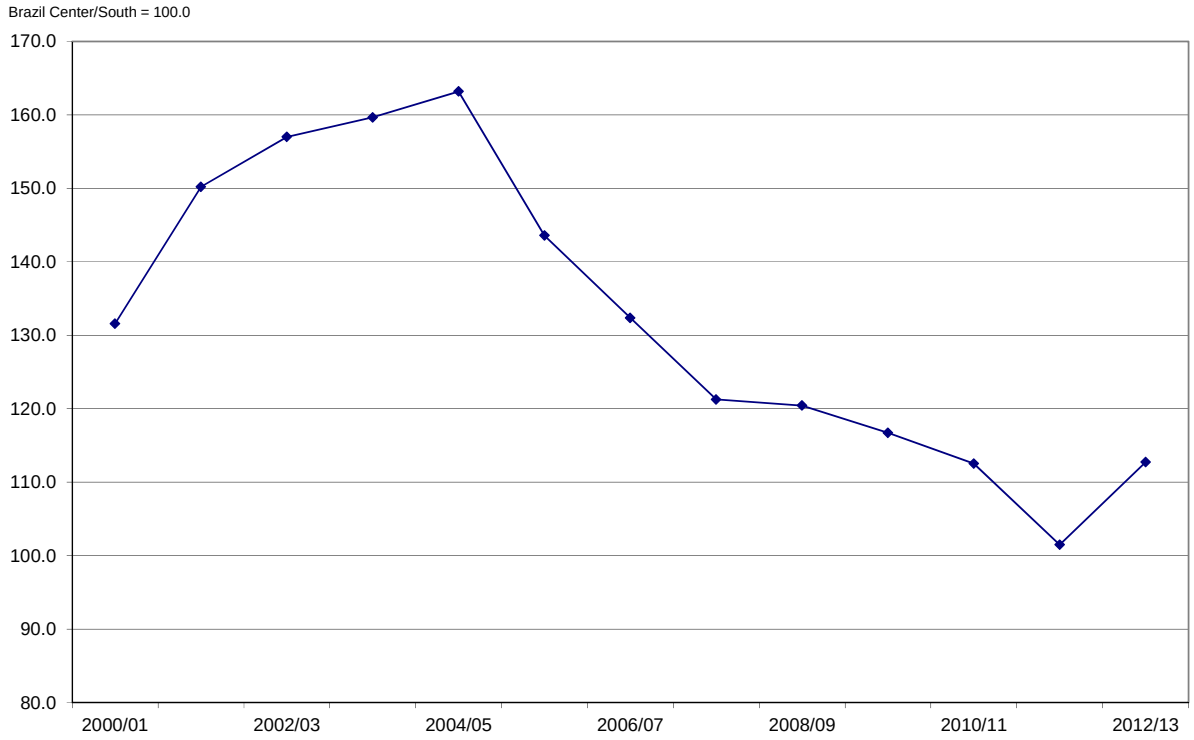
An article published in the March 2011 *Sugar and Sweetener Outlook* examined the relationship between Center/South production costs and world sugar prices. Technically speaking, Brazilian production costs measured in dollars and world sugar prices (the nearby no. 11 raw sugar futures price from the Intercontinental Exchange) were shown be cointegrated. This means that there is a long-run equilibrium relationship between Brazilian production costs and world prices. Because of Brazil's large share of the world sugar market, its costs measured in dollars push prices in the same direction over time. Figure 6 shows deviations from long-term equilibrium since 1989/90. Large world production surpluses of the last several years have finally had their effect, pushing world raw sugar prices more in alignment with Brazilian Center/South production costs in the Center/South 2012/13 crop year.

Figure 4
Sugar costs of production in Center/South Brazil, in U.S. dollars and Brazilian reais, 2000/01-2012/13



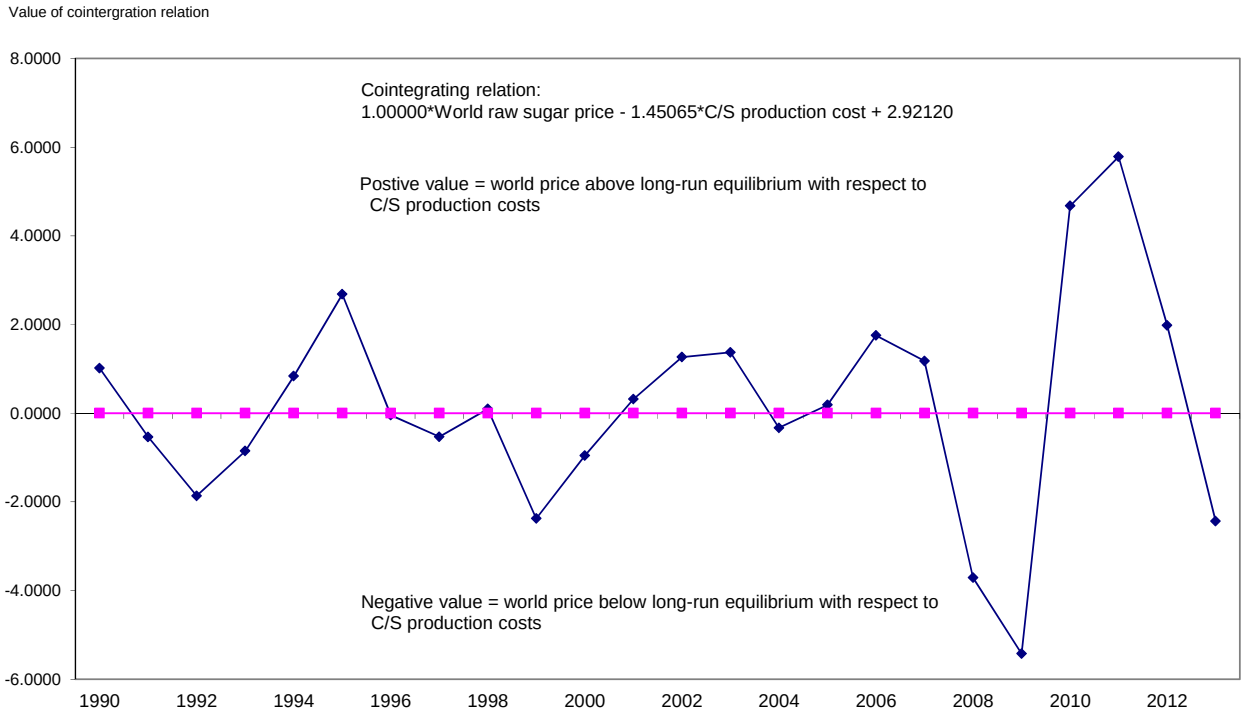
Source: LMC International.

Figure 5
Major sugar exporters' costs relative to Brazil Center/South



Source: LMC International.

Figure 6
Plot of the deviation from long-run cointegration relation between world raw sugar price and Brazilian Center/South (C/S) production costs



Source: United States Department of Agriculture, Economic Research Service, *Sugar and Sweetener Outlook*.

U.S. Sweetener Demand

Each year the Sugar and Sweetener Outlook of the Economic Research Service (ERS) makes calendar year estimates of total sweetener deliveries that are available for food and beverage consumption by U.S. consumers. These sweeteners include refined sugar; the corn sweeteners of high fructose corn syrup (HFCS), glucose syrup and dextrose; honey; and other edible syrups, including maple syrup and maple sugar. Table 2 shows new estimates for 2012, along with some revisions for prior years.

U.S. deliveries of total sweeteners for human food and beverage use for 2012 are estimated at 20.350 million tons, slightly higher than 2011 deliveries of 20.320 million tons. Neither refined sugar deliveries nor HFCS deliveries changed much from the previous year. The same holds for both honey and other edible syrup consumption. Glucose syrup deliveries for food and beverage use increased by 61,000 tons, but dry dextrose deliveries decreased by 26,000 tons. Moreover, total caloric sweetener deliveries have been in roughly the same 20.0–20.6 million ton range since 2007; that is, with no growth or decline.

On a per capita basis, U.S. sweetener deliveries for 2012 were 129.5 pounds, down 0.7 pounds from 2011 and down 19.7 pounds from the 149.2 pounds in 2000. Per capita refined sugar deliveries for human consumption in 2012 were 66.3 pounds, down slightly from last year but higher than all preceding years since 2000. The continuing downward downward trend in corn sweetener use moderated somewhat in 2012, but per capita levels are still at about the same level as in the mid-1980s.

Table 2 - U.S. total and per capita estimated deliveries of caloric sweeteners for domestic food and beverage use, by calendar year 1/

Calendar year	U.S. population 2/	Refined sugar 3/	Corn sweeteners				Pure honey	Edible syrups	Total caloric sweeteners	Sugar in imported products (SCP)	Total caloric sweeteners incl.SCP	High Intensity Sweeteners 4/ (sucrose equivalence)	Total sweeteners, including high intensity swt.
			HFCS	Glucose syrup	Dextrose	Total							
	(July 1)												
	Millions												
						1,000 short tons, dry basis							
2000	282.2	9,252	8,845	2,230	476	11,551	157	84	21,044	363	21,407	NA	NA
2001	285.1	9,195	8,920	2,205	469	11,595	134	101	21,025	411	21,436	NA	NA
2002	287.8	9,105	9,045	2,224	473	11,741	153	97	21,096	459	21,556	3,057	24,613
2003	290.3	8,848	8,849	2,209	449	11,507	146	104	20,604	569	21,174	3,191	24,364
2004	293.0	9,029	8,779	2,292	487	11,558	130	96	20,813	678	21,490	3,324	24,814
2005	295.8	9,324	8,693	2,261	481	11,435	156	94	21,008	722	21,731	3,457	25,188
2006	298.8	9,286	8,637	2,053	463	11,153	174	98	20,712	834	21,546	3,591	25,137
2007	301.7	9,230	8,417	2,067	448	10,932	141	94	20,397	726	21,123	3,634	24,757
2008	304.5	9,911	8,015	2,036	419	10,470	151	93	20,625	592	21,217	3,677	24,894
2009	307.2	9,740	7,637	1,991	417	10,045	141	90	20,016	559	20,575	3,933	24,508
2010	309.8	10,209	7,480	1,956	450	9,886	160	104	20,358	567	20,925	4,022	24,948
2011	312.0	10,418	7,276	1,908	446	9,630	169	102	20,320	543	20,863	4,112	24,975
2012	314.3	10,423	7,263	1,969	420	9,652	170	104	20,350	621	20,970	4,201	25,172
						Pounds, dry basis							
2000	282.2	65.6	62.7	15.8	3.4	81.9	1.1	0.6	149.2	2.6	151.7	NA	NA
2001	285.1	64.5	62.6	15.5	3.3	81.3	0.9	0.7	147.5	2.9	150.4	NA	NA
2002	287.8	63.3	62.9	15.5	3.3	81.6	1.1	0.7	146.6	3.2	149.8	21.2	171.0
2003	290.3	61.0	61.0	15.2	3.1	79.3	1.0	0.7	141.9	3.9	145.9	22.0	167.8
2004	293.0	61.6	59.9	15.6	3.3	78.9	0.9	0.7	142.0	4.6	146.7	22.7	169.4
2005	295.8	63.1	58.8	15.3	3.3	77.3	1.1	0.6	142.1	4.9	147.0	23.4	170.3
2006	298.8	62.2	57.8	13.7	3.1	74.7	1.2	0.7	138.6	5.6	144.2	24.0	168.2
2007	301.7	61.2	55.8	13.7	3.0	72.5	0.9	0.6	135.2	4.8	140.0	24.1	164.1
2008	304.5	65.1	52.6	13.4	2.8	68.8	1.0	0.6	135.5	3.9	139.3	24.1	163.5
2009	307.2	63.4	49.7	13.0	2.7	65.4	0.9	0.6	130.3	3.6	133.9	25.6	159.5
2010	309.8	65.9	48.3	12.6	2.9	63.8	1.0	0.7	131.4	3.7	135.1	26.0	161.1
2011	312.0	66.8	46.6	12.2	2.9	61.7	1.1	0.7	130.2	3.5	133.7	26.4	160.1
2012	314.3	66.3	46.2	12.5	2.7	61.4	1.1	0.7	129.5	4.0	133.4	26.7	160.2

1/ Per capita deliveries of sweeteners by U.S. processors and refiners and direct-consumption imports to food manufacturers, retailers, and other end users represent the per capita supply of caloric sweeteners. The data exclude deliveries to manufacturers of alcoholic beverages. Actual human intake of caloric sweeteners is lower because of uneaten food, spoilage, and other losses. See Table 51 of the *Sugar and Sweeteners Yearbook* series for estimated intake of sugar.
2/ Source: U.S. Census Bureau.
3/ Based on U.S. sugar deliveries for domestic food and beverage use.
4/ SRI Consulting, Chemical Economics Handbook, *High-Intensity Sweeteners Market Research Report*, May 2010.
Source: U.S. Department of Agriculture, Economic Research Service, *Sugar and Sweeteners Outlook*.

Table 3 -- Estimated sugar in U.S. product imports and exports, 1995-2012.

Year	Sugar confectionery	Cocoa and cocoa preparations	Cereal and bakers preparations	Bread, pastry, cakes, etc.	Misc. edible preparations	Carbonated soft drinks	Total sugar in imported products	Total sugar in exported products	Sugar in exported products less USDA product re-export program sugar	Domestic consumption of sugar in imported products
					1,000 short tons					
1995	137,760	66,265	6,286	43,705	68,945	26,405	349,365	317,809	196,921	152,444
1996	148,383	75,911	8,580	49,882	60,729	32,456	375,940	356,966	234,928	141,012
1997	161,894	92,664	14,273	64,812	68,172	39,403	441,218	390,159	300,636	140,582
1998	186,572	97,616	19,110	74,726	91,119	39,811	508,954	371,414	274,152	234,801
1999	223,421	111,807	20,116	87,875	118,876	48,165	610,261	392,208	246,271	363,990
2000	239,914	130,407	19,548	99,740	120,366	58,745	668,719	442,596	305,968	362,750
2001	259,975	160,350	18,097	115,917	127,331	64,961	746,630	470,991	335,250	411,380
2002	299,003	193,608	19,419	117,838	140,369	70,852	841,090	459,931	381,770	459,320
2003	362,786	208,260	25,139	134,500	150,859	83,440	964,985	507,950	395,682	569,303
2004	400,819	220,067	25,082	138,898	186,328	97,731	1,068,925	539,237	391,227	677,699
2005	456,969	231,322	26,012	143,742	187,838	109,747	1,155,630	596,960	433,242	722,388
2006	499,547	275,449	24,732	148,595	193,692	126,714	1,268,728	560,835	434,670	834,058
2007	433,062	276,990	25,081	150,538	189,345	128,811	1,260,363	588,293	477,622	782,741
2008	408,183	271,271	23,698	154,799	186,760	123,355	1,168,066	680,094	576,160	591,905
2009	381,207	256,855	16,335	157,347	169,954	112,489	1,094,186	696,963	535,247	558,939
2010	404,539	289,914	16,878	174,031	182,468	125,217	1,193,046	741,699	626,172	566,874
2011	400,910	315,141	16,661	184,366	188,218	135,070	1,240,367	820,802	697,344	543,023
2012	402,930	309,557	16,848	188,636	183,618	159,329	1,260,917	831,740	640,118	620,798

Source: U. S. Department of Agriculture, Economic Research Service, *Sugar and Sweetener Outlook*.

Sugar contained in net imported products is usually excluded in estimating U.S. per capita sweetener deliveries. Before 1995, sugar contained in imports was offset by sugar contained in U.S. food exports, indicating only a minor positive adjustment to total deliveries. Beginning in 1995-96, U.S. imports of sugar-containing products started increasing at a faster rate than exports of the products. This trend continued until 2006 but has since been moderated. For 2012, trade in sugar-containing products contributed an estimated 620,798 tons to sweeteners available for consumption, or 4.0 pounds per capita. This is down from the high of 5.6 pounds in 2006.

Table 3 provides more detail about sugar in imported and exported products. Sugar in imported products in 2012 is estimated at 1.261 million tons, a 20,000-ton increase over 2011. Sugar imported in beverage products showed the largest year-over-year increase at 20,550 tons, followed by sugar in imported bread, pastries, and cakes at 4,270 tons and sugar in sugar confectionery at 2,020 tons. Sugar in cocoa and cocoa products fell by 5,584 tons, or 1.8 percent. Sugar in exported products, adjusted for sugar imported under USDA re-export-import programs, is estimated at 640,118 tons in 2012, down about 8.2 percent from 2011.

Data in the next-to-last column of table 2, estimated by SRI Consulting and published in their *Chemical Economics Handbook* (CEH), show the sucrose equivalent availability for human consumption of high-intensity sweeteners (HIS) saccharin, aspartame, acesulfame K, sucralose, stevia products, and cyclamate. The supply of these sweeteners for food consumption has been growing over time, from 3.079 million tons in 2002 to a projected 4.201 million tons in 2012. On a per capita basis, the growth has been from 21.2 pounds in 2002 to 26.7 pounds in 2012.

Aspartame has the largest market share of all these sweeteners, but its share has been declining as the consumption of diet carbonated beverages has declined. Aspartame's share of the tabletop-use category has also fallen significantly, due primarily to competition from sucralose. The aspartame market share is now estimated at less than 50 percent. Saccharin's share of the market is about 18 percent and is on a slow decline. The use of Sucralose, which grew rapidly over a short period, gives it more than 20 percent of the market. The forecast market share growth for sucralose is positive but has settled down to about half a percentage point each year through 2014. Consumption of rebaudioside A, though growing steadily, is still less important than consumption of the other sweeteners.

Per Capita Consumption/Intake

The Food Availability Data System developed by USDA's Economic Research Service (ERS) tracks annual food and nutrient availability in the United States, beginning with 1909 data, for several hundred commodities, including sugar and other added sweeteners (as discussed above). Because the core Food Availability data series in the system overstates actual consumption, ERS added another series to the system—the Loss-Adjusted Food Availability data—which adjusts the data to account for nonedible food parts and food losses, including losses from farm to retail, at retail, and at the consumer level. This second data series more closely estimates per capita food intake.

Table 4 shows the derivation of intake consumption for refined sugar, high fructose corn syrup, and the other added sugars. The primary weight (first data column) is taken from the sweetener availabilities seen in the bottom panel of table 2. Although there are four loss categories, only two of these are relevant for added sugars: loss from retail to consumer level and the loss at the consumer level for uneaten portions, spoilage, etc. The retail-to-consumer loss is estimated at 11 percent for all sweeteners. Consumer-level losses are 34 percent for refined sugar and corn sweeteners and 15 percent for honey and edible syrups.[1] The next columns translate the annual consumption (pounds) into daily levels, i.e., ounces and grams per day. The last two columns show the implied daily calorie consumption and the corresponding number of equivalent teaspoons of sugar consumed daily.

Per capita sugar consumption for 2012 is estimated at 41.3 pounds, the same as last year. (This amount includes sugar consumed in imported products.) Per capita HFCS consumption has been decreasing steadily since 2000. Its value in 2012 is estimated at 27.1 pounds, down 0.3 pounds from 2011 and down 9.7 pounds, or 26.4 percent, since 2000. Consumption of other added sugars has decreased as well. Overall, per capita sweetener consumption intake for 2012 is at 78.4 pounds, down 0.4 pounds from 2011 and 11.0 pounds from 2000. In terms of daily calories, the 2012 intake level is 371 calories—a reduction in sweetener intake of about 12.3 percent compared with the 423 calories estimated for 2000.

[1] Agave syrup and other fructose products intended for direct consumption were formerly included in the HFCS complex. They have since been transferred to edible syrups where estimated food loss is less than that estimated before.

Table 4 -- Added sugar: estimated number of per capita calories consumed daily, by calendar year 1/

Sweetener/ Year	Primary weight (market level) 2/	Loss from primary to retail weight	Weight at retail level	Loss from retail/institutional to consumer level	Weight at consumer level	Loss at consumer level Nonedible share	Loss at consumer level Other (uneaten food, spoilage, etc.)	Per capita consumption, adjusted for loss			Calories per serving (teaspoon)	Serving weight	Calories consumed daily 3/	Servings (teaspoons) consumed daily 4/
	lb/yr	percent	lb/yr	percent	lb/yr	percent	percent	lb/yr	oz/day	g/day	number	grams	number	teaspoons
Refined sugar, including sugar in imported product														
2000	68.1	0.0	68.1	11.0	60.7	0.0	34.0	40.0	1.8	49.7	16.0	4.2	190	11.8
2001	67.4	0.0	67.4	11.0	60.0	0.0	34.0	39.6	1.7	49.2	16.0	4.2	187	11.7
2002	66.5	0.0	66.5	11.0	59.2	0.0	34.0	39.0	1.7	48.5	16.0	4.2	185	11.6
2003	64.9	0.0	64.9	11.0	57.7	0.0	34.0	38.1	1.7	47.4	16.0	4.2	180	11.3
2004	66.2	0.0	66.2	11.0	59.0	0.0	34.0	38.9	1.7	48.4	16.0	4.2	184	11.5
2005	67.9	0.0	67.9	11.0	60.5	0.0	34.0	39.9	1.7	49.6	16.0	4.2	189	11.8
2006	67.7	0.0	67.7	11.0	60.3	0.0	34.0	39.8	1.7	49.4	16.0	4.2	188	11.8
2007	66.0	0.0	66.0	11.0	58.7	0.0	34.0	38.8	1.7	48.2	16.0	4.2	184	11.5
2008	69.0	0.0	69.0	11.0	61.4	0.0	34.0	40.5	1.8	50.4	16.0	4.2	192	12.0
2009	67.0	0.0	67.0	11.0	59.7	0.0	34.0	39.4	1.7	48.9	16.0	4.2	186	11.7
2010	69.6	0.0	69.6	11.0	61.9	0.0	34.0	40.9	1.8	50.8	16.0	4.2	193	12.1
2011	70.3	0.0	70.3	11.0	62.5	0.0	34.0	41.3	1.8	51.3	16.0	4.2	195	12.2
2012	70.3	0.0	70.3	11.0	62.5	0.0	34.0	41.3	1.8	51.3	16.0	4.2	195	12.2
High Fructose Corn Syrup (HFCS)														
2000	62.7	0.0	62.7	11.0	55.8	0.0	34.0	36.8	1.6	45.8	16.0	4.2	174	10.9
2001	62.6	0.0	62.6	11.0	55.7	0.0	34.0	36.8	1.6	45.7	16.0	4.2	174	10.9
2002	62.9	0.0	62.9	11.0	55.9	0.0	34.0	36.9	1.6	45.9	16.0	4.2	175	10.9
2003	61.0	0.0	61.0	11.0	54.3	0.0	34.0	35.8	1.6	44.5	16.0	4.2	170	10.6
2004	59.9	0.0	59.9	11.0	53.3	0.0	34.0	35.2	1.5	43.7	16.0	4.2	167	10.4
2005	58.8	0.0	58.8	11.0	52.3	0.0	34.0	34.5	1.5	42.9	16.0	4.2	163	10.2
2006	57.8	0.0	57.8	11.0	51.4	0.0	34.0	34.0	1.5	42.2	16.0	4.2	161	10.0
2007	55.8	0.0	55.8	11.0	49.7	0.0	34.0	32.8	1.4	40.7	16.0	4.2	155	9.7
2008	52.6	0.0	52.6	11.0	46.8	0.0	34.0	30.9	1.4	38.4	16.0	4.2	146	9.1
2009	49.7	0.0	49.7	11.0	44.2	0.0	34.0	29.2	1.3	36.3	16.0	4.2	138	8.6
2010	48.3	0.0	48.3	11.0	43.0	0.0	34.0	28.4	1.2	35.3	16.0	4.2	134	8.4
2011	46.6	0.0	46.6	11.0	41.5	0.0	34.0	27.4	1.2	34.0	16.0	4.2	130	8.1
2012	46.2	0.0	46.2	11.0	41.1	0.0	34.0	27.1	1.2	33.7	16.0	4.2	129	8.0
Other added sweeteners, including glucose syrup, dextrose, honey, and edible syrups														
2000	20.9	0.0	20.9	11.0	18.6	0.0	32.6	12.5	0.5	15.6	16.0	4.2	59	3.7
2001	20.4	0.0	20.4	11.0	18.2	0.0	32.7	12.2	0.5	15.2	16.0	4.2	58	3.6
2002	20.5	0.0	20.5	11.0	18.2	0.0	32.6	12.3	0.5	15.3	16.0	4.2	58	3.6
2003	20.0	0.0	20.0	11.0	17.8	0.0	32.6	12.0	0.5	14.9	16.0	4.2	57	3.6
2004	20.5	0.0	20.5	11.0	18.3	0.0	32.8	12.3	0.5	15.3	16.0	4.2	58	3.6
2005	20.2	0.0	20.2	11.0	18.0	0.0	32.6	12.1	0.5	15.1	16.0	4.2	57	3.6
2006	18.7	0.0	18.7	11.0	16.6	0.0	32.3	11.2	0.5	14.0	16.0	4.2	53	3.3
2007	18.2	0.0	18.2	11.0	16.2	0.0	32.5	10.9	0.5	13.6	16.0	4.2	52	3.2
2008	17.7	0.0	17.7	11.0	15.8	0.0	32.4	10.7	0.5	13.2	16.0	4.2	50	3.2
2009	17.2	0.0	17.2	11.0	15.3	0.0	32.5	10.3	0.5	12.8	16.0	4.2	49	3.1
2010	17.2	0.0	17.2	11.0	15.3	0.0	32.3	10.4	0.5	12.9	16.0	4.2	49	3.1
2011	16.8	0.0	16.8	11.0	15.0	0.0	32.2	10.1	0.4	12.6	16.0	4.2	48	3.0
2012	17.0	0.0	17.0	11.0	15.1	0.0	34.0	10.0	0.4	12.4	16.0	4.2	47	2.9
Total added sweeteners														
2000	151.7	0.0	151.7	11.0	135.0	0.0	33.8	89.4	3.9	111.1	16.0	4.2	423	26.4
2001	150.4	0.0	150.4	11.0	133.8	0.0	33.8	88.6	3.9	110.1	16.0	4.2	419	26.2
2002	149.8	0.0	149.8	11.0	133.3	0.0	33.8	88.2	3.9	109.7	16.0	4.2	418	26.1
2003	145.9	0.0	145.9	11.0	129.8	0.0	33.8	85.9	3.8	106.8	16.0	4.2	407	25.4
2004	146.7	0.0	146.7	11.0	130.5	0.0	33.8	86.4	3.8	107.3	16.0	4.2	409	25.6
2005	147.0	0.0	147.0	11.0	130.8	0.0	33.8	86.6	3.8	107.6	16.0	4.2	410	25.6
2006	144.2	0.0	144.2	11.0	128.3	0.0	33.8	85.0	3.7	105.6	16.0	4.2	402	25.1
2007	140.0	0.0	140.0	11.0	124.6	0.0	33.8	82.5	3.6	102.5	16.0	4.2	391	24.4
2008	139.3	0.0	139.3	11.0	124.0	0.0	33.8	82.1	3.6	102.0	16.0	4.2	389	24.3
2009	133.9	0.0	133.9	11.0	119.2	0.0	33.8	78.9	3.5	98.1	16.0	4.2	374	23.3
2010	135.1	0.0	135.1	11.0	120.2	0.0	33.8	79.6	3.5	98.9	16.0	4.2	377	23.6
2011	133.7	0.0	133.7	11.0	119.0	0.0	33.8	78.8	3.5	97.9	16.0	4.2	373	23.3
2012	133.4	0.0	133.4	11.0	118.8	0.0	34.0	78.4	3.4	97.4	16.0	4.2	371	23.2

1/ Estimated number of daily per capita calories calculated by adjusting sweetener deliveries for domestic food and beverage use for food losses, includes sugar in imported products.

2/ U.S. per capita cane and beet sugar estimated deliveries for domestic food and beverage use, calendar year. See Table 50 of *Sugar and Sweetener Yearbook* series.

3/ Number of daily teaspoons multiplied by calories per serving.

4/ Grams per day divided by serving weight.

Source: USDA, ERS, *Sugar and Sweeteners Outlook*.

Sugar and Sweeteners in the North American Free Trade Area

On June 12, 2013, the U.S. Department of Agriculture (USDA) published in the *World Agricultural Supply and Demand Estimates* (WASDE) its latest sugar supply and use projections for Mexico and the United States for fiscal year (FY) 2013 and projections for FY 2014.

2012/13 Mexico sugar production is estimated at 6.840 million metric tons (mt), a large 625,000 mt increase from May, based on an increased harvested area estimate and better than expected yields. 2013/14 production is projected at 5.887 million mt, unchanged from last month. Table 5 shows assumptions behind the USDA estimate/projection, as well as that of *Comite Nacional Para El Desarrollo Sustentable de la Caña de Azucar (Conadesuca*). In comparison with the Conadesuca estimate for 2012/13, the USDA expects slightly less area harvested but larger sugarcane yields. The figures reported in the table are midpoints of ranges expected by the USDA; that is, production could be higher. As a matter of fact, the most recent weekly Conadesuca production report through June 8, (prepared after the release of the June WASDE) shows sugar production at 6.813 million mt. It would seem highly probable that the USDA production estimate will be exceeded.

The USDA increased its estimate of Mexico sugar exports by 100,000 to 1.718 million mt. Due to logistical and some marketing problems, it is not expected that Mexico will increase its exports to third countries by the already estimated 185,000 mt in 2012/13. The increase in 2012/13 is expected to go to the U.S. market, bringing the total estimate to the U.S. market to 1.533 million mt. As a matter of accounting, the rest of the sugar supply increase will be absorbed in ending stocks, now estimated at 1.685 million mt or 40.1 percent of human consumption (table 6). With the start of the 2013/14 marketing year, the export pace to the U.S. market is expected to continue through December. Increased exports of 318,000 mt bring the projection of total 2013/14 exports to the United States to 1.827 million mt. Also, constraints on exports to third countries are likely to be overcome in 2013/14, leading to more exports, now projected at 110,000 mt.

The USDA made no other changes to the Mexico supply and use balance. Ending stocks for 2013/14 are residually projected at 1.172 million mt. The resulting ending stocks-to-consumption ratio, at 27.5 percent, represents what some may call a sugar "oversupply" condition in Mexico. Many consider a stocks-to-consumption ratio of 22 percent as a desirable target.

Table 5 -- Mexico sugar crop parameter projections for 2012/13 and 2013/14

	Conadesuca	WASDE: June 2013	
	2012/13	2012/13	2013/14
Area (hectares)	774,908	766,284	730,514
Yield (metric ton/hectare)	75.64	78.25	69.90
Sugarcane (metric tons)	58,616,981	59,961,014	51,061,937
Recovery (percent)	11.40	11.40	11.53
Sugar (metric tons)	6,680,785	6,837,829	5,886,851

Source: U. S. Department of Agriculture, WASDE; Economic Research Service, *Sugar and Sweeteners Outlook*.

Table 6 -- Mexico sugar production and supply, forecast for 2012/13 and 2013/14

2012/13 Market year (Oct/Sept)	2012/13	2013/14
		1,000 metric tons, actual weight
Beginning stocks	966	1,685
Production	6,840	5,887
Imports	137	137
Imports for consumption	14	20
Imports for sugar-containing product exports (IMMEX) 1/	123	116.934
Total supply	7,943	7,709
Disappearance:		
Human consumption	4,200	4,260
For sugar-containing product exports (IMMEX)	340	340
Total	4,540	4,600
Exports	1,718	1,937
Exports to the United States & Puerto Rico	1,533	1,827
Exports to other countries	185	110
Total use	6,258	6,537
Ending stocks	1,685	1,172
		1,000 metric tons, raw value
Beginning stocks	1,024	1,786
Production	7,250	6,240
Imports	145	145
Imports for consumption	15	21
Imports for sugar-containing product exports (IMMEX)	130	124
Total supply	8,419	8,171
Disappearance		
Human consumption	4,452	4,516
For sugar-containing product exports (IMMEX)	360	360
Total	4,812	4,876
Exports	1,821	2,053
Exports to the United States & Puerto Rico	1,624	1,937
Exports to other countries	196	117
Total use	6,633	6,929
Ending stocks	1,786	1,242
Stocks-to-Human Consumption (percent)	40.1	27.5
Stocks-to-Use (percent)	26.9	17.9
High Fructose Corn Syrup (HFCS) Consumption (dry weight)	1,635	1,635

Source: United States Department of Agricultural, WASDE and Economic Rearch Service, *Sugar and Sweeteners Outlook* ; Conadesuca.

1/ IMMEX = Industria Manufacturera, Maquiladora y de Servicios de Exportación.

All changes to the U.S. sugar supply and use balance are through changes in imports. In 2012/13, imports from Mexico are estimated at 117,000 short tons, raw value (STRV) higher than last month. Low returns to exporting to the U.S. market are expected to decrease tariff-rate quota (TRQ) imports by 54,000 STRV. 2012/13 ending stocks increase by 63,000 STRV to 2.231 million STRV, implying a stocks-to-use ratio of 19.0 percent. The primary effect of the 2012/13 increase in Mexico's sugar exportable surplus is to increase U.S. imports in early 2013/14.

Imports from all sources are forecast at 3.810 million STRV, and ending stocks are forecast at 2.680 million STRV. The implied 2013/14 stocks-to-use ratio is a high 22.4 percent (table 7).

Table 8 shows a Sugar and Sweetener Outlook (SSO) estimate of WASDE components by source: beet sugar processors, cane sugar processors and refiners, and direct consumption imports. Based on analysis of the 2012/13 trend, the SSO estimates beet sugar deliveries for human consumption at 4.772 million STRV, cane sugar deliveries at 5.707 million STRV, and direct consumption imports at 978,000 STRV. Ending beet sugar stocks are estimated at 1.172 million STRV and cane sugar stocks at 1.059 million STRV. The resulting beet sugar stocks-to-use ratio at 24.6 percent far exceeds the 14.6 percent average for the preceding 10 years, while the cane sugar stocks-to-use ratio of 17.7 percent is at about the 17.5 percent 10-year average.

In spite of expected ending stocks, the refined beet sugar price (low end of the Milling and Baking News fob ex-factory Midwest) at 26.50 cents per pound through mid-June is above the minimum price to avoid forfeiture in the Upper Midwest of 24.62 cents per pound. The raw cane sugar price (Intercontinental Exchange (ICE) No. 16, nearby futures), on the other hand, at 18.92 cents per pound is well below the 20.94 cents per pound to avoid forfeiture. The U.S. raw sugar price has been pretty much tied to the ICE No. 11 nearby futures world raw sugar price with a margin between 2.25-2.75 cents per pound. The No.11 has averaged 16.36 cents per pound through mid-June. Strong production in Brazil, along with a depreciating Brazilian real (over 4-percent reduction in value since late May), could force the No. 11 even lower this summer.

Table 9 shows SSO projections corresponding to Table 8 for 2013/14. The most notable forecast is that direct consumption imports increase by 278,000 STRV relative to 2012/13 to 1.256 million STRV. Their share of the domestic market is projected to increase from 8.6 percent in 2012/13 to 10.9 percent in 2013/14. Foreign-based refined sugar, already competitive with high fructose corn syrup in food use, is increasingly competitive with domestically processed/refined sugar, as well.

Table 7 -- U.S. sugar: supply and use, by fiscal year (Oct./Sept.)

Items	2011/12	2012/13	2013/14	2011/12	2012/13	2013/14
	1,000 short tons, raw value			1,000 metric tons, raw value		
Beginning stocks	1,378	1,985	2,231	1,250	1,800	2,024
Total production	8,488	9,015	8,584	7,700	8,178	7,787
Beet sugar	4,900	5,100	4,840	4,446	4,627	4,391
Cane sugar	3,588	3,915	3,744	3,255	3,552	3,396
Florida	1,828	1,866	1,833	1,658	1,693	1,663
Louisiana	1,438	1,700	1,561	1,305	1,542	1,416
Texas	150	169	170	136	153	154
Hawaii	172	180	180	156	163	163
Total imports	3,632	2,966	3,810	3,295	2,691	3,456
Tariff-rate quota imports	1,883	1,040	1,265	1,709	944	1,148
Other Program Imports	664	125	400	602	113	363
Non-program imports	1,085	1,801	2,145	984	1,634	1,946
Mexico	1,071	1,791	2,135	972	1,625	1,937
Total supply	13,498	13,966	14,625	12,245	12,670	13,268
Total exports	269	200	200	244	181	181
Miscellaneous	-69	0	0	-63	0	0
Deliveries for domestic use	11,313	11,535	11,745	10,263	10,464	10,655
Transfer to sugar-containing products for exports under reexport program	140	100	150	127	91	136
Transfer to polyhydric alcohol, feed	33	35	35	30	32	32
Deliveries for domestic food and beverage use	11,141	11,400	11,560	10,107	10,342	10,487
Total Use	11,513	11,735	11,945	10,445	10,646	10,836
Ending stocks	1,985	2,231	2,680	1,800	2,024	2,431
Stocks-to-use ratio	17.238	19.01	22.44	17.24	19.01	22.44

Source: United State Department of Agriculture, WASDE, and Economic Research Service, *Sugar and Sweetener Outlook*.

Table 8 -- 2012/13 U.S. sugar supply and use, by source, June 2013

Items	2012/13			
	All sources	Beet sugar	Cane sugar	Direct imports by nonreporters
		1,000 short tons, raw value		
Beginning stocks	1,985	845	1,140	0
Total production	9,015	5,100	3,915	0
Total imports	2,966	0	1,989	978
Total supply	13,966	5,945	7,044	978
Total exports	200	20	180	0
Miscellaneous	0	0	0	0
Deliveries for domestic use	11,535	4,752	5,805	978
Transfer to sugar-containing products for exports under reexport program	100	25	75	0
Transfer to polyhydric alcohol, feed	35	12	23	
Deliveries for domestic food and beverage use	11,400	4,715	5,707	978
Total use	11,735	4,772	5,985	978
Ending stocks	2,231	1,172	1,059	0
Stocks-to-use ratio	19.01	24.57	17.69	0.00

Source: United States Department of Agriculture, WASDE, and Economic Research Service, *Sugar and Sweetener Outlook*.

Table 9 -- 2013/14 U.S. sugar supply and use, by source, June 2013

Items	2012/13			
	All sources	Beet sugar	Cane sugar	Direct imports by nonreporters
		1,000 short tons, raw value		
Beginning stocks	2,231	1,172	1,059	0
Total production	8,584	4,840	3,744	0
Total imports	3,810	0	2,554	1,256
Total supply	14,625	6,012	7,357	1,256
Total exports	200	20	180	0
Miscellaneous	0	0	0	0
Deliveries for domestic use	11,535	4,569	5,710	1,256
Transfer to sugar-containing products for exports under reexport program	100	25	75	0
Transfer to polyhydric alcohol, feed	35	12	23	
Deliveries for domestic food and beverage use	11,400	4,532	5,612	1,256
Total use	11,735	4,589	5,890	1,256
Ending stocks	2,890	1,424	1,467	0
Stocks-to-use ratio	24.63	31.02	24.90	0.00

Source: United States Department of Agriculture, WASDE, and Economic Research Service, *Sugar and Sweetener Outlook*.

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Data

Tables from the *Sugar and Sweeteners Yearbook* are available in the Sugar and Sweeteners Topics at http://www.ers.usda.gov/topics/sugar/. They contain the latest data and historical information on the production, use, prices, imports, and exports of sugar and sweeteners.

Related Websites

Sugar and Sweeteners Outlook http://www.ers.usda.gov/Publications/SSS/
WASDE http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documented=1194
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