

2012 Outlook of the U.S. and World Sugar Markets, 2011-2021

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ABSTRACT

This report evaluates the U.S. and world sugar markets for 2011-2021 using the Global Sugar Policy Simulation Model. This analysis is based on assumptions about general economic conditions, agricultural policies, population growth, weather conditions, and technological changes.

Both the U.S. and world sugar economies are predicted to remain stable over the next ten years. Sugar prices increased from 18.7 cents/lb in 2009, 27 cents/lb in 2010 and 32 cent/lb in 2011. World sugar production increased in 2010 along with consumption. World demand for sugar is expected to grow at a similar rate to world supply, resulting in Caribbean sugar prices remaining near the 23.0 -28.0 cents/lb range throughout the forecast period. The U.S. wholesale price of sugar is projected to remain in the 38 to 45 cents/lb range throughout the forecast period. It is projected that Mexican exports to the United States will decrease to 488 thousand metric tons of sugar by 2021. World trade volumes of sugar are expected to increase throughout the forecast period.

Keywords: sugar, production, exports, consumption, ending stocks

HIGHLIGHTS

Total world sugar trade is projected to increase by 6.0% from 39.9 million metric tons to 42.2 million metric tons between 2011 and 2021. Brazil's exports are projected to increase from 23.8 million metric tons in 2011 to 26.1 million metric tons in 2021 even though Brazil uses a substantial amount of sugar cane for ethanol production. World sugar prices are projected to decrease from \$0.32/lb in 2011 to \$0.24/lb in 2021. U.S. wholesale sugar price is projected to decrease from \$0.47/lb in 2011 to \$0.39/lb in 2021. It is worth a note that the world sugar industry is influenced by the recent surge in oil price which resulted in increased ethanol production from sugar cane in Brazil. Thus, Brazil decreased supply of sugar to the world market. In addition, high demand for corn from corn-based ethanol production has increased the price of corn which prevents the use of high fructose corn syrup from beverage production in Mexico, resulted in continuous use of sugar for beverage production in the country.

U.S. sugar imports are predicted to decrease by 21.4% over the 2011-2021 period compared to the recent average import. U.S. sugar production is projected to increase by 13.1% between 2011 and 2021. U.S. sugar consumption is projected to increase by 14.8% and ending stocks are predicted to remain constant. However, the U.S. sugar industry could face some uncertainty, mainly because of potential increases in sugar imports from Mexico.

Brazil's production is expected to increase by 7.1% from the 2009-2011 average of 36.8 million metric tons to 39.4 million metric tons in 2021. Exports could increase by 6.1% to 26.1 million metric ton in 2021, while consumption increases by 13.2%.

Canada's production is predicted to increase slightly between 2011 and 2021. Canada's imports are expected to increase by 11.1%. Consumption is predicted to increase 12.2% and ending stocks are predicted to increase by 14.6%.

Mexico's production is expected to increase by 11.5%, and exports are expected to decrease slightly from the 2009-2011 average due to decreases in its exports to the United States.

The European Union (EU) is expected to remain an importer due to the EU-27 sugar policy reform. Their production is predicted to increase by 2.4%, while consumption will increase by 3.6%.

Exporting countries, such as Australia, Thailand, South Africa and Brazil are predicted to increase their production and exports during the forecasting period, while Cuba and Mexico are expected to reduce exports during the same period.

Most importing countries, except for Japan and the FSU are predicted to increase their imports for the 2011-2021 period.

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INTRODUCTION

Sugar is produced in over 100 countries worldwide. In most years, over 70% of world sugar production is consumed domestically and the remaining is traded in the world. However, a significant share of this trade volume takes place under bilateral long-term agreements or on preferential terms. Since only a small proportion of world production is traded freely, small changes in production and government policies tend to have large effects on world sugar markets. As a result, sugar prices have been unstable in the world market.

During late 2005 and the first quarter of 2006, world sugar price increased from about \$0.12/lb to over \$0.18/lb because of increased use of sugarcane for ethanol production in Brazil. World sugar price fell to \$0.12/lb in late 2006 and \$0.11/lb by early 2007 due to increased production in other exporting nations. The yearly average price was \$0.187/lb in 2009 and increased to \$0.27/lb in 2010 and increased further to \$0.32 in 2011. The stocks to use ratio has varied between 34% in 1968 and 17% in 2010. Recently the ratio has varied between 31% in 2000 and 17% in 2010. The Caribbean price follows an opposite relationship with the stocks to use ratio, ie, when the stocks to use ratio is high (low), prices are low (high). The recent decrease in the stocks to use ratio, increased sugar price from \$0.08/ lb in 2000 to \$0.27/lb in 2010. Similar price increases occurred in 1974-1975 and 1980-1981. The current stocks to use ratio is lower than any time in the past 45 years, this indicates that the recent sugar price increase is justified.

This report evaluates the U.S. and world sugar industry for 2011-2021 using the Global Sugar Policy Simulation Model developed by Benirschka et al. (1996). This model was run utilizing the 2011 data. The outlook projection is based on an assumption that farm and trade policies adopted by sugar exporting and importing countries remain unchanged for the 2011-2021 time period.

Sugarcane is a perennial grass that is produced in tropical and subtropical climate zones. It matures in 12 to 16 months. Once the cane is harvested, the sucrose starts breaking down. Thus, sugarcane mills are located close to the cane fields to minimize transport costs and sucrose losses. Mills convert sugarcane into raw sugar which is shipped to refineries for further processing. In contrast to raw sugar producing mills, refineries are unconstrained by seasonal production patterns and operate throughout the year. Unlike sugarcane, sugarbeets are an annual crop of temperate climate zones. Because of disease problems, sugarbeets are always grown in crop rotations. Since sugarbeets are bulky and costly to transport, beet processing facilities are located close to production. In contrast to sugarcane, sugarbeets are directly processed into refined sugar. Raw sugar is produced only from sugarcane.

Raw sugar and refined sugar are two different products. They are both traded internationally. Beet sugar producing countries export refined sugar, while cane sugar producing countries export either raw or refined sugar. In recent years, the share of raw sugar in total sugar exports has been about 50%.

OVERVIEW OF THE WORLD SUGAR INDUSTRY AND SUGAR POLICIES

For the 2007-2011 period, annual global sugar production was approximately 157 million metric tons with about 33% of production exported from its country of origin. The largest sugar producing region is Brazil, followed by the India and the EU (Table 1).

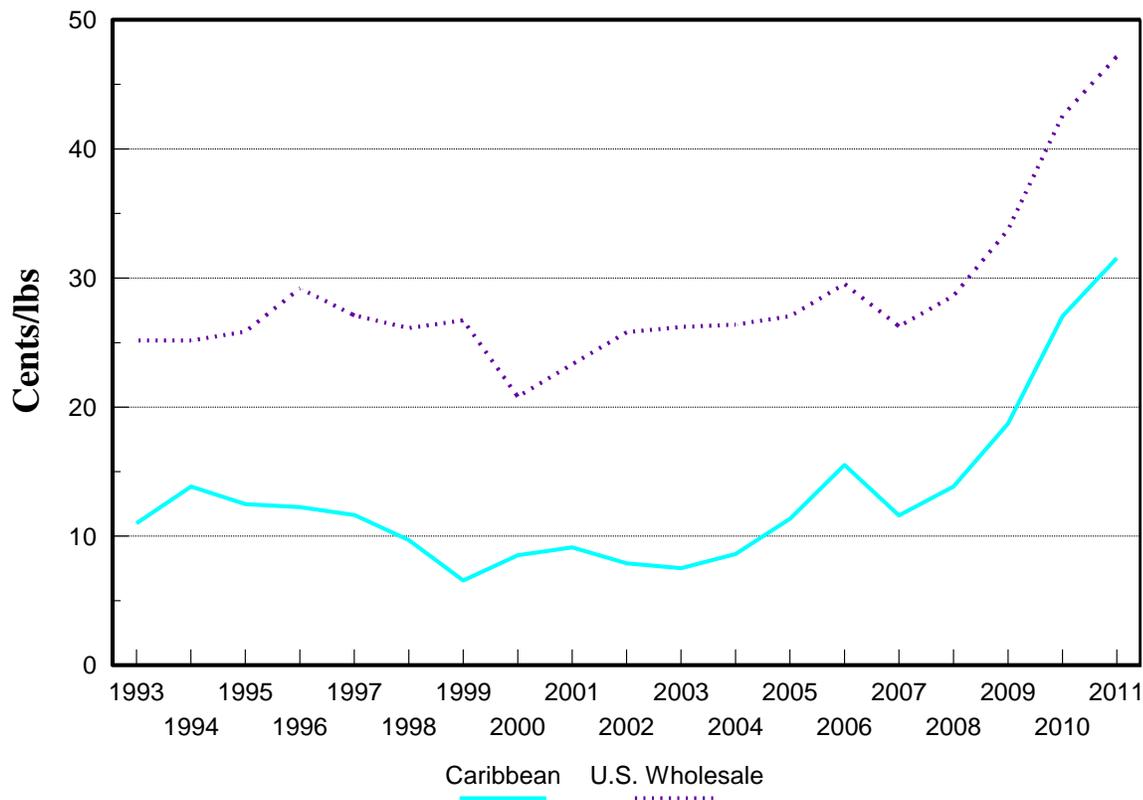
Table 1. World Sugar Supply and Utilization, 2007 to 2011 Average

| Country/ Region | Beet/ Cane | Consumption | Production | Net Exports | Ending Stocks | Per Capita Consumption |
|--|---------------|-------------|------------|----------------|------------------|---------------------------|
| -----1,000 metric tons, raw value----- | | | | | | Kg |
| Algeria | B | 1,285 | 6 | (1,273) | 215 | 34 |
| Australia | C | 1,250 | 4,461 | 3,213 | 340 | 60 |
| Brazil | C | 11,670 | 34,790 | 22,990 | (375) | 56 |
| Canada | B | 1,379 | 88 | (1,299) | 113 | 43 |
| China | B/C | 14,270 | 12,737 | (1,508) | 2,597 | 7 |
| Cuba | C | 677 | 1,272 | 685 | 81 | 61 |
| European Union | B | 17,151 | 15,629 | (1,357) | 2,101 | 48 |
| Egypt | B/C | 2,743 | 1,760 | (974) | 445 | 34 |
| Former Soviet Union | B/C | 10,462 | 6,328 | (4,022) | 1,603 | 37 |
| India | C | 23,730 | 24,033 | 1,262 | 6,957 | 17 |
| Indonesia | C | 4,760 | 1,964 | (2,764) | 522 | 16 |
| Japan | B/C | 2,304 | 828 | (1,460) | 326 | 18 |
| Korea | - | 1,259 | 0 | (1,343) | 482 | 27 |
| Mexico | C | 5,098 | 5,474 | 752 | 1,063 | 50 |
| South Africa | C | 1,603 | 2,192 | 639 | 144 | 36 |
| Thailand | C | 2,184 | 8,357 | 6,244 | 2,252 | 30 |
| United States | B/C | 10,186 | 7,139 | (2,492) | 1,232 | 32 |
| Rest of World | B/C | 42,146 | 30,395 | (15,688) | 13,798 | 19 |
| World | B/C | 154,167 | 157,452 | 51,473 | 33,894 | 21 |

Source: USDA-FAS, PS&D website.

Per capita sugar consumption was highest in the Cuba followed by Australia, and Brazil, although a substantial portion of Brazil sugar is converted into ethanol for transportation fuel. Per capita sugar consumption in the United States was 32 kg, which was above world average per capita consumption (21 kg). Per capita sugar consumption was lowest in China at 7 kg per capita, but that may increase substantially as per capita income increases. Annual global sugar consumption for the 2007-2011 period was 154 million metric tons.

The major sugar exporting countries were Brazil, Australia, Thailand, and South Africa. These countries accounted for 59% of global exports from 2006 to 2010. A relatively few number of countries dominate world sugar exports, but imports are less concentrated. Major importing countries were the Former Soviet Union (FSU), the United States, Indonesia, Korea, Canada, Algeria, China, the EU, and Japan. Imports by these countries accounted for about 34% of all sugar imports from 2007 to 2011. Under the Lome Convention, the EU was required to import sugar under preferential terms from certain African, Caribbean, and Pacific countries.



Source:USDA

Figure 1. U.S. and World Sugar Prices

The Caribbean raw sugar price is usually considered to be the world market price for sugar. Except for years with high world market prices, there was a substantial wedge between the U.S. wholesale price of raw sugar and the world market price. Over the last decade, U.S. wholesale prices fluctuated between \$0.22 and \$0.47/lb. World market prices ranged between \$0.06/lb. and \$0.32/lb (Figure 1). Both real Caribbean raw sugar prices and U.S. raw sugar import prices had long-term downward trends but are increasing for the past 9 years. Figure 1 shows the dramatic price increase in Caribbean sugar price in late 2005 and 2006. In 2003, the price averaged \$0.07/lb, but it had risen to \$0.12/lb in 2005 and it was \$0.18/lb in June 2006 before falling to \$0.11/lb in 2007. Caribbean sugar price increased to \$0.19 in 2009, \$0.27 in 2010 and \$0.32 in 2011. The high Caribbean sugar price also increased the U.S. wholesale price to \$0.30/lb in 2006, falling to \$0.26/lb in 2007, before increasing to \$0.28/lb in 2008, \$0.34 in 2009 and \$0.43 in 2010.

Figure 2 shows the relationship between world stocks to use ratio and the Caribbean raw sugar price. The correlation between the two series is -0.52 indicating that there is a strong negative correlation between them. The stocks to use ratio has fallen from 31% in 2000 to 17% in 2010. That decrease has increased price from \$0.075/lb in 2000 to \$0.24/lb in 2010 before increasing to \$0.33/lb in 2011. The current stocks to use ratio is lower than any time in the past 45 years, indicating that the recent surge in sugar price is justified.

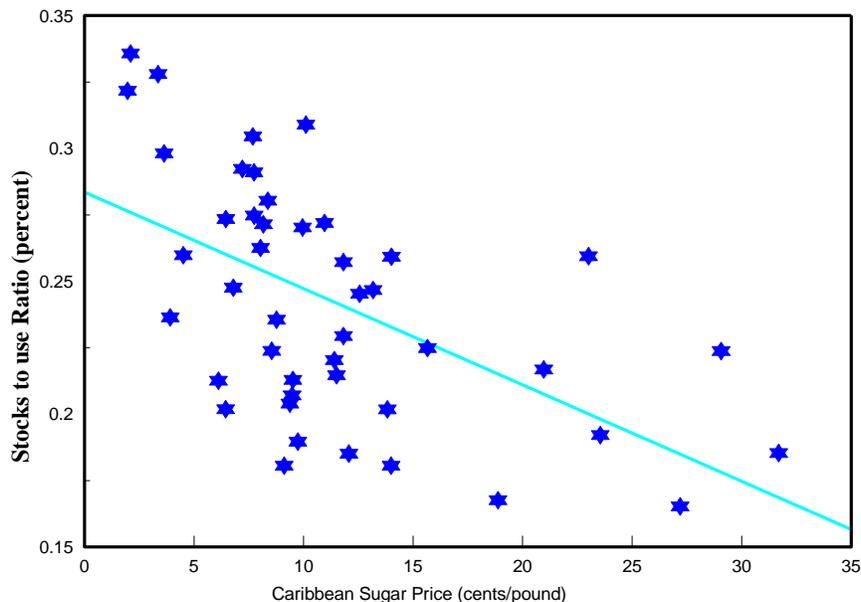
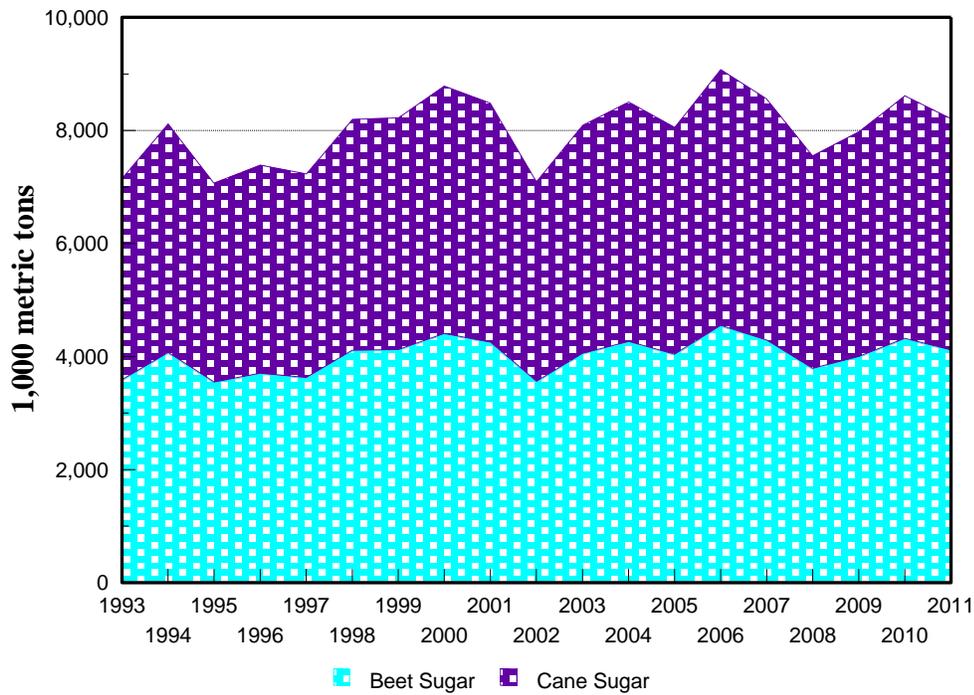


Figure 2. World Stocks to Use Ratio and Caribbean Raw Sugar Price, 1967-2011

The volatility of world sugar prices could be due to the nature of supply response to price changes stemming from high fixed costs of sugar production. An increase in sugar production in response to rising sugar prices requires significant investments in processing facilities, and it takes some time until new production capacity becomes available. Once the facilities are in place, they tend to be used at full capacity to spread the fixed costs. Thus, when prices fall, production remains at full capacity. Sugar production is relatively unresponsive to price in the short run, however sugar price does respond to changes in consumption. The increase in the Caribbean price of sugar in 2005 and 2006 is mainly because Brazil increased the production of ethanol from sugar cane. However, the price dropped in 2007 because of increased production of sugar from sugarcane in response to higher sugar prices in 2005 and 2006.

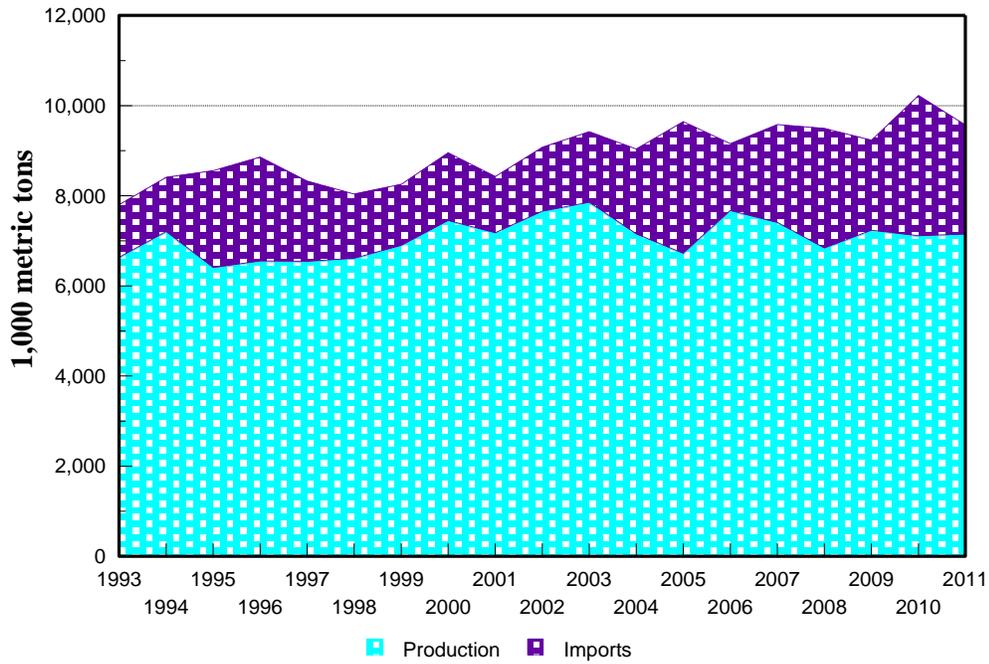
The United States produces both beet and cane sugar. Cane sugar is produced mainly in Florida, Louisiana, and Texas. Beet sugar is produced largely in the Great Lakes region, Upper Midwest, Great Plains, and far western states. Beet sugar production increased by 10% from 1993 to 2011, while cane sugar production increased slightly (Figure 3). U.S. total sugar production increased about 14% from 7.2 million metric tons in 1993 to 8.2 million metric tons in 2011 (Figure 4).

U.S. consumption of sugar increased by 29.6% from about 8.1 million metric tons in 1993 to 10.5 million metric tons in 2011 (Figure 5). The balance was imported from more than 40 countries. U.S. sugar imports decreased 71% from 4.5 million metric tons in 1974 to 1.3 million metric tons in 1987 and then increased to an average of 1.9 million metric tons during the 1993 to 2011 period. Under the North American Free Trade Agreement (NAFTA), Mexico currently is allowed to export excess sugar to the United States. Mexico exported 732 thousand metric tons of sugar into the United States in 2009 and 1,228 thousand metric tons of sugar into the United States in 2010 and 937 thousand metric tons in 2011. The U.S.-Central American Free Trade Agreement (CAFTA), which is a free trade agreement (FTA) currently with six Central American countries, provides additional sugar imports of 107,000 metric tons, with additional increases of 3,000 metric tons per year.



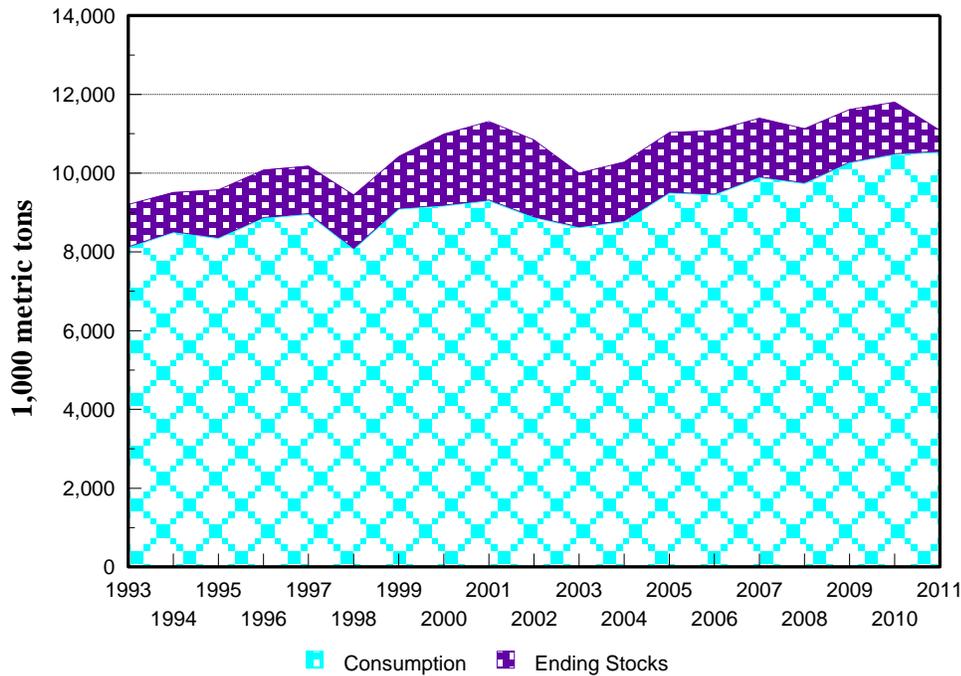
Source: USDA

Figure 3. U.S. Beet and Cane Sugar Production



Source: USDA

Figure 4. U.S. Sugar Production and Imports



Source:USDA

Figure 5. U.S. Sugar Consumption and Ending Stocks

U.S. Sugar Programs and Policies

The U.S. sugar program was established by the Food and Agricultural Act of 1981. Several modifications were made by the Food Security Act of 1985; the Food, Agriculture, Conservation, and Trade Act of 1990; the Federal Agriculture Improvement and Reform Act of 1996; the Farm Security and Rural Investment (FSRI) Act of 2002; and the Food, Conservation, and Energy Act of 2008.

The core policy tools in the program are the loan program, import restrictions, and production allotments. The main purpose of the loan program is to maintain a minimum market price for U.S. producers. Processors use sugar as collateral for loans from the U.S. Department of Agriculture (USDA). The program permits processors to store the sugar rather than sell it for lower than desired prices. Loans can be taken for up to nine months. Processors pay growers for delivered beets and cane, typically about 60% of the loan. Final payments are made and the loan is repaid after the sugar has been sold.

Under the FSRI Act, the sugar loan rate was set at \$0.18/lb for raw cane sugar and \$0.229/lb for refined beet sugar. However, loan rates are increased under the 2008 Farm Bill to \$0.1875/lb for cane sugar and \$0.2409/lb for beet sugar. Loans under the 2008 Farm Bill become recourse loans if the tariff rate quota (TRQ) is at 1.5 million metric tons or below, regardless of the price. When the TRQ is set above 1.5 million metric tons, the loans are nonrecourse. Under the nonrecourse loan, a processor can forfeit collateral (sugar) to the Commodity Credit Corporation (CCC) instead of loan repayment if market prices fall below the loan rates. Processors who obtain a nonrecourse loan must pay farmers an amount for their sugarbeets and sugarcane that is proportional to the loan value of sugar. This is the same as under previous legislation.

The Uruguay Round Agreement (URA) on agriculture made minor adjustments for sugar trade. U.S. import quotas on sugar were converted into TRQs, implying that a specified amount of sugar can be imported at the lower of two alternative duty rates. The amount of cane sugar subject to the lower duty rate increased from 1,117,195 metric tons in a fiscal year to 1,231,497 metric tons for 2005 due to production losses due to Hurricane Katrina. The minimum low-duty import of refined sugar is 22,000 metric tons. The minimum low-duty imports for raw and refined sugar add up to 1.256 million metric short tons raw value of sugar per year. The high duty (about \$0.15/lb) is imposed on the amount of sugar imported over the import quota. The first-tier duty ranges from zero to 0.625 cents/lb.

The second tier-duty for raw cane sugar was reduced from \$0.1762/lb in 1995 to \$0.1582/lb in 2000 under the URA. The duty for refined sugar was reduced from \$0.186/lb in 1995 to \$0.1621/lb in 2000. The duties have remained constant since 2000. The sugar quota has been allocated among more than 40 quota-holding countries, allowing imports of specific quantities of sugar at first-tier duty rates. The quota allocation is based on historical exports to the United States for the 1975 to 1981 period.

NAFTA allowed a rapid reduction in the second-tier duty for Mexican sugar over the past several years. This implies that Mexico is in a unique position to increase its exports of sugar to the United States above the allocated quota. If Mexico starts to use High Fructose Corn Sweetener (HFCS) for beverages, more of its sugar could be exported to the United States. However, the price of HFCS has increased substantially as a result of increased corn price. If the price of HFCS remains near the current levels, Mexico may not use HFCS for beverages. Currently there are transportation and use taxes on HFCS in Mexico.

The United States signed a free trade agreement in 2005 with the Central American countries of El Salvador, Guatemala, Honduras, Nicaragua, Costa Rica and the Dominican Republic. CAFTA allows 107,000 metric tons of additional sugar to be imported into the United States in the first year of implementation of the agreement, with additional increases of about 3,000 metric tons per year. This increase, however, does not have a significant impact on the price of U.S. sugar or world trade flows. Recent trade negotiations with Australia do not include increased sugar imports.

Domestic and Export Subsidies in the EU, South Africa, and Mexico

The basic tools of the EU's sugar policies are (1) import restrictions with limited free access for certain suppliers; (2) internal support prices that ensure returns to producers for fixed quantities of production and permit the maintenance of refining capacity; and (3) export subsidies for a quantity of domestically produced sugar.

Since marketing year 1995, EU-subsidized exports of sugar to third-world countries have been limited, in volume and value, under the URA commitments of the EU. However, the EU did not make an export subsidy commitment on its subsidized exports of a quantity of sugar equal to its preferential imports under the Lome Convention. The EU has proposed to limit sugar production to about 14.9 million metric tons per year. In 2008, the EU produced 15.2 million metric tons of sugar compared to 21 million metric tons of sugar in 2004 and 2005. Also in 2008 the EU reduced the intervention price by 36% which will discourage sugar imports from preferential countries. In 2009, the EU reduced export subsidies and lowered tariffs on non-

preferential countries. The EU has imported sugar each year since 2006 except for 2009. In 2011 the EU imported 940 thousand metric tons of sugar.

South Africa has both internal price supports and export subsidies. South Africa reduced its subsidized exports by 200 thousand metric tons to 702 thousand metric tons although net exports for 2011 were only 330 thousand metric tons. Mexico also has subsidized exports and is subsidizing raw sugar storage.

Brazilian Production and Exports

Brazil is the largest sugar producing country in the world. The production of sugar has increased 352% since 1990. About 34% of Brazilian sugar consumed domestically is converted into ethanol for fuel. Exports have risen from 1.2 million metric tons in 1990 to 26.9 million metric tons in 2011. Sugar that is converted into ethanol is subsidized at prices higher than the world price. Recent increases in the world oil price has increased the price of ethanol which in turn increased Brazil's conversion of sugar into ethanol, reducing potential sugar exports from Brazil. That reduction in the growth of sugar exports could be one of the main forces for world sugar price increases. Brazil decreased its exports by 7.8% in 2011 which provided strength for sugar prices in 2011.

Sugar Exports in Australia, China, and India

Australian sugar exports were handling by the Queensland Sugar Corporation (QSC) until 2008 when it was dissolved and replaced by a public corporation, the Queensland Sugar Limited (QSL), established under the Sugar Industry Act 2008. The QSL is responsible for the domestic marketing and exports of 90% of the raw sugar produced in the state of Queensland, which produces 95% of the sugar produced in Australia. State trading enterprises (STEs) were not addressed in the URA. Other countries, including China and India, handle their sugar trade through STEs similar to the QSC.

OUTLOOK FOR THE WORLD SUGAR INDUSTRY

Total world sugar trade is projected to increase by 6.0%, from 39.9 to 42.2 million metric tons over the 2011-2021 period. Most exporting countries will increase their sugar exports for the same period. Exports will increase 9.7% for Brazil, and 31.0% for Australia. However, exports are expected to decrease for Cuba, Mexico, and Thailand during the same time period. World sugar price, referred to as the Caribbean price of sugar, is projected to decrease from \$0.32/lb in 2011 to \$0.24/lb in 2021 (Figure 6).

The world sugar industry seems to be highly correlated to prices of oil and corn. The recent surge in oil price encouraged Brazil to produce ethanol from its sugarcane and corn price above \$5.00/bu discouraged Mexico from replacing sugar with high fructose corn syrup in beverage production.

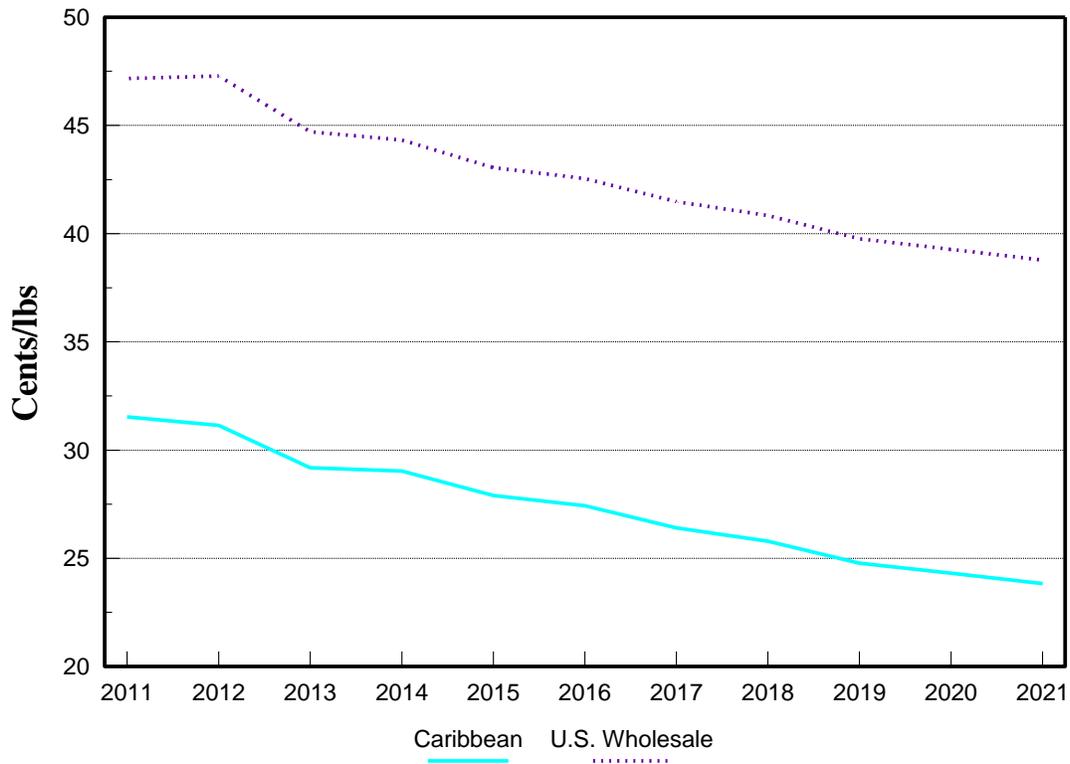


Figure 6. Estimated U.S. and World Prices

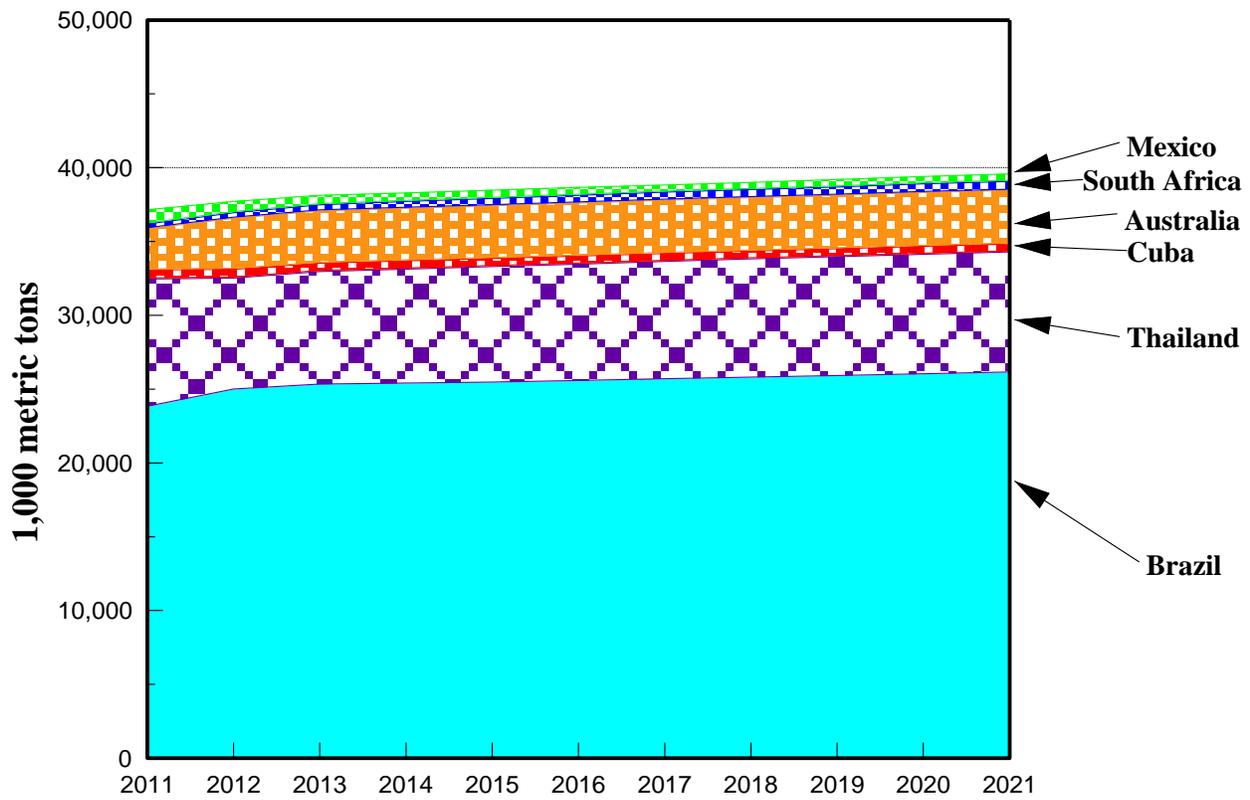


Figure 7. Projected World Sugar Exports by Country

United States

Table 2 shows production, consumption, imports, and ending stocks of sugar for the United States. U.S. sugar production is predicted to increase to 8.1 million metric tons in 2021. The increase in sugar production is due mainly to an increase in both U.S. sugarbeet and sugar cane production. U.S. sugar consumption is predicted to increase by 14.8% from 10.4 million metric tons (the 2009-2011 average) to 12.0 million metric tons in 2021. Ending stocks are also predicted to fall by 13.2% by 2021 (Table 2). Imports are predicted to decrease 21.4% from the 2009-2011 average. However, the imports depend upon Mexico's sugar production and consumption and the conversion of Mexico's soft drink industry to HFCS..

Table 2. U.S. Sugar Production, Consumption, Imports, and Carry-over Stock, 2011-2021 Average

| | Average (2009-2011) | 2011 | 2021 | % Change (2009-11) to 2021 |
|-----------------------------|-----------------------------|--------|--------|-------------------------------|
| | -----1,000 metric tons----- | | | |
| Production | 7,132 | 7,142 | 8,063 | 13.1 |
| Beet | 4,137 | 4,108 | 4,592 | 11.0 |
| Cane | 2,995 | 3,035 | 3,471 | 15.9 |
| Net Imports | 2,531 | 2,443 | 1,989 | -21.4 |
| Consumption | 10,429 | 10,537 | 11,974 | 14.8 |
| Carry-over Stocks | 1,089 | 562 | 943 | -13.2 |
| Per capita Consumption (kg) | 32 | 32 | 31 | -3.1 |

Exporters

Figure 7 shows the projected sugar exports for the major exporting countries. Brazil is the largest sugar exporter followed by Thailand and Australia. Brazil's production is predicted to increase by 7.1% from 36.8 million metric tons in 2009-2011 to 39.4 million metric tons in 2021 (Table 3). Brazil's exports are predicted to increase from 24.6 million metric tons in 2009-2011 to 26.1 million metric tons in 2021. Its domestic consumption is predicted to increase by 13.2% from 11.8 million metric tons in 2009-2011 to 13.3 million metric tons in 2021. Much of the increase in consumption is due to ethanol production.

Thailand's exports are predicted to increase by 17.3% from the 2009-2011 average of 7.0 million metric tons for the 2009-2011 average to 8.2 million metric tons in 2021 (Table 3). Consumption increases from 2.3 million metric tons for the 2009-2011 average to 2.5 million metric tons in 2021. Sugar production in the country also is predicted to increase by 20.6% from 8.9 million metric tons to 10.8 million metric tons in 2021.

Australia's exports are predicted to increase by 22.8% from the 2009-2011 average to 3.6 million metric tons in 2021 (Table 3). The reason for the large increase in exports is that in 2009 and 2010, Australia had small sugar cane crops which lowered exports. Between 2006 and 2009 Australia exported an average of 3.6 million metric tons of sugar per year. Production is predicted to increase by 21.8% from 4.2 million metric tons to 5.1 million metric tons in 2021. Sugar consumption is expected to increase by 14.4% from 1.2 million metric tons to 1.4 million metric tons in 2021.

Cuba's exports are predicted to decrease by 5.0% from the 2009-2011 level to 2021 (Table 3). It is predicted that Cuba will increase its sugar production by 9.0%, while consumption is predicted to increase by 14.8%. These projections are based on the assumption that the political

situation remains the same between the United States and Cuba.

Mexico's production is predicted to increase by 11.5% from 5.4 million metric tons in 2009-2011 to 6.0 million metric tons in 2021. Mexico is expected to export 488 thousand metric tons by 2021, mainly to the United States under NAFTA. Sugar consumption is predicted to increase by 19.3% from 5.0 million metric tons in 2009-2011 to 5.9 million metric tons in 2021 under the assumption that Mexico does not convert to HFCS in their soft drink industry. Ending stocks are predicted to decrease by 25.6%. If Mexico replaces the sugar that is used in soft drinks with HFCS, the excess sugar will likely be exported to the United States under NAFTA.

South African sugar production is expected to return to normal levels after several years of smaller than normal crops. South Africa's production is predicted to increase by 8.6% to 2.3 million metric tons in 2021. South Africa's exports are predicted to increase 51.7% by 2021. Sugar consumption is predicted to increase by 1.8% and ending stocks are predicted to increase by 42.0%.

Importers

Figures 8 through 10 show sugar imports by the major sugar importing countries. Sugar imports of selected Asian and African countries are expected to increase by 5.4% and 42.0%, respectively, for the 2011-2021 period. Major Asian importers are Indonesia and China and major African importers are Algeria and Egypt.

Canada's production is predicted to increase above the 2009-2011 average of 87 thousand metric tons to 102 thousand tons by the year 2021, and consumption is predicted to increase from 1.4 million metric tons to 1.5 million metric tons in 2021 (Table 4). As a result, Canada's imports are predicted to increase by 11.1% from 1.3 million metric tons to 1.5 million metric tons in 2021.

The EU has changed the internal sugar policy by restricting support. This has reduced production. Because of that change, the EU has become a net importer of sugar. EU imports are predicted to increase from 1.2 million metric tons in 2011 to 1.6 million metric tons in 2021 (Figure 8). Sugar production in the EU is predicted to increase 2.4% and consumption is predicted to increase from 17.5 million metric tons for the 2009-2011 average to 18.1 million tons in 2020 (Table 4). Most of the increase in consumption is due to an increase in income for the Eastern European countries recently included in the EU.

Table 3. Sugar Production, Consumption, Exports, and Carry-over Stocks in Exporting Countries

| | Average (2009-2011) | 2011 | 2021 | % change (2009-11) to 2021 |
|-----------------------------|------------------------|--------|--------|-------------------------------|
| -----1,000 metric tons----- | | | | |
| Brazil | | | | |
| Production | 36,833 | 35,750 | 39,440 | 7.1 |
| Net Exports | 24,633 | 23,800 | 26,125 | 6.1 |
| Consumption | 11,767 | 11,500 | 13,316 | 13.2 |
| Carry-over | (318) | 165 | 362 | NA |
| Thailand | | | | |
| Production | 8,921 | 10,170 | 10,761 | 20.6 |
| Net Exports | 7,010 | 8,700 | 8,217 | 17.3 |
| Consumption | 2,307 | 2,400 | 2,531 | 9.7 |
| Carry-over | 2,017 | 1,389 | 1,927 | -4.5 |
| Australia | | | | |
| Production | 4,183 | 4,150 | 5,077 | 21.3 |
| Net Exports | 2,965 | 2,785 | 3,641 | 22.8 |
| Consumption | 1,249 | 1,250 | 1,429 | 14.4 |
| Carry-over | 271 | 308 | 286 | 5.4 |
| Cuba | | | | |
| Production | 1,200 | 1,250 | 1,308 | 9.0 |
| Net Exports | 560 | 615 | 532 | -5.0 |
| Consumption | 675 | 675 | 775 | 14.8 |
| Carry-over | 75 | 75 | 92 | 22.7 |
| Mexico | | | | |
| Production | 5,420 | 5,650 | 6,043 | 11.5 |
| Net Exports | 700 | 967 | 488 | -30.3 |
| Consumption | 4,981 | 5,650 | 5,943 | 19.3 |
| Carry-over | 905 | 936 | 673 | -25.6 |
| South Africa | | | | |
| Production | 2,083 | 2,000 | 2,263 | 8.6 |
| Net Exports | 397 | 330 | 601 | 51.7 |
| Consumption | 1,632 | 1,675 | 1,661 | 1.8 |
| Carry-over | 155 | 195 | 220 | 42.0 |

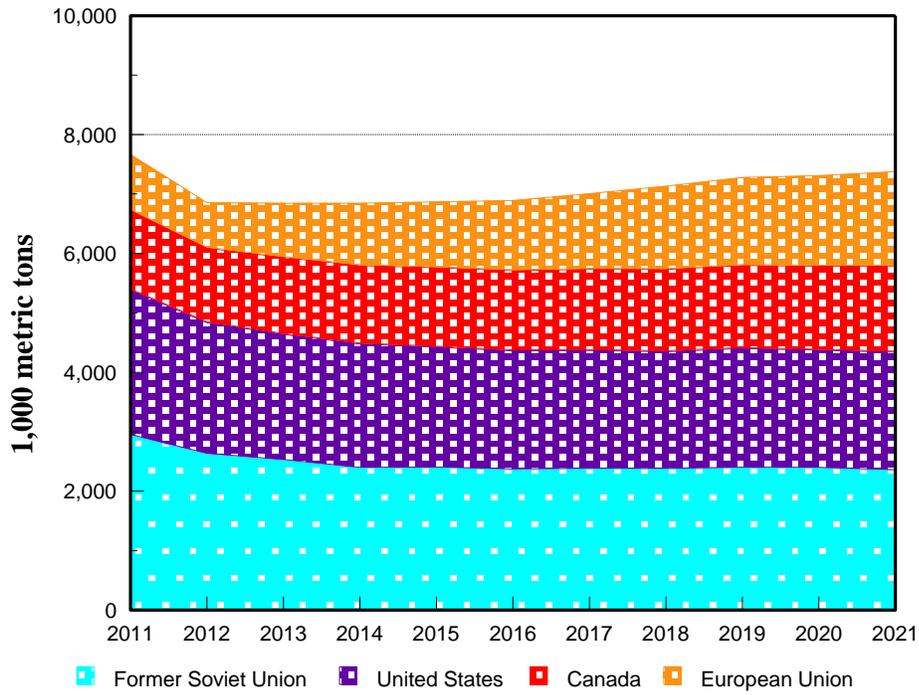


Figure 8. Projected World Sugar Imports by Countries, Major Importers

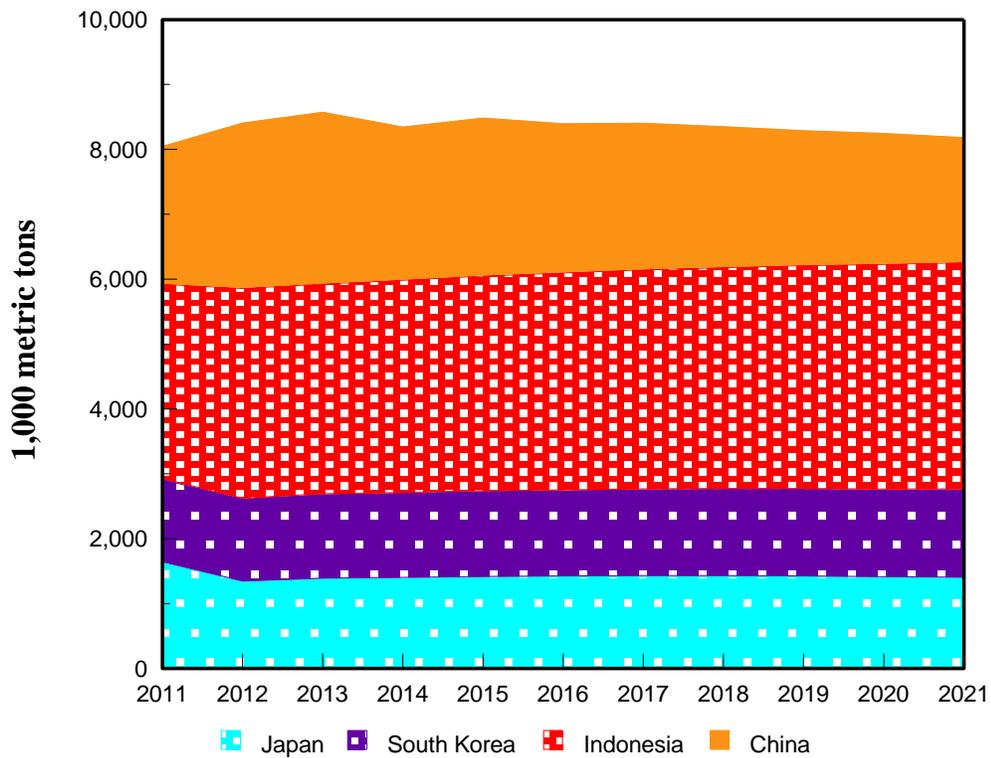


Figure 9. Projected World Sugar Imports by Countries, Asian Countries

The FSU's production is predicted to increase by 29.9% from the 2009-2011 average of 6.4 million metric tons to 8.3 million metric tons in 2021, and consumption is predicted to increase by 1.9% from 10.5 million metric tons to 10.7 million metric tons for the same period. Imports are predicted to decrease by 41.7% from the 2009-2011 average (Table 4). Most of the decrease in imports is due to smaller crops in 2009 and 2010 which required large imports.

China is expected to increase its imports by about 21.7% between 2009-2011 and 2021 (Table 4). China's production is predicted to increase by 4.7% from 11.5 million metric tons for the 2009-2011 average to 14.0 million metric tons in 2021, and consumption is predicted to increase by 11.7% from 14.2 million metric tons to 15.9 million metric tons for the period.

India's production is predicted to increase by 22.8% from 21.2 million metric tons in 2009-2011 to 30.9 million metric tons in 2021. India is expected to remain a sugar exporter throughout to forecast period.

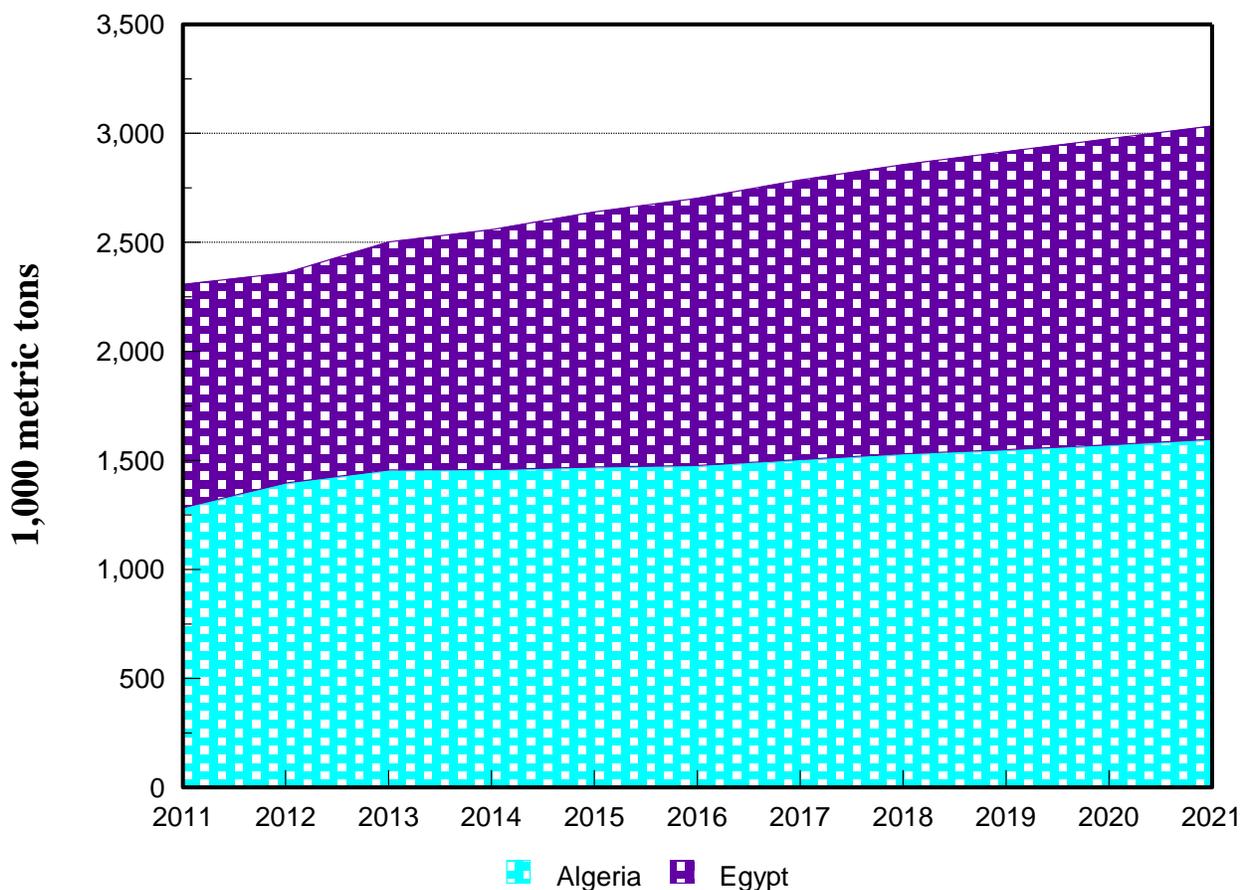


Figure 10. Projected World Sugar Imports by Country, African Countries

Table 4. Sugar Production, Consumption, Imports, and Carry-over in Importing Countries

| | Average (2009-11) | 2011 | 2021 | % change (2009-11) to 2021 |
|-----------------------------|----------------------|--------|--------|-------------------------------|
| -----1,000 metric tons----- | | | | |
| Algeria | | | | |
| Production | 4 | 0 | 0 | NA |
| Net Imports | 1,389 | 1,280 | 1,594 | 14.7 |
| Consumption | 1,350 | 1,400 | 1,593 | 18.0 |
| Carry-over | 268 | 213 | 287 | 7.1 |
| Canada | | | | |
| Production | 87 | 95 | 102 | 16.8 |
| Net Imports | 1,307 | 1,340 | 1,452 | 11.1 |
| Consumption | 1,380 | 1,385 | 1,549 | 12.2 |
| Carry-over | 89 | 136 | 102 | 14.6 |
| China | | | | |
| Production | 11,489 | 11,840 | 13,986 | 21.7 |
| Net Imports | 1,874 | 2,126 | 1,930 | 3.0 |
| Consumption | 14,200 | 14,300 | 15,862 | 11.7 |
| Carry-over | 1,745 | 1,273 | 2,064 | 18.3 |
| Egypt | | | | |
| Production | 1,892 | 2,025 | 2,070 | 9.4 |
| Net Imports | 749 | 1,030 | 1,442 | 92.4 |
| Consumption | 2,760 | 2,850 | 3,506 | 27.0 |
| Carry-over | 331 | 334 | 385 | 16.4 |
| European Union | | | | |
| Production | 16,172 | 16,740 | 16,560 | 2.4 |
| Net Imports | 1,215 | 940 | 1,585 | 30.6 |
| Consumption | 17,500 | 17,600 | 18,139 | 3.6 |
| Carry-over | 1,714 | 1,894 | 1,982 | 15.7 |
| Former Soviet Union | | | | |
| Production | 6,401 | 7,914 | 8,312 | 29.9 |
| Net Imports | 4,045 | 2,950 | 2,357 | -41.7 |
| Consumption | 10,452 | 10,759 | 10,658 | 1.9 |
| Carry-over | 1,442 | 1,516 | 1,713 | 9.6 |
| India | | | | |
| Production | 21,196 | 28,300 | 30,932 | 22.8 |
| Net Imports | -1,030 | -2,500 | -2,624 | NA |
| Consumption | 23,667 | 25,000 | 28,252 | 19.4 |
| Carry-over | 6,041 | 6,859 | 7,710 | 18.7 |
| Indonesia | | | | |
| Production | 1,923 | 2,088 | 2,126 | 10.6 |
| Net Imports | 3,068 | 3,010 | 3,499 | 14.0 |
| Consumption | 4,967 | 5,200 | 5,626 | 13.2 |
| Carry-over | 559 | 413 | 467 | -16.5 |
| Japan | | | | |
| Production | 790 | 770 | 824 | 4.3 |
| Net Imports | 1,513 | 1,638 | 1,397 | -7.6 |
| Consumption | 2,265 | 2,270 | 2,217 | -2.1 |
| Carry-over | 295 | 365 | 357 | 20.1 |
| Korea | | | | |
| Production | 0 | 0 | 0 | NA |
| Net Imports | 1,278 | 1,280 | 1,326 | 6.5 |
| Consumption | 1,268 | 1,280 | 1,349 | 6.4 |
| Carry-over | 516 | 526 | 618 | 20.0 |

Japan's imports are predicted to decrease by 7.6% from the 2009-2011 average of 1.5 million metric tons to 1.4 million metric tons in 2021, due to a slight decrease in domestic consumption (Table 4).

In South Korea, consumption is predicted to increase by 6.4% for the time period and its imports are predicted to increase by 6.5% for the period. There is no domestic production of either sugar cane or sugar beets in South Korea.

In Algeria, consumption is predicted to increase by 18.0% from 1.4 million metric tons in 2009-2011 to 1.6 million metric tons in 2021. The increase in consumption results in increasing imports from 1.4 million metric tons for the 2009-2011 average to 1.6 million metric tons in 2021.

Egypt's imports are predicted to increase by 92.42% from 0.7 million metric tons in 2009-2011 to 1.4 million metric tons in 2021, due mainly to increased consumption and larger than normal sugar crops in 2009 and 2011 which lowered imports for those years. Egypt historically imported about 1.0 million metric tons of sugar per year. Consumption is predicted to increase by 27.0% from 2.8 million metric tons to 3.5 million metric tons in 2021.

Indonesia's imports are predicted to increase by 14.0% from 3.1 million metric tons in 2009-2011 to 3.5 million metric tons in 2021. Consumption is predicted to increase from 5.0 million metric tons for the 2009-2011 average to 5.6 million metric tons in 2021.

CONCLUDING REMARKS

This report provides an overview of the U.S. and world sugar markets for 2011-2021 using the Global Sugar Policy Simulation Model. The baseline projections are based on a series of assumptions about general economic conditions, agricultural policies, weather conditions, and technological change.

Total world sugar trade is projected to increase by 6.0% from 39.9 million metric tons in 2011 to 42.2 million metric tons in 2021. The price of Caribbean sugar is expected to decrease from \$0.315/lb in 2011 to \$0.238/lb in 2021. The high sugar price is due mainly to low estimates of carry-over stocks for 2011 and 2012 and high energy prices. World sugar production increased 4.2% while consumption increased 2.1% in 2011. It is worth a note that the world sugar industry is influenced by the recent surge in oil price which resulted in increased ethanol production from sugar cane in Brazil. Thus, Brazil decreased supply of sugar to the world market. In addition, high demand for corn from corn-based ethanol production has increased the price of corn which prevents the use of high fructose corn syrup from beverage production in Mexico, resulted in continuous use of sugar for beverage production in the country.

Brazil, Australia and Thailand could increase their sugar exports with production increases, responding to higher world sugar price.

Imports by most importing countries are predicted to increase from the 2009-11 average to 2021 although China's and Japan's imports are predicted to decrease. Imports by Egypt and Algeria are predicted to increase by 92.4% and 14.7%, respectively. Egypt's imports are expected to return to normal levels after being reduced in recent years.

U.S. sugar consumption is predicted to increase by 14.8% for the forecasting period. Production also is expected to increase by 11.0% for beet sugar and by 15.9% for cane sugar. Increases in beet sugar production may be limited due mainly to high prices for other commodities such as corn, soybeans, and wheat which compete for acres. Imports are predicted to decrease by 21.4% for the period. Mexico could have an impact on the U.S. sugar industry if the country uses HFCS in its soft drink industry. Otherwise Mexico's sugar exports to the United States could be relatively small, even though NAFTA allows unlimited exports of sugar beginning in 2008.

The recent price increase in the world price of sugar that occurred in late 2009, 2010 and 2011 will not be maintained. In late 2010, Caribbean sugar price increased to 36 cents/lb from a low of \$0.20/lb in early 2010. The price in early 2011 is about \$0.35/lb. The yearly average price for sugar in 2011 was \$0.315/lb. It is doubtful that the sugar prices will remain at that level in the near future.

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Appendix

World Sugar Policy Simulation Model

2012 Baseline Solution

United States - Nominal Sugar Beet and Sugarcane Farm Prices (dollars/short ton)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Sugar Beets | 61.84 | 61.97 | 59.02 | 58.59 | 57.13 | 56.55 | 55.33 | 54.59 | 53.37 | 52.82 | 52.24 |
| Sugarcane | 51.02 | 51.16 | 48.11 | 47.67 | 46.16 | 45.56 | 44.30 | 43.54 | 42.28 | 41.71 | 41.12 |

United States - Nominal Sugar Prices (U.S. cents/pound)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Caribbean Price | 31.53 | 31.14 | 29.18 | 29.02 | 27.90 | 27.42 | 26.40 | 25.79 | 24.77 | 24.31 | 23.83 |
| TRQ Status | Quota |
| Implicit Tariff | 6.00 | 6.50 | 6.00 | 5.80 | 5.70 | 5.70 | 5.70 | 5.70 | 5.70 | 5.70 | 5.70 |
| Import Price | 37.53 | 37.64 | 35.18 | 34.82 | 33.60 | 33.12 | 32.10 | 31.49 | 30.47 | 30.01 | 29.53 |
| Wholesale Price | 47.16 | 47.28 | 44.70 | 44.32 | 43.04 | 42.54 | 41.47 | 40.83 | 39.76 | 39.27 | 38.77 |
| Retail Price | 71.92 | 72.08 | 68.58 | 68.07 | 66.33 | 65.64 | 64.19 | 63.32 | 61.87 | 61.22 | 60.53 |

United States - Area Harvested (1000 acres)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-------------|------|------|------|------|------|------|------|------|------|------|------|
| Sugar Beets | 1213 | 1216 | 1215 | 1216 | 1213 | 1212 | 1210 | 1210 | 1209 | 1211 | 1215 |
| Sugarcane | 873 | 880 | 876 | 873 | 868 | 865 | 860 | 858 | 854 | 852 | 852 |
| Total Area | 2086 | 2096 | 2090 | 2089 | 2081 | 2077 | 2071 | 2068 | 2063 | 2064 | 2068 |

United States - Yields (short tons/acre)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Sugar Beets | 23.70 | 25.04 | 25.47 | 25.73 | 25.85 | 25.92 | 25.98 | 26.14 | 26.22 | 26.29 | 26.44 |
| Sugarcane | 32.40 | 33.34 | 33.93 | 34.33 | 34.62 | 34.85 | 35.05 | 35.22 | 35.39 | 35.56 | 35.72 |

United States - Sugar Beet and Sugarcane Production (1000 short tons)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Sugar Beets | 28750 | 30458 | 30940 | 31285 | 31346 | 31423 | 31445 | 31635 | 31712 | 31843 | 32142 |
| Sugarcane | 28285 | 29341 | 29713 | 29971 | 30047 | 30131 | 30154 | 30206 | 30227 | 30311 | 30437 |

United States - Sugar Extraction Rates (percent)

| Variable | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Sugar Beets | 15.75 | 15.75 | 15.75 | 15.75 | 15.75 | 15.75 | 15.75 | 15.75 | 15.75 | 15.75 | 15.75 |
| Sugarcane | 12.57 | 12.57 | 12.57 | 12.57 | 12.57 | 12.57 | 12.57 | 12.57 | 12.57 | 12.57 | 12.57 |

United States - Sugar Production (1000 short tons)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------|------|------|------|------|------|------|------|------|------|------|------|
| Beet Sugar | 4528 | 4797 | 4873 | 4927 | 4937 | 4949 | 4953 | 4983 | 4995 | 5015 | 5062 |
| Cane Sugar | 3345 | 3688 | 3735 | 3767 | 3777 | 3788 | 3790 | 3797 | 3800 | 3810 | 3826 |
| All Sugar | 7873 | 8485 | 8608 | 8695 | 8714 | 8737 | 8743 | 8779 | 8794 | 8825 | 8888 |

| Variable | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Tariff Rate Quota | 1505 | 1555 | 1595 | 1641 | 1598 | 1579 | 1594 | 1601 | 1602 | 1595 | 1594 |
| Below Quota Tariff | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Above Quota Tariff | 15.36 | 15.36 | 15.36 | 15.36 | 15.36 | 15.36 | 15.36 | 15.36 | 15.36 | 15.36 | 15.36 |

United States - Implicit Tariff (U.S. cents/pound) and Sugar Trade (1000 short tons)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| TRQ Status | Quota |
| Implicit Tariff | 6.00 | 6.50 | 6.00 | 5.80 | 5.70 | 5.70 | 5.70 | 5.70 | 5.70 | 5.70 | 5.70 |
| Total Imports | 2893 | 2640 | 2534 | 2515 | 2451 | 2411 | 2407 | 2390 | 2426 | 2396 | 2399 |
| Quota-sugar Imports | 1505 | 1562 | 1603 | 1643 | 1601 | 1583 | 1598 | 1606 | 1606 | 1599 | 1598 |
| Other Sugar Imports | 1545 | 1383 | 1079 | 930 | 872 | 850 | 828 | 809 | 784 | 820 | 797 |
| Total Exports | 200 | 200 | 199 | 212 | 212 | 204 | 205 | 206 | 208 | 207 | 206 |
| Net Imports | 2693 | 2441 | 2335 | 2304 | 2240 | 2206 | 2202 | 2183 | 2218 | 2188 | 2193 |

United States - Sugar Supply and Utilization (1000 short tons, raw value)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Carry-in Stocks | 1472 | 620 | 766 | 850 | 891 | 926 | 949 | 972 | 992 | 1011 | 1025 |
| Production | 7870 | 8485 | 8608 | 8695 | 8714 | 8737 | 8743 | 8779 | 8794 | 8825 | 8888 |
| Net Imports | 2693 | 2441 | 2335 | 2304 | 2240 | 2206 | 2202 | 2183 | 2218 | 2188 | 2193 |
| Consumption | 11615 | 11669 | 12010 | 12106 | 12373 | 12505 | 12700 | 12855 | 12983 | 13074 | 13199 |
| Carry-out Stocks | 620 | 766 | 850 | 891 | 926 | 949 | 972 | 992 | 1011 | 1025 | 1039 |

United States - Per Capita Sugar Consumption (pounds) and Stocks to Use Ratio (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Per Capita Consumption | 75.99 | 75.69 | 77.23 | 77.19 | 78.23 | 78.41 | 78.98 | 79.30 | 79.44 | 79.36 | 79.48 |
| Stocks/Consumption | 5.34 | 6.57 | 7.08 | 7.36 | 7.48 | 7.59 | 7.66 | 7.72 | 7.78 | 7.84 | 7.87 |

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Area Harvested | 19 | 20 | 20 | 19 | 19 | 19 | 19 | 19 | 18 | 18 | 18 |
| Yield | 45.00 | 46.49 | 46.68 | 47.16 | 47.58 | 48.00 | 48.43 | 48.86 | 49.28 | 49.71 | 50.14 |
| Production | 855 | 917 | 920 | 917 | 917 | 914 | 913 | 911 | 910 | 907 | 906 |

Canada - Sugar Beet Exogenous Variables

| Variable | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Extraction Rate (%) | 11.30 | 11.30 | 11.30 | 11.30 | 11.30 | 11.30 | 11.30 | 11.30 | 11.30 | 11.30 | 11.30 |

Canada - Sugar Supply and Utilization (1000 metric tons, raw value)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------|------|------|------|------|------|------|------|------|------|------|------|
| Carry-in Stocks | 86 | 136 | 100 | 88 | 85 | 85 | 87 | 89 | 92 | 94 | 97 |
| Production | 95 | 104 | 104 | 104 | 104 | 103 | 103 | 103 | 103 | 102 | 102 |
| Net Imports | 1340 | 1254 | 1293 | 1316 | 1334 | 1349 | 1367 | 1381 | 1397 | 1413 | 1452 |
| Imports | 1400 | #N/A |
| Exports | 60 | #N/A |
| Consumption | 1385 | 1393 | 1409 | 1423 | 1437 | 1450 | 1468 | 1482 | 1497 | 1513 | 1549 |
| Carry-out Stocks | 136 | 100 | 88 | 85 | 85 | 87 | 89 | 92 | 94 | 97 | 102 |

Canada - Per Capita Sugar Consumption (kilograms) and Stocks to Use Ratio (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Per Capita Consumption | 40.11 | 40.03 | 40.16 | 40.25 | 40.34 | 40.42 | 40.61 | 40.69 | 40.84 | 40.98 | 41.68 |
| Stocks/Consumption | 9.82 | 7.19 | 6.26 | 5.98 | 5.95 | 6.00 | 6.09 | 6.20 | 6.30 | 6.41 | 6.57 |

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Area Harvested | 629 | 629 | 628 | 629 | 630 | 632 | 633 | 635 | 637 | 639 | 642 |
| Yield | 74.10 | 74.51 | 74.89 | 75.26 | 75.63 | 75.99 | 76.36 | 76.72 | 77.09 | 77.45 | 77.82 |
| Production | 46609 | 46845 | 47060 | 47345 | 47652 | 47999 | 48355 | 48733 | 49117 | 49521 | 49942 |

Mexico - Sugar Extraction Rates (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Sugarcane | 11.90 | 11.90 | 11.90 | 11.90 | 12.00 | 12.00 | 12.00 | 12.00 | 12.10 | 12.10 | 12.10 |

Mexico - Sugar Supply and Utilization (1000 metric tons, raw value)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------|------|------|------|------|------|------|------|------|------|------|------|
| Carry-in Stocks | 806 | 936 | 767 | 683 | 643 | 627 | 625 | 630 | 639 | 649 | 661 |
| Production | 5650 | 5575 | 5600 | 5634 | 5718 | 5760 | 5803 | 5848 | 5943 | 5992 | 6043 |
| Net Imports | -967 | -765 | -639 | -563 | -558 | -518 | -494 | -472 | -511 | -487 | -488 |
| Exports | 1443 | #N/A |
| Imports | 476 | 400 | 400 | 400 | 400 | 400 | 400 | 400 | 400 | 400 | 400 |
| Consumption | 5650 | 5379 | 5446 | 5511 | 5576 | 5644 | 5704 | 5767 | 5822 | 5893 | 5943 |
| Carry-out Stocks | 936 | 767 | 683 | 643 | 627 | 625 | 630 | 639 | 649 | 661 | 673 |

Mexico - Per Capita Sugar Consumption (kilograms) and Stocks to Use Ratio (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Per Capita Consumption | 47.82 | 45.03 | 45.10 | 45.16 | 45.22 | 45.31 | 45.33 | 45.39 | 45.38 | 45.51 | 45.47 |
| Stocks/Consumption | 16.57 | 14.27 | 12.54 | 11.66 | 11.25 | 11.07 | 11.04 | 11.07 | 11.15 | 11.22 | 11.32 |

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|
| Area Harvested | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Yield | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Production | 75 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Algeria - Sugar Extraction Rates (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-----------|------|------|------|------|------|------|------|------|------|------|------|
| Sugarbeet | 7.41 | 7.41 | 7.41 | 7.41 | 7.41 | 7.41 | 7.41 | 7.41 | 7.41 | 7.41 | 7.41 |

Algeria - Sugar Supply and Utilization (1000 metric tons, raw value)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-----------------|------|------|------|------|------|------|------|------|------|------|------|
| Carry-in Stocks | 333 | 213 | 213 | 244 | 261 | 271 | 277 | 280 | 283 | 285 | 286 |
| Production | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Net Imports | 1280 | 1393 | 1453 | 1455 | 1467 | 1474 | 1501 | 1528 | 1546 | 1568 | 1594 |

| | | | | | | | | | | | |
|------------------|------|------|------|------|------|------|------|------|------|------|------|
| Exports | 40 | #N/A |
| Imports | 1320 | #N/A |
| Consumption | 1400 | 1393 | 1422 | 1438 | 1457 | 1468 | 1497 | 1525 | 1545 | 1567 | 1593 |
| Carry-out Stocks | 213 | 213 | 244 | 261 | 271 | 277 | 280 | 283 | 285 | 286 | 287 |

Algeria - Per Capita Sugar Consumption (kilograms) and Stocks to Use Ratio (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Per Capita Consumption | 36.93 | 36.32 | 36.64 | 36.63 | 36.70 | 36.58 | 36.91 | 37.20 | 37.30 | 37.48 | 37.74 |
| Stocks/Consumption | 15.21 | 15.30 | 17.16 | 18.16 | 18.60 | 18.85 | 18.73 | 18.55 | 18.43 | 18.26 | 18.03 |

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Area Harvested | 410 | 416 | 419 | 420 | 421 | 421 | 422 | 422 | 423 | 423 | 424 |
| Yield | 77 | 85 | 86 | 87 | 87 | 88 | 88 | 89 | 89 | 90 | 90 |
| Production | 31570 | 35204 | 36178 | 36538 | 36802 | 37023 | 37250 | 37469 | 37698 | 37926 | 38170 |

Australia - Sugar Extraction Rate (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Sugarcane | 13.30 | 13.30 | 13.30 | 13.30 | 13.30 | 13.30 | 13.30 | 13.30 | 13.30 | 13.30 | 13.30 |

Australia - Sugar Supply and Utilization (1000 metric tons, raw value)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------|------|------|------|------|------|------|------|------|------|------|------|
| Carry-in Stocks | 193 | 308 | 254 | 257 | 260 | 263 | 266 | 270 | 273 | 276 | 279 |
| Production | 4150 | 4682 | 4812 | 4859 | 4895 | 4924 | 4954 | 4983 | 5014 | 5044 | 5077 |
| Net Exports | 2785 | 3468 | 3523 | 3556 | 3577 | 3589 | 3602 | 3612 | 3629 | 3645 | 3641 |
| Exports | 2950 | #N/A |
| Imports | 165 | #N/A |
| Consumption | 1250 | 1268 | 1286 | 1300 | 1315 | 1332 | 1348 | 1367 | 1382 | 1396 | 1429 |
| Carry-out Stocks | 308 | 254 | 257 | 260 | 263 | 266 | 270 | 273 | 276 | 279 | 286 |

Australia - Per Capita Sugar Consumption (kilograms) and Stocks to Use Ratio (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Per Capita Consumption | 59.24 | 59.34 | 59.48 | 59.50 | 59.53 | 59.66 | 59.79 | 60.01 | 60.04 | 60.06 | 60.89 |
| Stocks/Consumption | 24.64 | 20.00 | 20.00 | 20.00 | 20.00 | 20.00 | 20.00 | 20.00 | 20.00 | 20.00 | 20.00 |

Brazil - Sugar Supply and Utilization (1000 metric tons, raw value)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Carry-in Stocks | -285 | 165 | 411 | 360 | 370 | 366 | 366 | 365 | 364 | 364 | 363 |
| Production | 35750 | 37392 | 37546 | 37787 | 38023 | 38259 | 38496 | 38732 | 38968 | 39204 | 39440 |
| Net Exports | 23800 | 24968 | 25298 | 25369 | 25444 | 25549 | 25660 | 25773 | 25888 | 26005 | 26125 |
| Exports | 23800 | #N/A |
| Imports | 0 | #N/A |
| Consumption | 11500 | 12179 | 12299 | 12408 | 12583 | 12711 | 12837 | 12960 | 13081 | 13199 | 13316 |
| Carry-out Stocks | 165 | 411 | 360 | 370 | 366 | 366 | 365 | 364 | 364 | 363 | 362 |

Brazil - Per Capita Sugar Consumption (kilograms) and Stocks to Use Ratio (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|--|------|------|------|------|------|------|------|------|------|------|------|
|--|------|------|------|------|------|------|------|------|------|------|------|

| | | | | | | | | | | | |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Per Capita Consumption | 57.18 | 59.88 | 59.82 | 59.72 | 59.94 | 59.95 | 59.95 | 59.96 | 59.97 | 59.98 | 59.99 |
| Stocks/Consumption | 1.43 | 3.37 | 2.93 | 2.98 | 2.91 | 2.88 | 2.84 | 2.81 | 2.78 | 2.75 | 2.72 |

China - Area Harvested (1000 hectares)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-------------|------|------|------|------|------|------|------|------|------|------|------|
| Sugar Beets | 255 | 299 | 258 | 277 | 264 | 265 | 262 | 259 | 258 | 255 | 265 |
| Sugarcane | 1730 | 1802 | 1827 | 1835 | 1842 | 1847 | 1853 | 1859 | 1866 | 1872 | 1880 |
| Total Area | 1985 | 2101 | 2085 | 2112 | 2106 | 2112 | 2115 | 2118 | 2124 | 2127 | 2145 |

China - Yields (metric tons/hectare)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Sugar Beets | 38.20 | 38.39 | 38.59 | 38.80 | 39.01 | 39.33 | 39.64 | 39.94 | 40.23 | 40.52 | 40.79 |
| Sugarcane | 68.50 | 69.84 | 70.90 | 71.75 | 72.45 | 73.03 | 73.51 | 73.93 | 74.30 | 74.63 | 74.92 |

China - Production (1000 metric tons)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-------------|---------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Sugar Beets | 9741 11850 | 11488 | 9951 | 10758 | 10307 | 10416 | 10374 | 10339 | 10378 | 10326 | 10831 |
| Sugarcane | 5 | 125828 | 129538 | 131632 | 133437 | 134870 | 136233 | 137434 | 138616 | 139705 | 140836 |

China - Sugar Extraction Rates (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Sugarbeets | 10.15 | 10.15 | 10.15 | 10.15 | 10.15 | 10.15 | 10.15 | 10.15 | 10.15 | 10.15 | 10.15 |
| Sugarcane | 9.15 | 9.15 | 9.15 | 9.15 | 9.15 | 9.15 | 9.15 | 9.15 | 9.15 | 9.15 | 9.15 |

China - Sugar Supply and Utilization (1000 metric tons, raw value)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Carry-in Stocks | 1607 | 1273 | 1314 | 1493 | 1546 | 1678 | 1757 | 1841 | 1899 | 1969 | 2010 |
| Production | 11840 | 12679 | 12863 | 13136 | 13256 | 13398 | 13518 | 13625 | 13737 | 13831 | 13986 |
| Beet Sugar | 990 | 1166 | 1010 | 1092 | 1046 | 1057 | 1053 | 1049 | 1053 | 1048 | 1099 |
| Cane Sugar | 10850 | 11513 | 11853 | 12044 | 12210 | 12341 | 12465 | 12575 | 12683 | 12783 | 12887 |
| Net Imports | 2126 | 2551 | 2646 | 2363 | 2433 | 2298 | 2258 | 2171 | 2080 | 2017 | 1930 |
| Exports | 74 | #N/A |
| Imports | 2200 | #N/A |
| Consumption | 14300 | 15188 | 15331 | 15446 | 15556 | 15618 | 15691 | 15738 | 15746 | 15807 | 15862 |
| Carry-out Stocks | 1273 | 1314 | 1493 | 1546 | 1678 | 1757 | 1841 | 1899 | 1969 | 2010 | 2064 |

China - Per Capita Sugar Consumption (kilograms) and Stocks to Use Ratio (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Per Capita Consumption | 10.52 | 11.12 | 11.18 | 11.21 | 11.24 | 11.24 | 11.25 | 11.25 | 11.22 | 11.23 | 11.25 |
| Stocks/Consumption | 8.90 | 8.65 | 9.74 | 10.01 | 10.78 | 11.25 | 11.74 | 12.07 | 12.51 | 12.72 | 13.01 |

Cuba - Sugarcane Area Harvested (1000 hectares), Yield (metric tons/hectare), and Production (1000 metric tons)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Area Harvested | 380 | 385 | 385 | 382 | 383 | 381 | 381 | 380 | 380 | 379 | 379 |
| Yield | 32 | 32 | 32 | 32 | 32 | 32 | 33 | 33 | 33 | 33 | 33 |
| Production | 12084 | 12236 | 12294 | 12233 | 12329 | 12353 | 12431 | 12466 | 12535 | 12569 | 12651 |

Cuba - Sugar Extraction Rate (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Sugarcane | 10.34 | 10.34 | 10.34 | 10.34 | 10.34 | 10.34 | 10.34 | 10.34 | 10.34 | 10.34 | 10.34 |

Cuba - Sugar Supply and Utilization (1000 metric tons, raw value)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------|------|------|------|------|------|------|------|------|------|------|------|
| Carry-in Stocks | 75 | 75 | 75 | 80 | 81 | 83 | 85 | 87 | 88 | 89 | 90 |
| Production | 1250 | 1265 | 1271 | 1265 | 1275 | 1277 | 1285 | 1289 | 1296 | 1300 | 1308 |
| Net Exports | 615 | 599 | 573 | 563 | 554 | 549 | 539 | 537 | 533 | 531 | 532 |
| Consumption | 675 | 667 | 693 | 701 | 718 | 727 | 744 | 751 | 762 | 767 | 775 |
| Carry-out Stocks | 75 | 75 | 80 | 81 | 83 | 85 | 87 | 88 | 89 | 90 | 92 |

Cuba - Per Capita Sugar Consumption (kilograms) and Stocks to Use Ratio (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Per Capita Consumption | 57.75 | 57.12 | 59.43 | 60.15 | 61.72 | 62.61 | 64.19 | 64.91 | 65.99 | 66.57 | 67.36 |
| Stocks/Consumption | 11.11 | 11.19 | 11.50 | 11.52 | 11.62 | 11.68 | 11.71 | 11.75 | 11.72 | 11.79 | 11.86 |

Egypt - Area Harvested (1000 hectares)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-------------|------|------|------|------|------|------|------|------|------|------|------|
| Sugar Beets | 98 | 99 | 98 | 99 | 99 | 99 | 100 | 100 | 100 | 101 | 101 |
| Sugarcane | 125 | 125 | 125 | 126 | 126 | 127 | 128 | 130 | 131 | 133 | 134 |
| Total Area | 223 | 223 | 223 | 224 | 225 | 227 | 228 | 230 | 231 | 233 | 235 |

Egypt - Yields (metric tons/hectare)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Sugar Beets | 63.00 | 62.87 | 63.31 | 63.58 | 63.90 | 64.21 | 64.52 | 64.83 | 65.14 | 65.45 | 65.76 |
| Sugarcane | 101.40 | 101.65 | 101.96 | 102.32 | 102.73 | 103.18 | 103.66 | 104.17 | 104.70 | 105.25 | 105.82 |

Egypt - Production (1000 metric tons)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Sugar Beets | 7400 | 6202 | 6223 | 6271 | 6323 | 6373 | 6427 | 6480 | 6534 | 6587 | 6642 |
| Sugarcane | 12645 | 12689 | 12762 | 12861 | 12988 | 13140 | 13315 | 13513 | 13731 | 13969 | 14225 |

Egypt - Sugar Extraction Rates (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Sugar Beets | 12.75 | 12.75 | 12.75 | 12.75 | 12.75 | 12.75 | 12.75 | 12.75 | 12.75 | 12.75 | 12.75 |
| Sugarcane | 8.60 | 8.60 | 8.60 | 8.60 | 8.60 | 8.60 | 8.60 | 8.60 | 8.60 | 8.60 | 8.60 |

Egypt - Sugar Supply and Utilization (1000 metric tons, raw value)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------|------|------|------|------|------|------|------|------|------|------|------|
| Carry-in Stocks | 129 | 334 | 337 | 342 | 347 | 352 | 358 | 364 | 369 | 375 | 380 |
| Production | 2025 | 1882 | 1891 | 1906 | 1923 | 1943 | 1965 | 1988 | 2014 | 2041 | 2070 |
| Beet Sugar | 945 | 791 | 793 | 800 | 806 | 813 | 819 | 826 | 833 | 840 | 847 |
| Cane Sugar | 1080 | 1091 | 1097 | 1106 | 1117 | 1130 | 1145 | 1162 | 1181 | 1201 | 1223 |
| Net Imports | 1030 | 969 | 1051 | 1105 | 1175 | 1230 | 1288 | 1331 | 1373 | 1409 | 1442 |
| Exports | 400 | #N/A |
| Imports | 1430 | #N/A |
| Consumption | 2850 | 2848 | 2937 | 3006 | 3092 | 3167 | 3247 | 3313 | 3382 | 3444 | 3506 |
| Carry-out Stocks | 334 | 337 | 342 | 347 | 352 | 358 | 364 | 369 | 375 | 380 | 385 |

Egypt - Per Capita Sugar Consumption (kilograms) and Stocks to Use Ratio (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Per Capita Consumption | 35.16 | 34.45 | 34.87 | 35.03 | 35.39 | 35.60 | 35.88 | 36.00 | 36.15 | 36.23 | 36.31 |
| Stocks/Consumption | 11.72 | 11.85 | 11.65 | 11.54 | 11.40 | 11.30 | 11.20 | 11.14 | 11.08 | 11.04 | 10.99 |

European Union - Sugar Quota (1000 metric tons, white sugar equivalent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| A-Quota | #N/A |
| B-Quota | #N/A |
| A plus B Quota | 13669 | 13669 | 13669 | 13669 | 13669 | 13669 | 13669 | 13669 | 13669 | 13669 | 13669 |
| Raw Sugar Equivalent | 14626 | 14626 | 14626 | 14626 | 14626 | 14626 | 14626 | 14626 | 14626 | 14626 | 14626 |

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Area Harvested | 1930 | 1932 | 1928 | 1917 | 1911 | 1902 | 1896 | 1889 | 1883 | 1876 | 1872 |
| Yield | 56.70 | 56.56 | 56.62 | 56.73 | 56.88 | 57.02 | 57.18 | 57.33 | 57.48 | 57.64 | 57.79 |
| Production | 109431 | 109271 | 109151 | 108737 | 108670 | 108473 | 108411 | 108288 | 108245 | 108151 | 108180 |

European Union - Sugar Extraction Rates (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Sugar Beets | 15.04 | 15.04 | 15.04 | 15.04 | 15.04 | 15.04 | 15.04 | 15.04 | 15.04 | 15.04 | 15.04 |

European Union - Sugar Supply and Utilization (1000 metric tons, raw value)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Carry-in Stocks | 1814 | 1894 | 1899 | 1915 | 1924 | 1933 | 1939 | 1949 | 1961 | 1970 | 1975 |
| Production | 16740 | 16724 | 16706 | 16644 | 16634 | 16604 | 16595 | 16577 | 16570 | 16556 | 16560 |
| Net Exports | -940 | -766 | -914 | -1052 | -1108 | -1180 | -1272 | -1404 | -1480 | -1522 | -1587 |
| Exports | 2210 | #N/A |
| Imports | 3150 | #N/A |
| Consumption | 17600 | 17485 | 17604 | 17687 | 17733 | 17778 | 17857 | 17969 | 18041 | 18073 | 18139 |
| Carry-out Stocks | 1894 | 1899 | 1915 | 1924 | 1933 | 1939 | 1949 | 1961 | 1970 | 1975 | 1982 |

European Union - Per Capita Sugar Consumption (kilograms) and Stocks to Use Ratio (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Per Capita Consumption | 48.57 | 48.15 | 48.38 | 48.50 | 48.54 | 48.56 | 48.69 | 48.92 | 49.05 | 49.08 | 49.21 |
| Stocks/Consumption | 10.76 | 10.86 | 10.88 | 10.88 | 10.90 | 10.91 | 10.92 | 10.91 | 10.92 | 10.93 | 10.93 |

India - Sugar Supply and Utilization (1000 metric tons, raw value)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Carry-in Stocks | 6059 | 6859 | 6581 | 6596 | 6652 | 6741 | 6823 | 6908 | 6980 | 7052 | 7113 |
| Production | 28300 | 28078 | 28334 | 28658 | 28908 | 29224 | 29573 | 29847 | 30178 | 30545 | 30932 |
| Net Exports | 2500 | 3016 | 2640 | 2591 | 2477 | 2474 | 2497 | 2463 | 2477 | 2543 | 2624 |
| Exports | 2500 | #N/A |
| Imports | 0 | #N/A |
| Consumption | 25000 | 25341 | 25678 | 26011 | 26341 | 26667 | 26991 | 27312 | 27629 | 27942 | 28252 |
| Carry-out Stocks | 6859 | 6581 | 6596 | 6652 | 6741 | 6823 | 6908 | 6980 | 7052 | 7113 | 7170 |

India - Per Capita Sugar Consumption (kilograms) and Stocks to Use Ratio (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Per Capita Consumption | 19.72 | 19.73 | 19.73 | 19.74 | 19.74 | 19.75 | 19.75 | 19.76 | 19.76 | 19.77 | 19.77 |
| Stocks/Consumption | 27.44 | 25.97 | 25.69 | 25.57 | 25.59 | 25.59 | 25.59 | 25.56 | 25.52 | 25.46 | 25.38 |

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Area Harvested | 387 | 386 | 384 | 383 | 383 | 383 | 383 | 384 | 385 | 386 | 388 |
| Yield | 67.00 | 64.02 | 64.52 | 65.02 | 65.52 | 66.02 | 66.52 | 67.02 | 67.52 | 68.02 | 68.52 |
| Production | 25929 | 24700 | 24792 | 24914 | 25090 | 25284 | 25511 | 25751 | 26012 | 26284 | 26578 |

Indonesia - Sugar Extraction Rate

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-----------|------|------|------|------|------|------|------|------|------|------|------|
| Sugarcane | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 |

Indonesia - Sugar Supply and Utilization (1000 metric tons, raw value)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------|------|------|------|------|------|------|------|------|------|------|------|
| Carry-in Stocks | 515 | 413 | 464 | 467 | 467 | 468 | 468 | 468 | 468 | 468 | 467 |
| Production | 2088 | 1976 | 1983 | 1993 | 2007 | 2023 | 2041 | 2060 | 2081 | 2103 | 2126 |
| Net Imports | 3010 | 3246 | 3245 | 3285 | 3324 | 3359 | 3392 | 3422 | 3450 | 3476 | 3499 |
| Exports | 0 | #N/A |
| Imports | 3010 | #N/A |
| Consumption | 5200 | 5171 | 5225 | 5278 | 5331 | 5382 | 5432 | 5482 | 5531 | 5579 | 5626 |
| Carry-out Stocks | 413 | 464 | 467 | 467 | 468 | 468 | 468 | 468 | 468 | 467 | 467 |

Indonesia - Per Capita Sugar Consumption (kilograms) and Stocks to Use Ratio (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Per Capita Consumption | 21.43 | 21.09 | 21.09 | 21.09 | 21.10 | 21.10 | 21.10 | 21.10 | 21.11 | 21.11 | 21.11 |
| Stocks/Consumption | 7.94 | 8.98 | 8.93 | 8.85 | 8.77 | 8.69 | 8.61 | 8.53 | 8.46 | 8.38 | 8.30 |

Japan - Area Harvested (1000 hectares)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-------------|------|------|------|------|------|------|------|------|------|------|------|
| Sugar Beets | 76 | 74 | 73 | 72 | 71 | 70 | 68 | 67 | 66 | 65 | 64 |
| Sugarcane | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 21 | 21 | 21 |
| Total Area | 98 | 96 | 95 | 94 | 93 | 92 | 90 | 88 | 87 | 86 | 85 |

Japan - Yields (metric tons/hectare)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Sugar Beets | 53.00 | 52.67 | 52.71 | 52.93 | 53.23 | 53.57 | 53.93 | 54.30 | 54.67 | 55.05 | 55.42 |
| Sugarcane | 62.00 | 60.50 | 60.67 | 60.70 | 60.75 | 60.79 | 60.83 | 60.88 | 60.92 | 60.96 | 61.01 |

Japan - Production (1000 metric tons)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-------------|------|------|------|------|------|------|------|------|------|------|------|
| Sugar Beets | 4028 | 3909 | 3839 | 3796 | 3764 | 3728 | 3681 | 3620 | 3604 | 3575 | 3538 |
| Sugarcane | 1364 | 1336 | 1345 | 1351 | 1355 | 1353 | 1344 | 1329 | 1309 | 1288 | 1267 |

Japan - Sugar Extraction Rates (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Sugar Beets | 18.94 | 18.94 | 18.94 | 18.94 | 18.94 | 18.94 | 18.94 | 18.94 | 18.94 | 18.94 | 18.94 |
| Sugarcane | 12.13 | 12.13 | 12.13 | 12.13 | 12.13 | 12.13 | 12.13 | 12.13 | 12.13 | 12.13 | 12.13 |

Japan - Sugar Supply and Utilization (1000 metric tons, raw value)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------|------|------|------|------|------|------|------|------|------|------|------|
| Carry-in Stocks | 267 | 365 | 345 | 337 | 333 | 333 | 335 | 338 | 342 | 346 | 350 |
| Production | 770 | 902 | 890 | 883 | 877 | 870 | 860 | 847 | 841 | 833 | 824 |
| Beet Sugar | 600 | 740 | 727 | 719 | 713 | 706 | 697 | 686 | 683 | 677 | 670 |
| Cane Sugar | 170 | 162 | 163 | 164 | 164 | 164 | 163 | 161 | 159 | 156 | 154 |
| Net Imports | 1638 | 1339 | 1384 | 1395 | 1409 | 1419 | 1424 | 1424 | 1415 | 1405 | 1397 |
| Exports | 2 | #N/A |
| Imports | 1640 | #N/A |
| Consumption | 2270 | 2262 | 2282 | 2281 | 2286 | 2288 | 2280 | 2267 | 2252 | 2235 | 2217 |
| Carry-out Stocks | 365 | 345 | 337 | 333 | 333 | 335 | 338 | 342 | 346 | 350 | 354 |

Japan - Per Capita Sugar Consumption (kilograms) and Stocks to Use Ratio (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Per Capita Consumption | 17.94 | 17.89 | 18.07 | 18.09 | 18.15 | 18.19 | 18.17 | 18.11 | 18.03 | 17.94 | 17.85 |
| Stocks/Consumption | 16.08 | 15.25 | 14.75 | 14.60 | 14.57 | 14.64 | 14.83 | 15.08 | 15.37 | 15.66 | 15.95 |

Korea - Sugar Supply and Utilization (1000 metric tons, raw value)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------|------|------|------|------|------|------|------|------|------|------|------|
| Carry-in Stocks | 526 | 526 | 521 | 531 | 538 | 546 | 556 | 568 | 580 | 594 | 606 |
| Net Imports | 1280 | 1277 | 1302 | 1307 | 1322 | 1326 | 1337 | 1340 | 1349 | 1352 | 1362 |
| Exports | 340 | #N/A |
| Imports | 1620 | #N/A |
| Consumption | 1280 | 1282 | 1291 | 1301 | 1313 | 1316 | 1325 | 1328 | 1335 | 1340 | 1349 |
| Carry-out Stocks | 526 | 521 | 531 | 538 | 546 | 556 | 568 | 580 | 594 | 606 | 619 |

Korea - Per Capita Sugar Consumption (kilograms) and Stocks to Use Ratio (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Per Capita Consumption | 25.77 | 25.76 | 25.89 | 26.04 | 26.25 | 26.28 | 26.42 | 26.45 | 26.56 | 26.64 | 26.82 |
| Stocks/Consumption | 41.09 | 40.62 | 41.15 | 41.33 | 41.58 | 42.20 | 42.83 | 43.66 | 44.49 | 45.23 | 45.84 |

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Area Harvested | 268 | 273 | 278 | 282 | 286 | 289 | 291 | 291 | 292 | 294 | 297 |
| Yield | 67.50 | 67.61 | 67.76 | 67.91 | 68.06 | 68.21 | 68.36 | 68.51 | 68.56 | 68.71 | 68.86 |
| Production | 18090 | 18482 | 18835 | 19156 | 19463 | 19693 | 19879 | 19969 | 20042 | 20221 | 20446 |

South Africa - Sugar Extraction Rates (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Sugarcane | 11.07 | 11.07 | 11.07 | 11.07 | 11.07 | 11.07 | 11.07 | 11.07 | 11.07 | 11.07 | 11.07 |

South Africa - Sugar Supply and Utilization (1000 metric tons, raw value)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------|------|------|------|------|------|------|------|------|------|------|------|
| Carry-in Stocks | 200 | 195 | 210 | 212 | 216 | 217 | 218 | 219 | 221 | 222 | 218 |
| Production | 2000 | 2046 | 2085 | 2121 | 2155 | 2180 | 2201 | 2211 | 2219 | 2238 | 2263 |
| Net Exports | 330 | 367 | 423 | 462 | 501 | 527 | 546 | 553 | 560 | 583 | 601 |
| Exports | 480 | #N/A |
| Imports | 150 | #N/A |
| Consumption | 1675 | 1664 | 1661 | 1655 | 1653 | 1652 | 1654 | 1656 | 1657 | 1659 | 1661 |
| Carry-out Stocks | 195 | 210 | 212 | 216 | 217 | 218 | 219 | 221 | 222 | 218 | 220 |

South Africa - Per Capita Sugar Consumption (kilograms) and Stocks to Use Ratio (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Per Capita Consumption | 37.18 | 37.08 | 37.16 | 37.21 | 37.23 | 37.18 | 37.17 | 37.19 | 37.18 | 37.19 | 37.21 |
| Stocks/Consumption | 11.64 | 12.65 | 12.77 | 13.08 | 13.14 | 13.19 | 13.27 | 13.34 | 13.41 | 13.16 | 13.21 |

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Area Harvested | 2750 | 2812 | 2856 | 2880 | 2899 | 2909 | 2917 | 2920 | 2921 | 2919 | 2919 |
| Yield | 24.90 | 23.48 | 23.81 | 23.92 | 24.02 | 24.11 | 24.19 | 24.28 | 24.37 | 24.45 | 24.64 |
| Production | 68475 | 66028 | 68021 | 68893 | 69627 | 70134 | 70573 | 70889 | 71175 | 71383 | 71906 |

Former Soviet Union - Sugar Extraction Rates (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Sugar Beets | 11.56 | 11.56 | 11.56 | 11.56 | 11.56 | 11.56 | 11.56 | 11.56 | 11.56 | 11.56 | 11.56 |

Former Soviet Union - Sugar Supply and Utilization (1000 metric tons, raw value)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Carry-in Stocks | 1426 | 1516 | 1528 | 1580 | 1575 | 1600 | 1617 | 1642 | 1661 | 1686 | 1702 |
| Production | 7914 | 7633 | 7863 | 7964 | 8049 | 8107 | 8158 | 8195 | 8228 | 8252 | 8312 |
| Net Imports | 2950 | 2628 | 2527 | 2396 | 2400 | 2369 | 2378 | 2375 | 2397 | 2394 | 2357 |
| Exports | 1119 | #N/A |
| Imports | 4069 | #N/A |
| Consumption | 10759 | 10250 | 10338 | 10365 | 10423 | 10459 | 10512 | 10550 | 10600 | 10630 | 10658 |
| Carry-out Stocks | 1516 | 1528 | 1580 | 1575 | 1600 | 1617 | 1642 | 1661 | 1686 | 1702 | 1713 |

Former Soviet Union - Per Capita Sugar Consumption (kilograms) and Stocks to Use Ratio (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Per Capita Consumption | 36.75 | 35.03 | 35.36 | 35.47 | 35.70 | 35.86 | 36.07 | 36.24 | 36.46 | 36.61 | 36.77 |
| Stocks/Consumption | 14.09 | 14.90 | 15.28 | 15.20 | 15.35 | 15.46 | 15.62 | 15.74 | 15.91 | 16.01 | 16.07 |

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Area Harvested | 1540 | 1546 | 1549 | 1549 | 1549 | 1548 | 1546 | 1544 | 1542 | 1541 | 1539 |
| Yield | 60.00 | 59.57 | 59.77 | 60.18 | 60.64 | 61.12 | 61.61 | 62.10 | 62.58 | 63.07 | 63.56 |
| Production | 92400 | 92102 | 92561 | 93244 | 93931 | 94613 | 95262 | 95904 | 96531 | 97171 | 97823 |

Thailand - Sugar Extraction Rates (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|--|------|------|------|------|------|------|------|------|------|------|------|
|--|------|------|------|------|------|------|------|------|------|------|------|

| | | | | | | | | | | | |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Sugarcane | 11.00 | 11.00 | 11.00 | 11.00 | 11.00 | 11.00 | 11.00 | 11.00 | 11.00 | 11.00 | 11.00 |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|

Thailand - Sugar Supply and Utilization (1000 metric tons, raw value)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Carry-in Stocks | 2319 | 1389 | 1608 | 1729 | 1796 | 1836 | 1861 | 1879 | 1892 | 1904 | 1915 |
| Production | 10170 | 10131 | 10182 | 10257 | 10332 | 10407 | 10479 | 10549 | 10618 | 10689 | 10761 |
| Net Exports | 8700 | 7576 | 7697 | 7801 | 7886 | 7959 | 8021 | 8079 | 8125 | 8180 | 8217 |
| Exports | 8700 | #N/A |
| Imports | 0 | #N/A |
| Consumption | 2400 | 2336 | 2364 | 2388 | 2407 | 2424 | 2441 | 2457 | 2481 | 2498 | 2531 |
| Carry-out Stocks | 1389 | 1608 | 1729 | 1796 | 1836 | 1861 | 1879 | 1892 | 1904 | 1915 | 1927 |

Thailand - Per Capita Sugar Consumption (kilograms) and Stocks to Use Ratio (percent)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Per Capita Consumption | 34.71 | 33.60 | 33.82 | 34.00 | 34.09 | 34.18 | 34.27 | 34.35 | 34.55 | 34.66 | 34.99 |
| Stocks/Consumption | 57.88 | 68.84 | 73.13 | 75.21 | 76.30 | 76.78 | 76.96 | 76.99 | 76.75 | 76.64 | 76.14 |

Rest of the World - Sugar Net Exports (1000 metric tons, raw value)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | |
|-------------|------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Net Exports | - | 21619 | -22900 | -22638 | -22934 | -22787 | -22952 | -22935 | -22927 | -23014 | -23227 | -23419 |

World - Sugar Prices (U.S. cents/pound)

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|-----------|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 0 | 31.53 | 31.14 | 29.18 | 29.02 | 27.90 | 27.42 | 26.40 | 25.79 | 24.77 | 24.31 | 23.83 |
| \$/ton | 695.1 | 686.51 | 643.30 | 639.77 | 615.08 | 604.50 | 582.01 | 568.57 | 546.08 | 535.94 | 525.36 |
| World Exp | 58816.1 | 60641.962 | 60790.947 | 61248.926 | 61306.618 | 61641.893 | 61796.314 | 61953.021 | 62259.821 | 62659.451 | 63024.378 |