

Multilateral Trade and Agricultural Policy Reforms in Sugar Markets

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Working Paper 04-WP 356

September 2005 (Revised)

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Without implicating them, the authors thank two referees and Tim Lloyd for comments and suggestions, and Pierre Bascou, John Dyck, Jay Fabiosa, Chad Hart, Holger Matthey, Don Mitchell, Jack Roney, Dominique van der Mensbrugge, and Pat Westhoff for discussion, information, and comments.

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Abstract

We analyze the impact of trade liberalization, removal of production subsidies, and elimination of consumption distortions in world sugar markets using a partial-equilibrium international sugar model calibrated on 2002 market data and current policies. The removal of trade distortions alone induces a 27% price increase while the removal of all trade and production distortions induces a 48% increase by 2011/12 relative to the baseline. Aggregate trade expands moderately, but location of production and trade patterns change substantially. Protectionist OECD countries (the EU, Japan, the US) experience an import expansion or export reduction and significant contraction in production in unfettered markets. Competitive producers in both OECD countries (Australia) and non-OECD countries (Brazil, Cuba), and even some protected producers (Indonesia, Turkey), expand production when all distortions are removed. Consumption distortions have marginal impacts on world markets and location of production. We discuss the significance of these results in the context of mounting pressures to increase market access in highly protected OECD countries and the impact on non-OECD countries.

Keywords: agricultural policy, Doha, domestic subsidies, sugar, trade liberalization, WTO.

JEL code: Q18, F10

1. Introduction

The current world sugar market situation has complex North-South, South-South, and North-North components. A myriad of policy interventions make sugar one of the most distorted commodity markets in the world. The European Union (EU), Japan, and the United States (US) are among the worst offenders in these markets. Producers in the EU and the US receive between two and three times the world market price because of production quotas, import controls, and government guaranteed prices. OECD (Organization for Economic Cooperation and Development) countries' support to their sugar producers amounted to about \$5.3 billion in 2002 (OECD, 2003), roughly the value of developing countries' sugar exports. In 2002, the EU, the US, and Japan provided annual support of US\$2.45 billion, US\$1.18 billion, and JPY40 billion, respectively (OECD, 2003). Such high protection has converted the EU, a natural importer of sugar, to a net exporter and has reduced sugar imports to the US and Japan to a fraction of free-trade levels. Further, most countries, including the lowest-cost producers, offer some form of protection or subsidies to their producers, and/or distort signals seen by consumers, and often impede or directly distort trade in some fashion with restrictive import policies (Mitchell, 2004; OECD, 2003). Import restrictions and regulated domestic markets are also prevalent in non-OECD (developing) countries like China and India, which protect their producers and maintain domestic sugar prices at a higher level than the current world price.

An obvious question to ask is what unfettered markets would look like. What consumption and production levels would prevail and what world price could be sustained in the absence of distortions? The latter question has been a bone of contention with producers in protected markets. The current world price is often referred to as the "world dump price" by sugar interests in protected OECD countries because a substantial share of world sugar trade

occurs under preferential agreements (American Sugar Alliance, 2003). Beyond the politics of sugar protectionism, the determination of an undistorted world price is a legitimate concern. There is no consensus on what this undistorted world price would look like. Partial-equilibrium estimates tend to be higher than those coming from computable general equilibrium (CGE) studies (Borrell and Duncan, 1992; Frandsen et al., 2003; van der Mensbrugghe, Beghin, and Mitchell, 2003). Given that policies and market conditions change over time, a useful contribution to this debate is to provide a new estimate of the undistorted world price of sugar. CGE analyses provide a consistent framework to assess economy-wide effects of sugar reform, which are typically very small. These models assume constant returns to scale in production; marginal cost is horizontal as long as factor and input prices do not change. Supply eventually exhibits some positive slope when land is constrained, and supply expansion implies higher land rental rates and input prices as resources are bidden away. These general-equilibrium supply responses remain much higher than in partial equilibrium models. Further, the biology of the slow growth and perennial nature of sugarcane is not considered by CGE models, which assume instantaneous supply adjustment. These two reasons explain why commodity price effects are much smaller in CGE models.

Recent and interesting policy developments warrant a new analysis of the sugar market. Protectionist interests in the United States won a battle with the virtual exclusion of sugar in the US-Australia Free Trade Agreement (FTA). Despite this setback, the US will soon be forced to reform its sugar program because of internal market changes and international commitments already made under the North American Free Trade Agreement (NAFTA), and minimum-market access commitments made under the Uruguay Round of the World Trade Organization (WTO) and the Central American Free Trade Agreement (CAFTA). Further commitments are being

negotiated under the Free Trade Agreement of the Americas (FTAA), and the latter will only exacerbate these pressures for reform. This is another case of border opening forcing domestic policy discipline, such as in the recent reform of the US peanut program. With the recent WTO ruling that the EU has been illegally exporting too much subsidized sugar further complicated by the Everything But Arms (EBA) agreement, the European Commission adopted its proposals to radically reform the EU's protectionist sugar regime in 2006 (WTO, 2004a; Commission of the European Communities, 2005). Needed reforms coincide with scheduled reviews of the common agricultural policy (CAP) in 2006 and the expiring of the US Farm Security and Rural Investment Act in 2007 and provide a target period to get reforms in place. Would these reforms be more palatable under free trade with a higher world price? What is the effect of domestic farm policies relative to border barriers on world prices and markets?

Multilateral trade liberalization erodes benefits and market access from preferential bilateral trade agreements and casts low-cost producers from Brazil and Thailand against less-efficient producers in the South. For example, 9 of the 42 countries that hold US quotas do not even produce the sugar they deliver under the quotas. Hence, sugar market liberalization has an important South-South dimension. How these reforms occur will have important consequences for developing countries. If world price effects are large, what is the net effect of removing one's protection when it is combined with a substantial world price increase? Finally, the North-North dimension of the sugar trade liberalization has to do with Australia standing to gain as a net exporter of sugar and being at odds with many OECD partners protecting their sugar producers.

Most partial-equilibrium analyses of the sugar market examine trade liberalization holding prices and policies constant in other markets. We depart from this approach and incorporate the impact of agricultural trade liberalization on prices for crops competing with

sugar in land use. These free-trade prices come from a similar policy analysis carried out with companion models and using the same baseline of the Food and Agricultural Policy Research Institute (FAPRI) (FAPRI, 2004).¹ In addition to trade liberalization, we also introduce the removal of production and consumption distortions into the analysis. Furthermore, since scenario results are contingent on market conditions and policy developments, this study incorporates more recent policy settings than were available in previous liberalization analyses.

In the following paragraphs we summarize major policy interventions in world sugar markets. Then we briefly describe the international sugar model used for the simulations. After introducing the policy reform scenarios, we present the key results of our simulations and sensitivity analysis. Further detailed information on the country-by-country results for trade, production, and consumption are available in the Appendix tables. We close with further reflection on what our results mean for global sugar policy reforms.

2. Distortions in Sugar Markets

Table 1 summarizes key distortions as of 2002 by countries covered in our analysis. The table classifies countries by their development level (OECD, non-OECD/developing) and distortion levels (highly protected, minimally or moderately distorted). We use the nominal protection coefficient (npc) estimate from the sugar Producer Support Estimate data of OECD countries to categorize them into the two protection categories (OECD, 2003) with a cut-off value of $npc=1.25$. For non-OECD countries, we use cut-off criteria of greater than 25% ad valorem tariff or the combination of a 25% tariff or lower and the presence of domestic production support for

¹ The FAPRI baseline is a set of projections for the US agricultural and international commodity markets. The 10-year projections are published as FAPRI Outlooks, which are also used for policy analysis. FAPRI baseline projections are grounded in a series of assumptions about the general economy, agricultural policies, the weather, and technological change. The projections assume that during the projection period, current agricultural policies remain in place, and average weather conditions and historical rates of technological change prevail.

heavily distorted countries. Detailed coverage of sugar policies by country is available in Appendix Table A.

Distortions categories in Table 1 are based on their distortion impact. As is the case for many agricultural markets, trade distortions are predominant in sugar markets and affect both producers and consumers via border tariffs, tariff-rate quota (TRQ) schemes, and, less importantly, export tax/subsidies (Aksoy and Beghin, 2004; Hoekman, Ng, and Olarreaga, 2004). Border restrictions reduce import demand flows and reduce world prices while increasing domestic prices received by producers and paid by sugar users. Export subsidies are less important except in the EU, where these subsidies are instrumental for dumping non-competitive sugar on world markets and sustain the domestic production of high-price sugar. EU sugar exports and associated subsidies will have to be dramatically reduced as mentioned in the introduction. Border tariffs, TRQs, and export subsidy policies are part of the current Doha negotiations (WTO, 2004b).

Next in importance are production distortions, which sometimes take the form of producer-price support, coupled with production controls such as quota limiting production under price support (e.g., EU, and Turkey). It is well known that OECD countries provide domestic support in addition to border protection. It is less well known that many developing countries engage in similar practices although these are now formally reported in WTO notifications since the generous *de minimis* applies to their distorting domestic policies (WTO, 1994).² Domestic production support is often redundant, as the border protection binds first

²Distorting support is divided into product-specific and non-product-specific groups. The non-product-specific support (not specifically tied to a certain product) and the Aggregate Measure of Support (AMS) is assigned to all agricultural production. For developing countries, AMS values below 10% of the product's value of production for product-specific support and AMS values below 10% of the country's overall value of agricultural production for non-product-specific support are exempted from the domestic support limits of the Uruguay Round Agreements Act and are not notified to the WTO (WTO, 1994).

(e.g., Japan). This would change when border protection is reduced by commitments in trade agreements. Reductions in domestic price support are also under negotiation in the Doha round (WTO, 2004b).

Finally, a few countries also intervene with targeted consumer policies to subsidize consumption to offset some of the impact of the other distortions or just by social objective (such as in Cuba and Egypt).

As suggested by Table 1, many countries intervene in sugar markets; hence, the degree and nature of interventions are what differentiate countries. OECD markets are by far the most distorted (OECD, 2003). Virtually all countries provide some sort of support to their sugar producers, including developing nations as well as countries considered low-cost producers, such as Brazil (Mitchell, 2004). To summarize the extent of distortions, 60% of trade in sugar and 80% of production takes place at prices above the world price (Mitchell, 2004). The table also shows the heterogeneity of support across countries. The policy debate on sugar protection has been oversimplified by pitching low-cost Brazil against industrialized countries (EU and US). Table 1 shows clearly that protection extends beyond the usual suspects among OECD countries to its poorer members (Mexico and Turkey) and also to many countries in the developing world.

Several highly distorted developing countries (India, Egypt, and Colombia) provide domestic farm subsidies to their producers, either directly or through sugar processors who rebate them to farmers. In several countries (e.g., Japan), domestic production policies are in fact supported by trade barriers. Closed borders reduce government outlays on farm programs, and sugar users and consumers effectively bear the cost of the production subsidies. As a final remark, we note that protection is not always equivalent to lack of competitiveness, as producers

in several developing countries would be competitive in unfettered markets provided world prices increase significantly (e.g., Colombia, Indonesia, Malaysia, Pakistan).

3. Structure of the CARD International Sugar Model

The CARD³ international sugar model is a non-spatial, partial-equilibrium econometric world sugar model consisting of 29 countries/regions, including a Rest-of-the-World aggregate to close the model. The model is used to establish the sugar component of the FAPRI baseline (FAPRI, 2003) and for policy analysis (Beghin, et al., 2003). Major sugar producing, exporting, and importing countries are included in the CARD international sugar model. The model specifies only raw sugar production, use, and trade between countries/regions and does not disaggregate refined trade from raw trade. Consequently, there is no category for importers as refiners or toll refiners because those countries that specialize in that role are well known and stable over time. Country coverage consists of the following countries/regions: Algeria, Argentina, Australia, Brazil, Canada, China, Colombia, Cuba, Eastern Europe (Poland, Hungary, Czech and Slovak Republics⁴), Egypt, European Union-15, Former Soviet Union (FSU) (mainly Russia and the Ukraine⁵), India, Indonesia, Iran, Japan, Malaysia, Mexico, Morocco, Pakistan, Peru, Philippines, South Africa, South Korea, Thailand, Turkey, the United States, Venezuela, and a Rest-of-World aggregate.

The general structure of the country sub-model includes behavioral equations for area harvested, yield, production for sugarcane and sugar beet on the supply side, and per capita consumption and ending stocks on the demand side. Equilibrium prices, quantities, and net trade

³ CARD stands for Center for Agricultural and Rural Development at Iowa State University.

⁴ Eastern Europe also includes Albania, Bosnia, Bulgaria, Croatia, Macedonia, Romania, and Slovenia.

⁵ The Former Soviet Union includes Armenia, Azerbaijan, the Baltic States (Estonia, Latvia, and Lithuania), Belarus, Georgia, Republic of Kazakhstan, Kyrgyzstan, Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine, and Republic of Uzbekistan.

are determined by equating excess supply and excess demand across countries and regions. Using price transmission equations, the domestic price of each country or region is linked with a representative world price (Caribbean FOB price) through exchange rates and other price policy wedges such as tariffs and transfer-service margins. Because of the overall scope of the model, it is not feasible to include the complete empirical model in the text. The general framework for each country sub-model consists of the following:

$$\text{Harvested area at time } t: AH_t = f(AH_{t-1}, RSPP_{t-1}, RGP_{t-1}, \text{Trend}), \quad (1)$$

$$\text{Yield at time } t: \text{Yield}_t = f(\text{Yield}_{t-1}, \text{Trend}), \quad (2)$$

$$\text{Cane and beet crop production at time } t: \text{Production}_t = AH_t * \text{Yield}_t, \quad (3)$$

with AH denoting acreage, RSPP being the cane or beet price, and RGP denoting the price of alternative crops; subscripts indicate the time period.

Total sugar production is obtained by converting raw cane production and beet production into raw sugar equivalent. Sugar consumption per capita is determined by the real price of sugar and income per capita:

$$\text{Per capita sugar consumption at time } t: = f(RSP_t, PCRGDP_t), \quad (4)$$

with RSP being the real consumer price of raw sugar, and PCRGDP representing real income per capita; total demand is just the product (population * per capita consumption). Inventory demand at time t is

$$ES_t = f(ES_{t-1}, SC_t, RSP_t), \quad (5)$$

with ES representing ending stock and SC denoting sugar consumption.

In many countries, the beet or cane prices are set by policy and can be treated as being predetermined. Where countries lack information on agricultural price, the raw cane sugar price, RSP, is used instead of the agricultural prices in the specification of the acreage response. In

some countries, yield improvements are captured by a time trend. The excess demand (supply) of each country goes to the world market for raw sugar, and the sum of all excess demands and supplies is equal to zero by market clearing to determine the world market price.

The CARD international sugar model uses price transmission elasticities to link the world and domestic markets for each country. The price transmission equation assumes that agents in each country are price-takers in the world market. Countries are either a natural importer or exporter if their autarkic price falls above or below the world price. Net importers enjoy natural protection plus whatever barrier is set at the border. Abstracting from any spatial consideration and assuming an “ad valorem tariff only” regime, the domestic price can be expressed as

$$P^d = \alpha + \beta * P^w * r * (1+d), \quad (6)$$

where P^d is the domestic sugar price, P^w is the world price of sugar including international transportation cost if the country is an importer (FOB price for exporters), r is the exchange rate, and d summarizes policy interventions between the world and domestic markets and is expressed in ad valorem form. Parameter α captures the divergence of the domestic and border price that does not depend on the price level but rather reflects transaction costs arising between the farmgate and the market place and/or marketing mark-ups. Parameter β allows imperfect transmission between world and domestic prices. Depending on data availability, domestic prices in the sugar model can be farm, wholesale, or retail prices. Because of the homogeneous nature of sugar, quality adjustments are not incorporated in the price transmission equations. In general, only one domestic price is used in the model.⁶ Consumer and producer prices are differentially

⁶ Sugar is a true homogeneous commodity implying that the sugar market is a global market with a single world price and that in trade its origin is undistinguishable, as opposed to cereals or oilseeds, which are highly differentiated products and for which trade is more specialized and spatial.

specified only in countries that have a deficiency type of producer support or an explicit tax on consumption.

This general structure is slightly modified to accommodate policy interventions other than price distortions, such as quantitative restrictions on area, supply, or trade flows. For example, imports constrained by binding TRQs are treated as exogenous, and domestic prices are solved endogenously. Policy interventions providing a price floor are treated as such and are effective whenever the domestic producer price falls to the price floor level (e.g., the US loan rate). This mechanism is important when we remove trade barriers in the first scenario but maintain domestic farm policies.

The interaction with other model components used to establish the FAPRI baseline is limited to cross-price effects in supply (for wheat, rice, and soybeans). There are no links in consumption.

Data for area, yield, sugarcane, and sugar beet production were gathered from the Food and Agricultural Organization (FAO) of the United Nations, and data for sugar production, consumption, and ending stocks were obtained from Production, Supply and Distribution (PS&D) View of the US Department of Agriculture. Cane and beet production is tied to sugar production through the extraction rate. Macroeconomic data such as real gross domestic product (GDP), consumer price index, population, and exchange rate were gathered from various sources, including the International Monetary Fund and Global Insight (formerly WEFA-DRI).

Demand and supply price responses and income response of demand are econometric estimates or, when not available, consensus estimates. Their elasticity values are available from the FAPRI Web site (<http://www.fapri.iastate.edu/tools/elasticity.aspx>). The period for the econometric estimation is 1980 to 2001. Simple linear specifications and ordinary least squares

are used in the estimation of these equations to save degrees of freedom, given the short time series used. This estimation approach treats sugar prices as exogenous for estimation purposes.

Elasticities in the CARD international sugar model are comparable to most existing ones (e.g., Devadoss and Kropf, 1996; Hafi, Connell, and Sturgiss, 1993; and Wohlgenant, 1999) and do not depart from the conventional wisdom on price-inelastic sugar markets. The own-price elasticities of sugarcane supply are highly inelastic in the short run. This feature is consistent with the fact that several annual crops can be harvested from one planting of sugarcane. Therefore, there is limited acreage adjustment to price fluctuations in the short run. The own-price supply elasticities for sugar beet production are generally not as inelastic as they are for sugarcane since beet is an annual crop. On the demand side, the own-price and income elasticities reflect the fact that in many developing countries sugar is considered a staple in the diet. Consumers look to sugar to fulfill basic caloric requirements.

The Caribbean raw sugar price is generally considered to be the representative world market price. The nominal world price of sugar has been increasing over time, although in a volatile fashion, while the real price has decreased.

Our analysis has some caveats, which are inherent to the radical nature of the policy reforms considered. The policy changes considered in the first two scenarios are drastic and imply large price changes and displacement of market equilibrium far from prevailing volume and prices. For example, our assumptions on supply curves underlying EU production quotas are based on consensus views on the relative competitiveness of the producers constrained by the quota. The exact shape of those supply curves is unknown.

4. Reform Scenarios and Results

We ran a sequence of three scenarios in deviation from the FAPRI baseline. We use the 2002 baseline because it was used to carry the trade liberalization analysis in all other agricultural markets (FAPRI, 2004). The sequence of scenarios starts with the removal of the largest distortions affecting sugar markets, i.e., trade and border distortions (tariffs, export taxes/subsidies, TRQs, and state trading). Then a second scenario considers the further removal of domestic production policies in addition to the trade liberalization of the first scenario. The third and last scenario considers the additional removal of consumption distortions along with the previous reforms of trade and production policies. Consumption distortions are the least prevailing distortions in these markets.

In each scenario, the policy reforms are fully implemented in 2002/03 and their impact is measured in deviations for the years 2002/03 to 2011/12. We report the average of these annual changes as a summary indicator of the impacts as well as the impact in the final year (2011/12), which represents a long-term impact as the model dynamics take time to settle. Table 2 presents summary impacts for the world market; Tables 3-6 show the detailed impacts for select countries following the country taxonomy adopted earlier in the discussion of distortions (OECD, highly-distorted; OECD, minimally or moderately distorted; Non-OECD/ developing, highly distorted; Non-OECD/developing, minimally or moderately distorted). Figure 1 shows the impact of liberalization under the three scenarios on average production shares (2002/03 to 2011/12) for major countries classified according to their development and distortion levels. Figure 2 shows

the impact on average trade shares under scenarios 1, 2, and 3 for the major countries grouped by development and distortion levels.⁷

Trade Liberalization Impacts

To implement scenario 1, we assume that governments have the fiscal resources to sustain existing sugar production subsidies. Producers receive the prevailing domestic market price under open borders but also get a production subsidy, which leaves the domestic policy support to production unchanged. This is, of course, an artificial device, which allows us to separate the specific effects of trade and domestic production policies. In reality, the mounting fiscal pressures of domestic subsidies would render them unsustainable in the medium run and policy reforms would follow.

The removal of all trade distortions increases the world sugar price by 32% on average during the simulation period (Table 2). This average figure is inflated by a very strong initial price shock, which eventually tapers to 27% in 2011/12. Aggregate trade increases by a moderate 4% by 2011/12. The depth of the world market price formation mechanism increases dramatically, however, since preferential trade and export subsidies are eliminated. This mostly concerns EU imports and exports, and US and Japanese imports. Aggregate effects on world production and consumption are small.

As shown in Tables 3-6, change in consumption and, to a lesser extent, relocation of production are substantial because of the magnitude of the price effects. In highly distorted OECD countries, sugar producers are also protected by domestic policies, and their production changes little or not at all. However, their consumption increases as sugar users face the world price of sugar. As a consequence, Figures 1 and 2 show countries like the EU experiencing a

⁷ Not all countries mentioned in the text appear in the tables and figures. Individual country results are available in Appendix Tables B, C, and D for the three scenarios and in Appendix Table E for the sensitivity analysis.

small decline in average production and trade shares, respectively, under trade liberalization. Conversely, in Australia, a country with limited distortion and the only major competitive sugar producer among OECD countries, production increases by more than 5% annually by 2011/12, and consumption falls as consumers face higher world prices after reform. So Australia increases its average production and trade shares, albeit slightly, under scenario 1.

Among the most heavily distorted developing countries, production decreases substantially whenever domestic subsidies are not present, such as in the FSU and the Philippines. In developing countries in which domestic production support is present (e.g., India, Thailand) production changes little, as producers are shielded from world competition; consumption increases, however, as consumers face a higher domestic price. In terms of global shares, with the removal of trade barriers, importing countries like the FSU, Japan, and the US experience a small reduction in average production shares (Figure 1) and an increase in trade shares compared to the baseline (Figure 2). In a few countries, such as China, the net impact of the tariff removal and the increase in world prices turns out to increase production and decrease consumption. Moderately distorted developing countries increase their production significantly; Brazil, for example, increases production 8% annually on average. As a response to the higher world price, Brazil's average production and trade shares increase from 35.8% and 15%, respectively, in the baseline to 41.8% and 16%, respectively, under the trade liberalization scenario (Figures 1 and 2). Consumption falls in all countries of the latter group as sugar users face higher world and consumer prices after reform.

Trade Liberalization and Domestic Production Policy Reform

The same Tables 2-6 show the results for the combined removal of trade distortions and domestic policies affecting production. Major changes occur in scenario 2 with the additional

removal of domestic production subsidies. The removal of all trade and production distortions induces a 48% price increase by 2011/12 as shown in Table 2. Aggregate world sugar production and use decrease by about 3% on average. Aggregate trade expands moderately but the location of production and trade patterns are even more substantially affected than in the previous scenario. The most protected OECD and non-OECD countries (e.g., the EU, India, Japan, and, to a lesser extent, Mexico, Thailand, and the US) experience an import expansion or export reduction because of substantial contraction in production and increased consumption. In Figure 1, the average production share for the EU declines to 5% in scenario 2 from about 13% in the baseline and Figure 2 shows that the region experiences a trade reversal from a net exporter of sugar to a net importer when domestic support is removed. Japan reduces its average production share and increases its trade share compared to the baseline (Figure 1 and 2). The US production share remains where it was in the trade reform as the world price increase in scenario 2 offsets the loss of domestic subsidies. US imports increase relative to the baseline but not as much as in the previous scenario because the price faced by sugar users does not fall as much as it does in scenario 1. World beet production decreases by 21% by the end of the decade, whereas world cane production increases by 8%. Hence, in aggregate terms, the conventional wisdom holds that cane sugar production tends to be more competitive than beet sugar production.

In contrast to the first scenario, the drop in production among the most protected countries is so drastic that the resulting world price increase induces higher production in many countries. Higher production is obviously seen among non-OECD competitive producers such as Brazil and Cuba but also in some countries with significant distortions such as Indonesia, Malaysia, and China. For these countries, the world price increase is large enough to provide improved incentives to produce, and lesser incentives to use sugar. Figure 1 shows the average

production share of Brazil increasing from 15% in the baseline to 18% with the removal of domestic support while, in Figure 2, its trade share increases from 35.8% to 63%. Indonesia, although highly distorted, also increases its average production and decreases its imports by almost 50% relative to the baseline. Among highly distorted OECD countries, Turkey also expands production because higher world prices and the removal of producer policies lead to improved incentives to produce. Negative changes in consumption observed in the first scenario are accentuated in this second scenario since consumers face even higher prices in the latter scenario. This occurs in OECD and non-OECD countries with moderate border protection (Australia, Brazil, Canada) but also in a few non-OECD countries with significant protection but for which the net effect of the removal of distortions and higher world price worsens consumer prices. For example, in China, consumption decreases by 7% in 2011/12 relative to the baseline level.

Full Market Liberalization (Trade, Consumption, and Production Reforms)

In this scenario, consumption distortions are removed in Cuba, Egypt, and Morocco, in addition to the policy reforms of the previous scenario.⁸ As Table 2 shows, the removal of pure consumption distortions has small effects on world markets price relative to scenario 2.⁹ By 2011/12, the world price increase is 47% or 1% lower than in scenario 2, as consumption subsidies are removed. Hence, the bulk of the effects of this reform occur in the countries removing their own consumer price distortions with limited feedback on world market. Tables 3-6 show that the removal of the consumer subsidies in these select developing countries has little

⁸ Although previously sugar was sold at subsidized prices to consumers in Turkey, consumer sugar subsidies have been gradually reduced over the last several years and prices have increased according to production costs, resulting in consumption increases closer to the population growth rate. For this reason, consumer subsidies in Turkey were not considered.

⁹ A border tariff constitutes a tax on consumption and a subsidy on production. Hence, sugar consumption has been extremely distorted by high tariffs rather than by pure consumer taxes/subsidies occurring only in a few countries.

impact on the rest of the countries when compared with scenario 2. Among non-OECD countries, Cuba has the largest subsidy removal, and consumption decreases significantly, by an average of 42.5% between 2002/03 and 2011/12. This translates in an expansion of Cuban exports on world markets, which are responsible for the 1% decrease in the world price relative to the world price prevailing after removing trade and production distortions (47% versus 48% increase in 2011-12). In Egypt, consumption decreases by 21%, whereas it would decrease by 15% under scenario 2. Finally, in Morocco, the removal of the consumption subsidy results in the reduction of sugar consumption by 11% relative to the baseline. Under scenario 2, Moroccan sugar consumption would decrease by nearly 4%.

Sensitivity Analysis

In conducting the sensitivity analysis, baseline price response elasticities in the supply, demand, and inventory equations for all countries were first doubled and then halved. The analysis involved the recalibration of the intercepts in these equations in order to maintain the original baseline. Then the scenarios were run with the alternative elasticities. Detailed results are presented in Appendix Table E.

The doubling of elasticities makes the model more price responsive. Policy reforms induce larger marginal changes in supply, demand, and trade and, as a result, more moderate world price increases. Brazil and Australia expand their production beyond levels indicated in the original scenarios 2 and 3, whereas Japan and FSU decrease their production and increase their consumption to a larger extent. The loss of protection is exacerbated in highly distorted markets such as the EU and Japan and the response to the larger loss is also greater as the elasticity of supply is doubled. With the halving of elasticities these tendencies are reversed: world price increases are larger because marginal responses of supply, demand, and trade flows

are diminished. Note that the qualitative results of the original analysis are maintained throughout as the direction of changes is unaffected by changes in elasticities, with the unique exception of the US in scenario 2 when elasticities are halved. In the latter case, “nothing” happens compared to the baseline as the US sub-model becomes so inelastic and the US policy removal is offset fully by the world price increase. In average terms, when elasticities are halved in scenarios 2 and 3, the world price increase is about 11% higher than the world price increase when elasticities are unchanged.

The sensitivity analysis led to a few extreme results. In the case of scenarios 2 and 3, when elasticities are doubled, the model goes to a corner solution in terms of inventories for Brazil as they become more responsive to higher world prices. This occurs as well for production in Japan with the removal of protection. Sugar beet area harvested in Japan falls to zero faster than sugarcane area harvested, resulting in positive, albeit drastically diminished, sugar production during the projection period. In scenario 3, where consumer subsidies are removed, Cuba’s sugar consumption falls to zero in the first year because of the dramatic increase in world price, the removal of the subsidies, and the higher demand response to price. Cuban sugar consumption remains positive although very low after the first year.

Sensitivity analysis was also conducted that doubled and halved the elasticities in the price transmission equations. Where elasticities were originally high, an upper bound of one was implemented (full transmission). The latter analysis tended to exacerbate tendencies observed in the two previous cases, accentuating price responses in the halving and decreasing them in the doubling. Results of this analysis are available from the authors.

5. Conclusions

We analyzed a sequence of incremental policy reforms in international sugar markets: the

removal of trade distortions, followed by the removal of trade distortions and domestic production support, and finally the removal of pure consumption distortions in addition to the previous removals. The sequence of reforms is structured by order of decreasing importance of these types of distortions. Trade distortions are the largest contributor to distortions in sugar markets and are responsible for large price and consumption effects. But domestic production policies in highly protected OECD countries are also important to maintain production in these countries. With the removal of both trade and production distortions, it is clear that a massive sugar production relocation would take place away from highly protected OECD markets (the EU; Japan, and, to a lesser extent, Mexico and the US). Production would move toward competitive producers in moderately protected developing economies, chiefly Brazil and Cuba, and to moderately protected OECD countries, mostly Australia, and less obviously to producers in protected countries such as Turkey and Indonesia because of the large world price effects. The EU and Japan have virtually everything to lose in unfettered markets. The large increase in price is little solace for their sugar producers, who would probably be wiped out. EU producers might want to focus on compensation and negotiate a buy-out program within the ongoing CAP reforms and specifically its sugar common market organization, while the Doha round evolves slowly and the EBA agreement is not yet fully implemented. Japanese sugar producers may well be the last bastion of protectionism in global sugar markets.

The analysis also makes clear that trade liberalization without domestic reforms would induce import surges in the US. These surges would make domestic programs fiscally unpalatable and unsustainable because of the current policy commitments. A similar pattern emerges in the EU, which is constrained in its ability to export expensive domestic sugar displaced by cheaper imports or to provide large, unsustainable production subsidies to make

domestic producers competitive. Of course one should never underestimate the strength of the sugar lobby in OECD countries, and many sugar specialists have wrongly predicted the imminent unraveling of sugar protectionism as shown in the recent outcome of the Australian-US FTA and CAFTA.

We obtained large world price effects reflecting the price-inelastic nature of sugar markets. We found that by the end of the outlook period, world prices would increase by about 27% with the imposition of free trade and by a staggering 48% when all trade and production distortions are removed. These figures are slightly inflated by strong initial price shocks, which take time to taper because of the slow dynamic adjustment of sugar production. Supply adjustment in sugar production takes time, and the price changes in the later years provide a sense of how markets would adjust in the long run to such radical policy shocks. These estimates of the price effects are large but within the ballpark of previous estimates obtained with partial-equilibrium models (Borrell and Pearce, 1999; Sheales, Hafi, and Toyne, 1999; Wohlgenant, 1999). Sugar markets are price-inelastic both on the supply and demand sides. This fundamental characteristic explains why reforms have large price effects but more moderate effects on production, consumption, and trade. In contrast, CGE models predict smaller price effects and larger production and consumption effects because they assume larger market responses to prices, especially in supply.

Sugar producers' groups in protected markets insist on using the multilateral negotiation route to liberalize sugar markets, often as a convenient veil of legitimacy for their protectionist interests. Our numbers provide some credence to their strategy, as it appears that the competitive segment of the sugar industries would survive in unfettered markets in the US, Turkey, and other protected markets. A major qualifier to our analysis is that our model may understate exit/entry

and investment decisions. The drastic world price increases predicted by our analysis may induce massive investment in sugar production and reduce these price changes considerably.

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Table 1. Summary of Sugar Policies by Country (2001/02)

Country Classification	Trade Policies			Domestic Policies		
	Import tariff ⁽¹⁾ and TRQ schemes	Export subsidy	Export tax	Production		Consumption
				Price support	Production quota	Consumer subsidy
OECD Countries: Highly Distorted						
Eastern Europe ⁽²⁾	40% in-quota rate with minimum of EUR0.17/kg; 96% out-of-quota rate with minimum of EUR0.43/kg					
European Union	EUR98/ton in-quota rate; EUR339/ton out-of-quota rate; ACP TRQ 1.3 million tons white sugar equivalent	X		X	X	
Japan	JPY21.5/kg refined sugar + additional surcharge of JPY53.88/kg			X		
Mexico	\$0.3166/kg on U.S. imports and \$0.3958/kg on third-country imports			X		
South Korea	3% raw sugar and temporary 50% refined sugar			X		
Turkey	110.45% on EU imports; 138% on third-country imports			X	X	
United States	0.625/lb MFN import duty; 15.36¢/lb out-of-quota rate raw sugar; 16.21¢/lb refined sugar; TRQ of 1.29 million tons in 2002; Preferential treatment for Mexico under NAFTA			X		
OECD Countries: Limited to Moderate Distortion						
Australia	No import tariffs					
Canada	CAD\$30.86/ton refined sugar; CAD\$22.07 - \$24.69/ton raw sugar (MFN)					
Non-OECD Countries: Highly Distorted						
Argentina	20% (+ \$60/ton on Brazilian imports)	4.05%	5%			
China	20% in-quota rate; 76% out-of-quota rate; TRQ 1.64 million tons increasing to 1.95 million tons by 2004			X		
Colombia	20% + variable surcharge (effective duty in 2002 \$114/ton raw imports; \$85/ton refined)	2.5%		X		
Egypt	5% raw sugar; 10% refined sugar			X		X
Former Soviet Union (Russia) ⁽³⁾	5% in-quota rate but no less than EUR0.015/kg; 40% out-of-quota rate but no less than EUR0.12/kg for raw sugar and EUR0.14/kg for white sugar; TRQ 3.65 million tons in 2002					
India	60% plus INR850/ton countervailing duty			X		
Indonesia	20% raw cane sugar; 25% beet sugar			X		
Malaysia	5% + specific tax of RM426.7/ton			X		
Morocco	35% + 0.25% parafiscal tax and 123% of the difference between a threshold price and CIF price			X		X
Pakistan	30%			X		
Philippines	65%					
South Africa	ZAR1312/ton in 2002 (based on difference between world price and set reference price)					
Thailand	65% in-quota rate; 99% out-of-quota rate 99%			X	X	
Non-OECD Countries: Limited to Moderate Distortion						
Algeria	15% cane sugar; 5% beet sugar					
Brazil	17.5%					
Cuba	10%					X
Iran ⁽⁴⁾	19%					
Peru	25% + additional duty based on price band system used in Colombia					
Venezuela	15% + additional duty based on price band system used in Colombia					

1. Import tariffs are for raw sugar unless indicated otherwise.
2. Poland is used to represent Eastern Europe as its production constitutes 60% of total sugar production in Eastern Europe.
3. Russia is used to represent the Former Soviet Union as it is the region's largest importer. The Ukraine sets minimum purchase prices for sugar beets and refined sugar at the wholesale level. However, sugar prices are often below the mandated minimum.
4. Regional average

Table 2. Impact of Reforms on World Sugar

World Sugar Production, Consumption, Total Exports^[1] and World Prices

	(Million Metric Tons)						(U.S. Dollars per Metric Ton)	
	Production		Consumption		Total Exports		FOB Caribbean Price	
	11/12	Average	11/12	Average	11/12	Average	11/12	Average
Scenario 1								
Baseline	155.81	144.82	156.13	145.25	35.51	32.02	238.83	214.61
Reform	156.94	146.02	156.97	146.08	37.01	32.83	302.47	282.31
Change	1.13	1.20	0.85	0.82	1.50	0.81	63.64	67.69
% chg from baseline	0.72%	0.83%	0.54%	0.56%	4.22%	2.40%	26.65%	31.95%
Scenario 2								
Reform	153.06	140.76	153.12	141.21	38.42	35.76	353.32	353.93
Change	-2.75	-4.06	-3.01	-4.04	2.91	3.75	114.49	139.32
% chg from baseline	-1.76%	-2.86%	-1.93%	-2.82%	8.19%	11.73%	47.94%	66.18%
Scenario 3								
Reform	152.79	140.52	152.85	140.94	38.39	35.70	350.83	351.36
Change	-3.02	-4.30	-3.27	-4.31	2.88	3.68	112.00	136.74
% chg from baseline	-1.94%	-3.03%	-2.10%	-3.01%	8.12%	11.53%	46.89%	64.96%

^[1] Total exports are computed by summing up all positive exports and negative imports and *not* by summing trade flows of net exporters.

Note: Average is the average for 2002/03 to 2011/12.

Scenario 1 = Trade Liberalization; Scenario 2 = Trade Liberalization and Domestic Production Subsidy Reforms; Scenario 3 = Full Market Liberalization.

Table 3. Impact of Reforms on Heavily Distorted OECD Countries**European Union Sugar Production, Consumption and Net Exports**

	(Thousand Metric Tons)					
	Production		Consumption		Net Exports	
	11/12	Average	11/12	Average	11/12	Average
Scenario 1						
Baseline	19,752.11	18,702.35	15,087.83	14,932.70	4,634.06	3,734.87
Reform	19,752.11	18,702.35	15,659.04	15,597.65	4,078.36	3,032.31
Change	0.00	0.00	571.21	664.94	-555.70	-702.57
% chg from baseline	0.00%	0.00%	3.79%	4.46%	-11.99%	-19.56%
Scenario 2						
Reform	7,987.60	7,230.69	15,520.31	15,382.79	-7,555.19	-8,214.96
Change	-11,764.50	-11,471.66	432.47	450.09	-12,189.24	-11,949.83
% chg from baseline	-59.56%	-61.28%	2.87%	3.01%	-263.04%	-323.47%
Scenario 3						
Reform	7,955.73	7,202.49	15,527.12	15,390.47	-7,593.85	-8,251.26
Change	-11,796.38	-11,499.86	439.29	457.76	-12,227.91	-11,986.13
% chg from baseline	-59.72%	-61.43%	2.91%	3.06%	-263.87%	-324.45%

Eastern European Sugar Production, Consumption and Net Imports^[1]

	(Thousand Metric Tons)					
	Production		Consumption		Net Imports	
	11/12	Average	11/12	Average	11/12	Average
Scenario 1						
Baseline	3,190.73	3,265.61	4,356.21	4,346.01	1,187.31	1,091.26
Reform	2,891.28	3,003.62	4,427.71	4,421.47	1,553.21	1,454.06
Change	-299.45	-261.98	71.50	75.46	365.89	362.80
% chg from baseline	-9.39%	-8.06%	1.64%	1.74%	30.82%	33.14%
Scenario 2						
Reform	2,936.56	3,058.26	4,427.18	4,412.02	1,510.27	1,385.99
Change	-254.17	-207.34	70.96	66.01	322.95	294.73
% chg from baseline	-7.97%	-6.38%	1.63%	1.52%	27.20%	26.75%
Scenario 3						
Reform	2,934.62	3,056.39	4,427.83	4,412.67	1,512.85	1,388.67
Change	-256.11	-209.22	71.62	66.65	325.53	297.41
% chg from baseline	-8.03%	-6.44%	1.64%	1.53%	27.42%	27.00%

^[1] Eastern Europe represents the 11 East European countries prior to the EU Enlargement in 2004. The EU Enlargement is not incorporated into the model.

Japanese Sugar Production, Consumption and Net Imports

	(Thousand Metric Tons)					
	Production		Consumption		Net Imports	
	11/12	Average	11/12	Average	11/12	Average
Scenario 1						
Baseline	897.94	854.26	2,432.89	2,383.36	1,535.03	1,531.41
Reform	688.78	736.93	2,478.30	2,453.02	1,788.59	1,719.17
Change	-209.16	-117.33	45.41	69.66	253.57	187.77
% chg from baseline	-23.29%	-13.46%	1.87%	2.93%	16.52%	12.27%
Scenario 2						
Reform	146.32	385.92	2,466.63	2,433.09	2,319.58	2,050.05
Change	-751.62	-468.34	33.74	49.72	784.55	518.65
% chg from baseline	-83.71%	-53.85%	1.39%	2.09%	51.11%	33.92%
Scenario 3						
Reform	321.03	514.23	2,467.20	2,433.79	2,145.44	1,922.46
Change	-576.91	-340.03	34.31	50.43	610.41	391.05
% chg from baseline	-64.25%	-39.06%	1.41%	2.12%	39.77%	25.57%

Note: Average is the average for 2002/03 to 2011/12.

Scenario 1 = Trade Liberalization; Scenario 2 = Trade Liberalization and Domestic Production Subsidy Reforms; Scenario 3 = Full Market Liberalization.

South Korean Sugar Production, Consumption and Net Imports^[2]

Scenario 1	(Thousand Metric Tons)					
	Production		Consumption		Net Imports	
	11/12	Average	11/12	Average	11/12	Average
Baseline	0.00	0.00	1,675.18	1,497.67	1,670.74	1,499.67
Reform	0.00	0.00	1,776.27	1,581.43	1,772.14	1,587.57
Change	0.00	0.00	101.09	83.76	101.40	87.91
% chg from baseline	0.00%	0.00%	6.03%	5.56%	6.07%	5.85%
Scenario 2						
Reform	0.00	0.00	1,763.90	1,558.92	1,760.50	1,564.06
Change	0.00	0.00	88.72	61.25	89.76	64.39
% chg from baseline	0.00%	0.00%	5.30%	4.00%	5.37%	4.22%
Scenario 3						
Reform	0.00	0.00	1,765.39	1,560.21	1,761.98	1,565.39
Change	0.00	0.00	90.21	62.54	91.23	65.72
% chg from baseline	0.00%	0.00%	5.38%	4.09%	5.46%	4.31%

^[2] South Korea does not produce sugar.

Turkish Sugar Production, Consumption and Net Imports

Scenario 1	(Thousand Metric Tons)					
	Production		Consumption		Net Imports	
	11/12	Average	11/12	Average	11/12	Average
Baseline	2,211.87	2,067.43	2,395.14	2,215.55	184.90	143.36
Reform	2,211.87	2,067.43	2,445.07	2,258.36	237.71	194.29
Change	0.00	0.00	49.93	42.81	52.82	50.93
% chg from baseline	0.00%	0.00%	2.08%	1.92%	28.57%	42.91%
Scenario 2						
Reform	3,733.30	2,780.43	2,438.05	2,245.98	-1,289.85	-532.89
Change	1,521.43	713.00	42.91	30.43	-1,474.75	-676.25
% chg from baseline	68.78%	33.17%	1.79%	1.36%	-797.60%	-259.02%
Scenario 3						
Reform	3,719.12	2,768.22	2,438.78	2,246.65	-1,274.93	-519.94
Change	1,507.25	700.79	43.64	31.10	-1,459.83	-663.30
% chg from baseline	68.14%	32.59%	1.82%	1.39%	-789.53%	-250.17%

US Sugar Production, Consumption and Net Imports

Scenario 1	(Thousand Metric Tons)					
	Production		Consumption		Net Imports	
	11/12	Average	11/12	Average	11/12	Average
Baseline	7,983.34	7,965.40	10,975.62	10,258.58	3,132.43	2,423.20
Reform	7,921.85	7,688.57	11,049.92	10,394.51	3,339.86	3,043.80
Change	-61.49	-276.83	74.30	135.93	207.43	620.61
% chg from baseline	-0.77%	-3.46%	0.68%	1.35%	6.62%	29.62%
Scenario 2						
Reform	7,614.48	7,482.78	10,992.55	10,306.18	3,430.32	2,941.35
Change	-368.86	-482.62	16.93	47.60	297.89	518.16
% chg from baseline	-4.62%	-6.06%	0.15%	0.47%	9.51%	22.58%
Scenario 3						
Reform	7,584.90	7,454.10	10,995.36	10,309.33	3,463.38	2,974.49
Change	-398.44	-511.29	19.74	50.75	330.95	551.29
% chg from baseline	-4.99%	-6.42%	0.18%	0.50%	10.57%	24.00%

Note: Average is the average for 2002/03 to 2011/12.

Scenario 1 = Trade Liberalization; Scenario 2 = Trade Liberalization and Domestic Production Subsidy Reforms; Scenario 3 = Full Market Liberalization.

Table 4. Impact of Reforms on Moderately Distorted OECD Countries**Australian Sugar Production, Consumption and Net Exports**

	(Thousand Metric Tons)					
	Production		Consumption		Net Exports	
	11/12	Average	11/12	Average	11/12	Average
Scenario 1						
Baseline	6,684.35	6,063.38	1,116.69	1,074.69	5,568.31	4,989.95
Reform	7,026.17	6,364.24	1,095.17	1,052.37	5,930.74	5,318.02
Change	341.82	300.86	-21.51	-22.32	362.43	328.07
% chg from baseline	5.11%	4.86%	-1.93%	-2.08%	6.51%	6.46%
Scenario 2						
Reform	7,340.35	6,700.27	1,063.43	1,019.19	6,273.27	5,691.56
Change	656.00	636.89	-53.25	-55.50	704.96	701.60
% chg from baseline	9.81%	10.33%	-4.77%	-5.17%	12.66%	13.88%
Scenario 3						
Reform	7,327.37	6,688.85	1,064.80	1,020.50	6,258.93	5,678.64
Change	643.02	625.47	-51.88	-54.19	690.62	688.69
% chg from baseline	9.62%	10.14%	-4.65%	-5.05%	12.40%	13.62%

Canadian Sugar Production, Consumption and Net Imports

	(Thousand Metric Tons)					
	Production		Consumption		Net Imports	
	11/12	Average	11/12	Average	11/12	Average
Scenario 1						
Baseline	116.95	116.21	1,385.97	1,309.39	1,274.60	1,196.84
Reform	117.82	117.11	1,369.16	1,289.63	1,257.13	1,175.65
Change	0.87	0.90	-16.81	-19.76	-17.46	-21.19
% chg from baseline	0.74%	0.77%	-1.21%	-1.52%	-1.37%	-1.79%
Scenario 2						
Reform	119.46	119.22	1,333.65	1,249.47	1,220.58	1,132.81
Change	2.51	3.00	-52.32	-59.92	-54.02	-64.03
% chg from baseline	2.15%	2.59%	-3.78%	-4.60%	-4.24%	-5.39%
Scenario 3						
Reform	119.39	119.15	1,335.37	1,251.14	1,222.37	1,134.57
Change	2.44	2.94	-50.60	-58.25	-52.23	-62.27
% chg from baseline	2.09%	2.53%	-3.65%	-4.47%	-4.10%	-5.24%

Note: Average is the average for 2002/03 to 2011/12.

Scenario 1 = Trade Liberalization; Scenario 2 = Trade Liberalization and Domestic Production Subsidy Reforms; Scenario 3 = Full Market Liberalization.

Table 5. Impact of Reforms on Heavily Distorted Non-OECD Countries**Chinese Sugar Production, Consumption and Net Imports**

	(Thousand Metric Tons)					
	Production		Consumption		Net Imports	
	11/12	Average	11/12	Average	11/12	Average
Scenario 1						
Baseline	8,980.43	8,375.08	11,149.15	9,834.95	2,154.64	1,450.67
Reform	9,244.23	8,733.96	10,964.54	9,493.71	1,711.10	746.37
Change	263.79	358.88	-184.61	-341.24	-443.53	-704.30
% chg from baseline	2.94%	4.31%	-1.66%	-3.59%	-20.58%	-53.24%
Scenario 2						
Reform	9,769.23	9,469.22	10,389.91	8,529.91	624.47	-965.58
Change	788.79	1,094.14	-759.24	-1,305.04	-1,530.16	-2,416.26
% chg from baseline	8.78%	13.10%	-6.81%	-13.66%	-71.02%	-182.19%
Scenario 3						
Reform	9,737.33	9,437.40	10,418.12	8,563.96	684.49	-899.12
Change	756.89	1,062.32	-731.03	-1,270.98	-1,470.15	-2,349.79
% chg from baseline	8.43%	12.72%	-6.56%	-13.31%	-68.23%	-177.34%

Former Soviet Union Sugar Production, Consumption and Net Imports

	(Thousand Metric Tons)					
	Production		Consumption		Net Imports	
	11/12	Average	11/12	Average	11/12	Average
Scenario 1						
Baseline	4,719.42	4,523.13	12,653.62	12,206.35	7,840.12	7,613.89
Reform	3,782.04	3,904.78	12,772.54	12,325.21	8,893.43	8,371.37
Change	-937.38	-618.35	118.92	118.86	1,053.31	757.47
% chg from baseline	-19.86%	-13.45%	0.94%	0.97%	13.43%	9.91%
Scenario 2						
Reform	4,821.15	4,854.56	12,668.91	12,162.57	7,766.81	7,239.65
Change	101.73	331.43	15.29	-43.78	-73.30	-374.24
% chg from baseline	2.16%	7.37%	0.12%	-0.37%	-0.93%	-4.95%
Scenario 3						
Reform	4,780.52	4,822.71	12,674.00	12,168.36	7,812.47	7,278.16
Change	61.09	299.58	20.37	-37.99	-27.65	-335.73
% chg from baseline	1.29%	6.67%	0.16%	-0.32%	-0.35%	-4.45%

Indian Sugar Production, Consumption and Net Exports

	(Thousand Metric Tons)					
	Production		Consumption		Net Exports	
	11/12	Average	11/12	Average	11/12	Average
Scenario 1						
Baseline	22,670.46	20,724.70	22,291.02	20,313.63	506.65	697.32
Reform	22,670.46	20,724.70	23,298.40	21,134.24	-526.08	-235.19
Change	0.00	0.00	1,007.38	820.60	-1,032.73	-932.51
% chg from baseline	0.00%	0.00%	4.52%	4.01%	-203.84%	-143.90%
Scenario 2						
Reform	22,094.60	19,827.87	22,487.96	20,156.38	-351.71	-80.75
Change	-575.86	-896.82	196.95	-157.25	-858.35	-778.07
% chg from baseline	-2.54%	-4.39%	0.88%	-0.86%	-169.42%	-125.47%
Scenario 3						
Reform	22,069.97	19,805.72	22,538.27	20,201.73	-426.09	-151.07
Change	-600.49	-918.98	247.25	-111.91	-932.74	-848.39
% chg from baseline	-2.65%	-4.49%	1.11%	-0.64%	-184.10%	-136.21%

Note: Average is the average for 2002/03 to 2011/12.

Scenario 1 = Trade Liberalization; Scenario 2 = Trade Liberalization and Domestic Production Subsidy Reforms; Scenario 3 = Full Market Liberalization.

Table 5. (continued)**Thai Sugar Production, Consumption and Net Exports**

	(Thousand Metric Tons)					
	Production		Consumption		Net Exports	
	11/12	Average	11/12	Average	11/12	Average
Scenario 1						
Baseline	7,012.04	6,283.39	2,401.24	2,090.00	4,606.68	4,179.72
Reform	6,825.65	6,157.79	2,525.48	2,188.66	4,297.23	3,952.38
Change	-186.40	-125.60	124.24	98.66	-309.45	-227.35
% chg from baseline	-2.66%	-1.94%	5.17%	4.67%	-6.72%	-5.33%
Scenario 2						
Reform	6,961.40	6,304.78	2,428.27	2,065.81	4,526.95	4,223.20
Change	-50.64	21.39	27.03	-24.19	-79.74	43.48
% chg from baseline	-0.72%	0.39%	1.13%	-1.34%	-1.73%	1.19%
Scenario 3						
Reform	6,955.85	6,299.81	2,434.63	2,071.65	4,515.15	4,212.42
Change	-56.19	16.42	33.39	-18.35	-91.53	32.70
% chg from baseline	-0.80%	0.31%	1.39%	-1.06%	-1.99%	0.93%

Note: Average is the average for 2002/03 to 2011/12.

Scenario 1 = Trade Liberalization; Scenario 2 = Trade Liberalization and Domestic Production Subsidy Reforms; Scenario 3 = Full Market Liberalization.

Table 6. Impact of Reforms on Moderately Distorted Non-OECD Countries**Algerian Sugar Production, Consumption and Net Imports**

	(Thousand Metric Tons)					
	Production		Consumption		Net Imports	
	11/12	Average	11/12	Average	11/12	Average
Scenario 1						
Baseline	10.55	10.35	1,065.61	1,017.42	1,054.68	1,006.76
Reform	10.79	10.60	1,050.21	997.65	1,039.08	986.67
Change	0.24	0.25	-15.40	-19.78	-15.60	-20.09
% chg from baseline	2.28%	2.39%	-1.45%	-1.96%	-1.48%	-2.01%
Scenario 2						
Reform	11.26	11.10	1,022.05	957.74	1,010.56	946.14
Change	0.71	0.76	-43.56	-59.69	-44.12	-60.62
% chg from baseline	6.70%	7.29%	-4.09%	-5.91%	-4.18%	-6.07%
Scenario 3						
Reform	11.24	11.09	1,023.44	959.17	1,011.96	947.60
Change	0.69	0.74	-42.17	-58.25	-42.72	-59.16
% chg from baseline	6.51%	7.12%	-3.96%	-5.77%	-4.05%	-5.92%

Brazilian Sugar Production, Consumption and Net Exports

	(Thousand Metric Tons)					
	Production		Consumption		Net Exports	
	11/12	Average	11/12	Average	11/12	Average
Scenario 1						
Baseline	22,728.95	21,871.81	11,211.34	10,565.25	11,521.02	11,311.48
Reform	24,811.63	23,617.86	10,831.02	10,201.03	13,982.53	13,434.52
Change	2,082.67	1,746.05	-380.32	-364.23	2,461.51	2,123.04
% chg from baseline	9.16%	7.92%	-3.39%	-3.46%	21.37%	18.70%
Scenario 2						
Reform	26,796.25	25,651.73	10,238.31	9,633.87	16,551.51	16,045.25
Change	4,067.30	3,779.92	-973.03	-931.38	5,030.49	4,733.77
% chg from baseline	17.89%	17.16%	-8.68%	-8.83%	43.66%	41.72%
Scenario 3						
Reform	26,713.48	25,582.09	10,265.28	9,657.02	16,441.72	15,952.01
Change	3,984.52	3,710.28	-946.06	-908.23	4,920.70	4,640.53
% chg from baseline	17.53%	16.85%	-8.44%	-8.61%	42.71%	40.90%

Cuban Sugar Production, Consumption and Net Exports

	(Thousand Metric Tons)					
	Production		Consumption		Net Exports	
	11/12	Average	11/12	Average	11/12	Average
Scenario 1						
Baseline	4,797.62	4,024.91	839.07	777.13	3,952.72	3,245.84
Reform	5,258.59	4,269.67	810.55	744.48	4,442.04	3,523.86
Change	460.97	244.76	-28.52	-32.64	489.32	278.02
% chg from baseline	9.61%	5.73%	-3.40%	-4.24%	12.38%	8.14%
Scenario 2						
Reform	6,014.83	4,722.58	774.08	693.96	5,234.16	4,028.13
Change	1,217.22	697.67	-64.99	-83.17	1,281.44	782.29
% chg from baseline	25.37%	16.43%	-7.75%	-10.84%	32.42%	23.01%
Scenario 3						
Reform	5,986.63	4,706.75	525.84	448.99	5,452.49	4,240.52
Change	1,189.02	681.85	-313.23	-328.14	1,499.77	994.68
% chg from baseline	24.78%	16.06%	-37.33%	-42.46%	37.94%	29.63%

Note: Average is the average for 2002/03 to 2011/12.

Scenario 1 = Trade Liberalization; Scenario 2 = Trade Liberalization and Domestic Production Subsidy Reforms; Scenario 3 = Full Market Liberalization.

Figure 1. Average Production Shares for Select Countries Under the Three Reform Scenarios

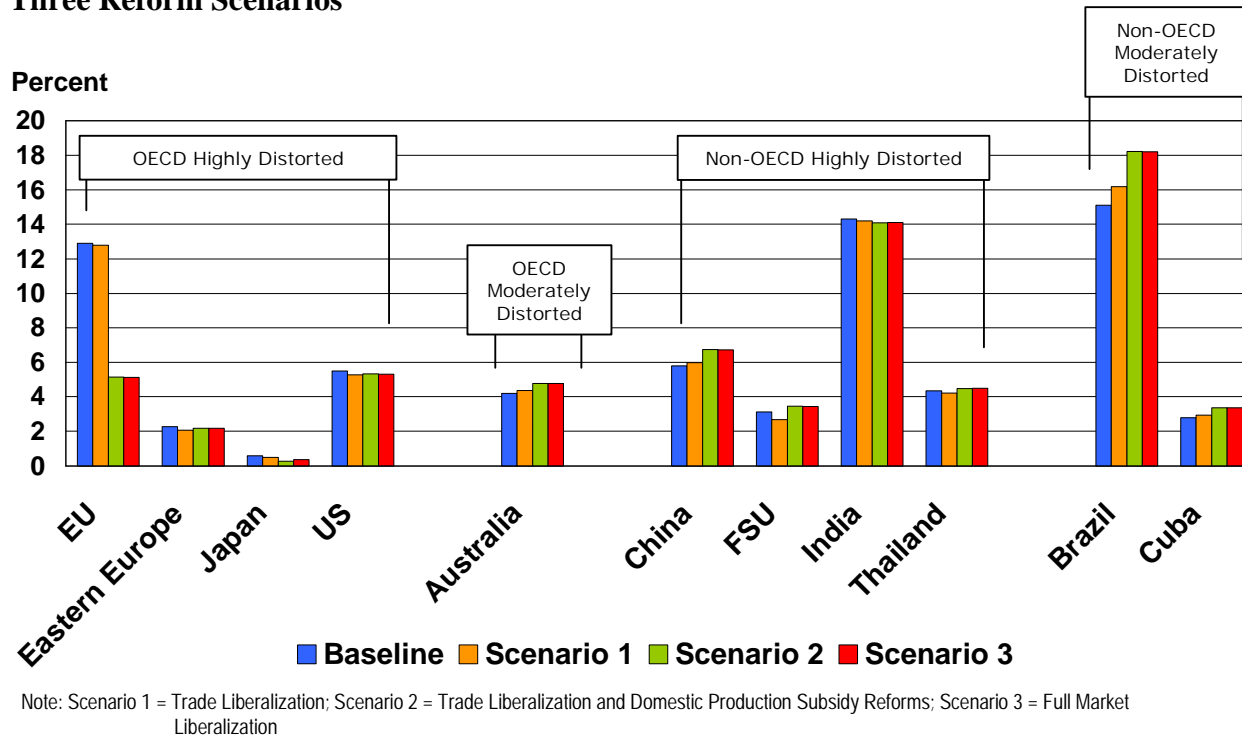
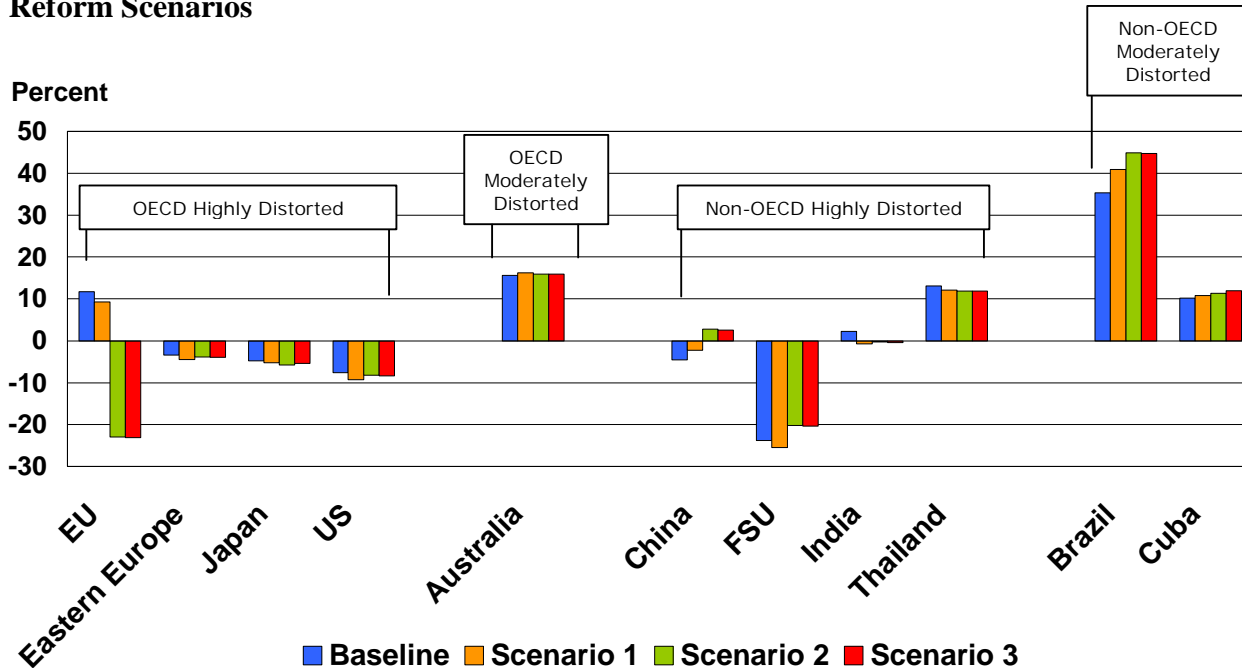


Figure 2. Average Trade Shares for Select Countries Under the Three Reform Scenarios



Appendix Tables

- A: Sugar Policies by Country
- B1: Impacts of Trade Liberalization Reform on Sugar Price and Trade
- B2: Impacts of Trade Liberalization Reform on Sugar Production and Consumption
- C1: Impacts of Trade Liberalization and Domestic Production Subsidy Reforms on Sugar Price and Trade
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- E1: Sensitivity Results for Scenario 1 with Elasticities Doubled
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- E3: Sensitivity Results for Scenario 3 with Elasticities Doubled
- E4: Sensitivity Results for Scenario 1 with Elasticities Halved
- E5: Sensitivity Results for Scenario 2 with Elasticities Halved
- E6: Sensitivity Results for Scenario 3 with Elasticities Halved

Table A. Sugar Policies by Country ⁽¹⁾

Country	Trade and Domestic Policies
Algeria	imposes a tariff rate of 15% on cane sugar and 5% on beet sugar.
Argentina	imposes a 20% tariff on sugar imports in addition to a variable duty of \$60/ton on imports from Brazil. A 5% export tax is in place as well as a 4.05% export rebate.
Australia	ended administered price arrangements in 1989 and removed import tariffs in 1997.
Brazil	imposes a 17.5% tariff on imports from non-MERCOSUL countries (Brazil has zero imports). Although high-cost growers in the Northeast region are to receive a small subsidy (BRR 5.07/mt), this support has not been received for the past few years.
Canada	imposes a tariff on refined imports from MFNs equal to CAD \$30.86/ton and on raw imports equal to CAD \$22.07 to CAD \$24.69/tonne (depending on the polarization of sugar). Developing countries pay zero duty on raw sugar, and Australia and Cuba, from where the bulk of the raw sugar is imported, are exempt from duty.
China	provides a 'guidance price' to sugar refiners to guide prices paid for sugarcane and sugar beet, but market forces largely determine prices. China has a TRQ of 1.64 million tons at a 20% in-quota rate and a 76% above-quota rate. The TRQ increases to 1.945 million tons by 2004 with an above-quota rate of 65%.
Colombia	Sugar imports from the Andean community are allowed duty free. The basic duty on raw and refined sugar imports from the non-Andean Community is 20%. In addition, a variable surcharge is calculated based upon adjusted floor, ceiling, and reference prices. In 2002, the total effective duty (basic plus surcharge) on raw sugar imports was \$114/ton and on refined imports was \$85/ton. Export subsidies of 2.5% of the f.o.b. value for centrifugal and panela sugar is received by Colombian exporters. This is not provided for exports to the United States. Colombia sets guaranteed sugar prices close to the world price.
Cuba	imposes a tariff rate of 10% on raw and refined sugar. The sugar industry is under the control of the Cuban government ⁽²⁾ . The domestic price of sugar is subsidized by the Cuban government under a rationing system. A monthly allowance of 6 pounds of sugar is provided at 0.13¢/lb.
Eastern Europe (Poland) ⁽³⁾	imposes an in-quota tariff on sugar imports of 40% with a minimum of EUR 0.17/kg and an out-of-quota tariff rate of 96% with a minimum of EUR 0.43/kg. Although minimum sugar prices are set by the government, Poland has not been able to enforce them.
Egypt	imposes a 5% import tariff on raw sugar and a 10% tariff on refined sugar. The government also establishes sugarcane and sugar beet prices (set in 2002 at LE 95/ton and LE 77/ton respectively). Sugar consumption is subsidized. 500,000 tons of white sugar is sold at 60 piasters/kg to ration card-holders while another 500,000 tons is sold at 130 piasters/kg. Non-rationed sugar is sold at LE 1.30/kg through government outlets while the retail price in private shops is between LE 1.6/kg and LE 2/kg (1 LE = 100 piasters).
European Union	sets intervention prices for farmers and national aid for Italy, Portugal, and Spain. Export refunds are paid to exporters to cover the gap between the EU price and the world price when sugar is sold from intervention stocks. Production quotas are used to limit the sugar eligible for support. The surplus of A and B production above domestic consumption is exported with subsidy. C quota sugar must be exported at world prices. Sugar imported from ACP is re-exported with subsidy. Production levies are applied to quota sugar production to cover export refunds (2% on A and B quotas and between 30% and 37.5% on B quota plus additional levies to cover shortfalls in export refunds in the previous year). The import levy is a fixed duty plus a safeguard clause allowing variable additional duty. 1.3 million tons of white sugar equivalent preferential imports from ACP countries are at guaranteed prices and an additional 0.2-0.3 million tons at 85% of the guaranteed price. The with-in quota rate is EUR 98/ton and out-of-quota rate is EUR339/ton. Everything-But-Arms is limited by quotas until 2009 when duty-free access is allowed.

Table A: (continued)

Former Soviet Union (Russia) ⁽⁴⁾	had a total TRQ of 3.65 million tons in 2002 (3.35 million tons for the first six months and 0.3 million tons for the remaining months). Seasonal tariffs are added during periods of peak domestic production to protect producers and support prices. The in-quota tariff rate was 5% but no less than EUR 0.015/kg and the over-quota rate was set at 40% for raw and white sugar but no less than EUR 0.12/kg for raw sugar and EUR 0.14/kg for white sugar. The over-quota seasonal rate was 50% but not less than EUR 0.15 /kg for raw sugar and EUR 0.18/kg for white sugar.
India	imposes an import duty of 60% plus INR 850/ton countervailing duty on raw sugar. National minimum support price for sugarcane (INR 620/ton in 2001/02) are augmented by state governments by another 20% to 50%. Sugar millers and importers are required to sell portion of supplies to Public Distribution System at below market prices for resale to low-income consumers (15% of production and imports). There is a transport subsidy to encourage exports (INR 140/ton in 2001/02).
Indonesia	imposes a tariff rate of 20% on raw cane sugar and 25% on beet sugar. To support farmers' incomes, the government also sets a sugar floor price (IDR 2,600/kg in 2001/02).
Iran	imposes a tariff rate of 19% on sugar imports ⁽⁵⁾ .
Japan	imposes a prohibitive duty on refined sugar of JPY 21.5/kg with an additional surcharge of JPY 53.88/kg. In 2001, the minimum producer price for sugar beet was JPY 17,040/ton and JPY 20,370/ton for sugarcane. A target price is set for sugar refiners to allow them to pay the guaranteed price to farmers and a subsidy is provided to the refiners to cover the difference between the domestic market price and the target price. The difference is made up by a subsidy provided by a surcharge on imported sugar, other surcharges, and funds from Japan's national budget. The current subsidy for refiners is JPY 90 billion, 85% from surcharge on raw sugar imports. In 2001, average import price was JPY 32,580/ton and the resale price was JPY 59,960/ton, implying a surcharge of JPY 27,380/ton. A secondary surcharge is imposed on import companies that exceed their raw sugar import volume target (JPY 23,309/ton). The volume of target imports was 1.47 million metric tons. Japan does not impose import tariffs on raw sugar.
Malaysia	controls sugar imports through quota restrictions by licenses. The country imposes a 5% ad valorem rate on sugar imports as well as a specific tax of MYR 426.7/ton. Wholesale and retail sugar prices are controlled (MYR 1,345/ton for the wholesale price and MYR 1.4/kg for the retail price).
Mexico	imposes a duty of \$0.3166/kg on U.S. sugar imports and \$0.3958/kg on third-country imports. Every year the government announces the reference price for standard sugar, which is used to calculate the price paid to sugarcane growers. Growers are given 57% of the wholesale reference price of a ton of standard sugar (MX pesos 4,561.08/ton in 2001/02).
Morocco	imposes a 35% tariff rate on sugar imports plus a 0.25% parafiscal tax and 123% of the difference between a threshold price (MAD 3,500/ton) and the CIF price (if the latter is less than the former). The country sets support prices for beet and cane with additional bonus for various regions (MAD 325/ton for sugar beet and MAD 220/ton for sugarcane with additional bonus ranging between MAD 25/ton and MAD 55/ton). The government subsidizes sugar consumption at the retail level. In 2001, the government paid refineries a subsidy of MAD 2,000/ton.
Pakistan	imposes a 30% import tariff on raw and refined sugar. The country also sets a producer support price, although market prices are usually above support prices (currently 50% above).
Philippines	has sugar imports duties set at 65%.
Peru	imposes a tariff rate of 25% and an additional duty based on the price band system used in Colombia. The domestic price is set by the market based on supply and demand.
South Africa	imposes duties based on the difference between the world price and a set reference price. The duty was ZAR 784/ton in 2001 and ZAR 1312/ton in July 2002. South Africa provides import access of sugar to Swaziland, Mozambique, Zambia, and Zimbabwe.

Table A: (continued)

South Korea	imposes a 3% tariff on raw sugar and a temporary 50% tariff on refined sugar. The wholesale sugar price is controlled by the government.
Thailand	maintains high internal sugar prices using quotas and import tariffs. The country has a 65% in-quota tariff rate and a 99% out-of-quota tariff rate. The government sets initial and final producer prices for sugarcane (THB 530/ton in 2002). If the final price is greater than the initial price, a supplement is paid to the growers; if the final price is less than the initial price, the government compensates the mills for the difference.
Turkey	imposes a 138% tariff rate on sugar imports but 110.45% of c.i.f. value for imports from the European Union. Turkey sets production quotas for refined beet sugar and corn sweeteners and administered floor prices for sugar beet. Quota A is set for domestic consumption; B (2% of A quota) is set to meet emergency needs; C sugar (produced in excess of A and B) is sold in the world market at prevailing prices below domestic prices as it cannot be sold domestically. Turkey sets a support price for sugar beet (TRL 50,000/kg in marketing year 2002). Retail prices are determined by market forces.
United States	has an MFN import duty of 0.625/lb (raw value) but most quota suppliers are exempt. The above-TRQ rate is 15.36¢/lb for raw sugar and 16.21¢/lb for refined sugar (TRQ was 1.361 million tons in 2001 and 1.289 million tons in 2002). Under NAFTA, Mexico has duty-free access to the U.S. of up to 25,000 MTRV until 2008 when all imports from Mexico are duty free. Raw sugar over-quota tariff for Mexico is 9.07¢/lb, which drops about 1.5¢/lb each year to zero by 2008. Sugarcane processors see a loan rate of \$0.18/lb for raw cane sugar and \$0.229/lb for refined beet sugar. Processors can forfeit sugar to the CCC if the minimum selling price is less than the loan rate plus the interest rate. The minimum raw sugar market price to discourage forfeitures is 19.86¢/lb for raw cane sugar and 24.78¢/lb for refined beet sugar.
Venezuela	imposes a 15% tariff-rate (0% for the Andean Community) and an additional duty based on the price band system used in Colombia and Peru. Venezuela does not provide producer support prices.

- (1) All policies are as of 2001/02.
- (2) The Cuban sugar industry is currently undergoing significant restructuring.
- (3) Poland is used to represent Eastern Europe as its production constitutes 60% of total sugar production in Eastern Europe.
- (4) Russia is used to represent the Former Soviet Union as it is the region's largest importer. The Ukraine sets minimum purchase prices for sugar beets and refined sugar at the wholesale level. However, sugar prices are often below the mandated minimum.
- (5) Regional average.

Table B1: Impacts of Trade Liberalization Reform on Sugar Price and Trade

	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	Average ^[1]
Net Exporters												
(Thousand Metric Tons)												
Argentina												
Baseline	90	114	135	136	143	134	123	115	105	95	88	118.83
Scenario 1	90	110	101	67	56	38	22	10	-3	-18	-30	35.48
Change	0.0	-3.3	-34.2	-69.1	-86.3	-96.0	-100.9	-104.7	-108.6	-113.0	-117.4	-83.35
% chg	0.00%	-2.91%	-25.29%	-50.75%	-60.47%	-71.62%	-82.11%	-90.90%	-102.98%	-118.45%	-134.07%	-73.96%
Australia												
Baseline	3,646	4,007	4,398	4,811	4,920	5,025	5,130	5,238	5,346	5,456	5,568	4,989.95
Scenario 1	3,646	4,065	4,677	5,152	5,282	5,402	5,512	5,616	5,719	5,824	5,931	5,318.02
Change	0.0	58.0	278.7	340.4	362.7	376.9	382.5	378.5	373.1	367.5	362.4	328.07
% chg	0.00%	1.45%	6.34%	7.08%	7.37%	7.50%	7.46%	7.23%	6.98%	6.73%	6.51%	6.46%
Brazil												
Baseline	9,500	10,919	11,147	11,295	11,243	11,351	11,401	11,377	11,406	11,456	11,521	11,311.48
Scenario 1	9,500	11,449	12,878	13,413	13,519	13,712	13,812	13,812	13,854	13,914	13,983	13,434.52
Change	0.0	530.3	1,731.4	2,118.2	2,275.7	2,360.9	2,411.4	2,435.1	2,448.1	2,457.9	2,461.5	2,123.04
% chg	0.00%	4.86%	15.53%	18.75%	20.24%	20.80%	21.15%	21.40%	21.46%	21.46%	21.37%	18.70%
Colombia												
Baseline	920	913	913	924	936	956	972	987	1,006	1,027	1,050	968.40
Scenario 1	920	894	835	783	752	739	732	729	733	740	750	768.88
Change	0.0	-18.5	-78.0	-141.1	-183.9	-216.7	-240.3	-257.6	-272.8	-286.7	-299.7	-199.52
% chg	0.00%	-2.02%	-8.54%	-15.27%	-19.64%	-22.67%	-24.72%	-26.10%	-27.12%	-27.91%	-28.55%	-20.25%
Cuba												
Baseline	2,700	2,625	2,741	2,863	3,002	3,145	3,293	3,449	3,611	3,778	3,953	3,245.84
Scenario 1	2,700	2,683	2,849	3,018	3,198	3,398	3,600	3,807	4,016	4,227	4,442	3,523.86
Change	0.0	58.7	108.1	154.9	195.4	253.2	307.5	358.4	405.6	449.2	489.3	278.02
% chg	0.00%	2.23%	3.94%	5.41%	6.51%	8.05%	9.34%	10.39%	11.23%	11.89%	12.38%	8.14%
European Union												
Baseline	1,850	3,065	3,170	3,248	3,385	3,555	3,753	3,960	4,177	4,403	4,634	3,734.87
Scenario 1	1,850	2,198	2,288	2,432	2,660	2,867	3,086	3,327	3,570	3,817	4,078	3,032.31
Change	0.0	-867.1	-881.6	-816.0	-724.9	-688.4	-666.4	-632.9	-607.1	-585.8	-555.7	-702.57
% chg	0.00%	-28.29%	-27.81%	-25.12%	-21.42%	-19.36%	-17.76%	-15.98%	-14.53%	-13.31%	-11.99%	-19.56%
India												
Baseline	1,000	1,067	915	784	728	673	622	589	559	530	507	697.32
Scenario 1	1,000	558	-85	-172	-264	-290	-317	-369	-415	-471	-526	-235.19
Change	0.0	-509.3	-999.8	-956.8	-991.3	-962.6	-938.9	-958.4	-974.2	-1,001.1	-1,032.7	-932.51
% chg	0.00%	-47.74%	-109.25%	-121.99%	-136.24%	-143.03%	-150.98%	-162.69%	-174.33%	-188.94%	-203.84%	-143.90%
Mexico												
Baseline	530	702	819	909	991	1,076	1,234	1,386	1,546	1,707	1,812	1,218.33
Scenario 1	530	622	735	828	914	1,001	1,159	1,311	1,470	1,631	1,736	1,140.65
Change	0.0	-80.4	-84.0	-81.0	-76.9	-75.6	-75.8	-75.5	-75.6	-76.2	-75.9	-77.68
% chg	0.00%	-11.44%	-10.25%	-8.92%	-7.76%	-7.02%	-6.14%	-5.45%	-4.89%	-4.46%	-4.19%	-7.05%
Pakistan												
Baseline	-200	-288	-416	-459	-457	-445	-431	-415	-405	-401	-404	-412.19
Scenario 1	-200	-209	-314	-374	-397	-404	-404	-401	-403	-412	-428	-374.63
Change	0.0	79.1	102.5	84.3	60.7	40.8	26.8	14.1	1.7	-10.8	-23.8	37.56
% chg	0.00%	-27.50%	-24.62%	-18.37%	-13.28%	-9.16%	-6.24%	-3.40%	-0.42%	2.69%	5.88%	-9.44%
South Africa												
Baseline	1,230	1,221	1,369	1,440	1,503	1,551	1,594	1,634	1,677	1,718	1,763	1,547.00
Scenario 1	1,230	1,230	1,381	1,445	1,504	1,554	1,601	1,646	1,695	1,741	1,789	1,558.50
Change	0.0	8.6	11.5	4.6	1.5	3.0	7.4	12.8	17.9	22.1	25.7	11.50
% chg	0.00%	0.70%	0.84%	0.32%	0.10%	0.19%	0.47%	0.78%	1.06%	1.29%	1.46%	0.72%
Thailand												
Baseline	3,550	3,662	3,816	3,925	4,042	4,144	4,241	4,347	4,452	4,562	4,607	4,179.72
Scenario 1	3,550	3,619	3,690	3,744	3,819	3,893	3,973	4,066	4,161	4,262	4,297	3,952.38
Change	0.0	-42.5	-126.1	-180.8	-222.4	-250.9	-268.5	-281.2	-291.2	-300.4	-309.5	-227.35
% chg	0.00%	-1.16%	-3.31%	-4.61%	-5.50%	-6.06%	-6.33%	-6.47%	-6.54%	-6.58%	-6.72%	-5.33%
Total Exports ^[2]												
Baseline	25,316	28,293	29,423	30,337	30,892	31,611	32,366	33,088	33,893	34,741	35,508	32,015.18
Scenario 1	25,316	27,428	29,434	30,883	31,705	32,604	33,497	34,325	35,218	36,155	37,005	32,825.41
Change	0	-865	11	546	813	993	1,131	1,237	1,325	1,414	1,497	810.24
% chg	0.00%	-3.06%	0.04%	1.80%	2.63%	3.14%	3.50%	3.74%	3.91%	4.07%	4.22%	2.40%
Net Importers												
Algeria												
Baseline	940	966	974	981	990	999	1,009	1,020	1,031	1,043	1,055	1,006.76
Scenario 1	940	928	952	961	971	981	991	1,003	1,014	1,026	1,039	986.67
Change	0.0	-37.4	-21.9	-20.3	-18.6	-18.3	-18.1	-17.5	-16.9	-16.2	-15.6	-20.09
% chg	0.00%	-3.88%	-2.25%	-2.06%	-1.88%	-1.83%	-1.79%	-1.71%	-1.64%	-1.56%	-1.48%	-2.01%

Table B1: (continued)

	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	Average ^[1]
(Thousand Metric Tons)												
Canada												
Baseline	1,094	1,128	1,144	1,161	1,169	1,185	1,201	1,217	1,235	1,255	1,275	1,196.84
Scenario 1	1,094	1,090	1,121	1,140	1,150	1,166	1,181	1,198	1,216	1,237	1,257	1,175.65
Change	0.0	-37.6	-22.6	-21.0	-19.4	-19.2	-19.3	-18.8	-18.5	-17.9	-17.5	-21.19
% chg	0.00%	-3.34%	-1.97%	-1.81%	-1.66%	-1.62%	-1.61%	-1.54%	-1.49%	-1.43%	-1.37%	-1.79%
China												
Baseline	1,177	1,159	1,201	1,169	1,203	1,219	1,310	1,478	1,690	1,923	2,155	1,450.67
Scenario 1	1,177	212	169	268	423	523	672	896	1,155	1,435	1,711	746.37
Change	0.0	-946.6	-1,031.9	-901.4	-780.7	-696.5	-637.6	-581.7	-534.6	-488.5	-443.5	-704.30
% chg	0.00%	-81.71%	-85.93%	-77.10%	-64.87%	-57.13%	-48.68%	-39.36%	-31.64%	-25.40%	-20.58%	-53.24%
Eastern Europe												
Baseline	1,029	897	966	1,030	1,067	1,106	1,139	1,160	1,176	1,185	1,187	1,091.26
Scenario 1	1,029	1,096	1,307	1,422	1,469	1,506	1,532	1,545	1,554	1,558	1,553	1,454.06
Change	0.0	198.8	340.5	392.0	401.9	399.3	393.3	385.7	378.5	372.2	365.9	362.80
% chg	0.00%	22.17%	35.23%	38.07%	37.67%	36.10%	34.54%	33.26%	32.20%	31.39%	30.82%	33.14%
Egypt												
Baseline	745	747	752	778	792	819	850	876	904	933	961	841.22
Scenario 1	745	524	600	633	651	678	708	734	762	793	821	690.44
Change	0.0	-222.9	-151.1	-144.3	-140.9	-141.4	-142.4	-141.9	-141.9	-140.6	-140.4	-150.77
% chg	0.00%	-29.84%	-20.11%	-18.55%	-17.78%	-17.26%	-16.74%	-16.20%	-15.70%	-15.07%	-14.60%	-18.19%
Former Soviet Union												
Baseline	6,286	7,565	7,469	7,520	7,471	7,516	7,600	7,651	7,716	7,791	7,840	7,613.89
Scenario 1	6,286	7,656	7,796	8,075	8,197	8,363	8,530	8,635	8,735	8,832	8,893	8,371.37
Change	0.0	91.3	327.0	555.4	726.2	847.1	929.5	984.4	1,019.1	1,041.4	1,053.3	757.47
% chg	0.00%	1.21%	4.38%	7.39%	9.72%	11.27%	12.23%	12.87%	13.21%	13.37%	13.43%	9.91%
Indonesia												
Baseline	1,600	1,406	1,789	2,003	2,133	2,230	2,320	2,401	2,486	2,579	2,680	2,202.74
Scenario 1	1,600	1,307	1,685	1,895	2,000	2,087	2,165	2,228	2,297	2,374	2,456	2,049.34
Change	0.0	-98.6	-103.8	-108.6	-132.8	-143.9	-155.2	-172.8	-189.0	-204.8	-224.6	-153.40
% chg	0.00%	-7.01%	-5.80%	-5.42%	-6.23%	-6.45%	-6.69%	-7.19%	-7.60%	-7.94%	-8.38%	-6.87%
Iran												
Baseline	1,200	1,304	1,357	1,419	1,478	1,540	1,606	1,672	1,740	1,810	1,885	1,581.21
Scenario 1	1,200	1,256	1,323	1,387	1,449	1,514	1,580	1,648	1,717	1,788	1,865	1,552.66
Change	0.0	-47.7	-34.3	-32.1	-28.2	-26.8	-26.1	-24.6	-23.4	-21.9	-20.3	-28.55
% chg	0.00%	-3.66%	-2.53%	-2.26%	-1.91%	-1.74%	-1.63%	-1.47%	-1.34%	-1.21%	-1.08%	-1.88%
Japan												
Baseline	1,548	1,553	1,536	1,529	1,524	1,524	1,525	1,527	1,529	1,532	1,535	1,531.41
Scenario 1	1,548	1,642	1,647	1,672	1,692	1,716	1,737	1,752	1,767	1,779	1,789	1,719.17
Change	0.0	88.8	110.8	143.4	167.6	191.9	211.7	225.8	237.4	246.7	253.6	187.77
% chg	0.00%	5.72%	7.21%	9.38%	10.99%	12.60%	13.88%	14.79%	15.52%	16.10%	16.52%	12.27%
Malaysia												
Baseline	1,125	1,051	1,079	1,113	1,144	1,185	1,229	1,272	1,318	1,365	1,412	1,216.80
Scenario 1	1,125	1,016	1,048	1,078	1,106	1,144	1,187	1,228	1,271	1,316	1,360	1,175.24
Change	0.0	-34.9	-31.6	-34.3	-38.6	-40.5	-41.9	-44.6	-47.1	-49.4	-52.6	-41.56
% chg	0.00%	-3.32%	-2.93%	-3.08%	-3.37%	-3.42%	-3.41%	-3.51%	-3.57%	-3.62%	-3.73%	-3.40%
Morocco												
Baseline	455	490	504	521	534	549	565	578	592	606	619	555.86
Scenario 1	455	500	519	540	543	556	570	585	600	615	629	565.51
Change	0.0	10.0	14.2	18.2	8.7	6.5	5.9	6.9	7.7	8.7	9.7	9.65
% chg	0.00%	2.04%	2.81%	3.50%	1.63%	1.18%	1.04%	1.20%	1.31%	1.44%	1.56%	1.77%
Peru												
Baseline	70	57	34	20	8	0	-4	-7	-8	-8	-7	8.61
Scenario 1	70	66	66	71	71	72	74	75	78	82	88	74.18
Change	0.0	9.1	31.4	50.2	62.4	71.3	77.5	82.2	86.4	90.6	94.6	65.56
% chg	0.00%	16.13%	91.60%	245.26%	736.45%	15833.03%	-2004.37%	-1206.55%	-1041.19%	-1112.87%	-1345.51%	1021.20%
Philippines												
Baseline	133	181	204	214	211	214	220	224	229	233	236	216.54
Scenario 1	133	210	321	436	517	596	660	711	758	799	835	584.23
Change	0.0	28.4	117.5	222.0	306.5	381.6	440.6	487.2	528.6	565.4	599.0	367.68
% chg	0.00%	15.70%	57.67%	103.88%	145.48%	178.07%	200.42%	217.68%	230.79%	242.26%	254.00%	164.59%
South Korea												
Baseline	1,225	1,311	1,352	1,402	1,439	1,483	1,528	1,567	1,604	1,640	1,671	1,499.67
Scenario 1	1,225	1,375	1,434	1,484	1,526	1,571	1,617	1,659	1,699	1,738	1,772	1,587.57
Change	0.0	63.7	81.8	82.6	86.6	88.0	89.4	92.3	95.1	98.2	101.4	87.91
% chg	0.00%	4.86%	6.05%	5.90%	6.02%	5.93%	5.85%	5.89%	5.93%	5.99%	6.07%	5.85%

Table B1: (continued)

	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	Average ^[1]
(Thousand Metric Tons)												
Turkey												
Baseline	-300	43	104	137	149	156	162	165	166	167	185	143.36
Scenario 1	-300	97	161	187	199	204	209	213	216	218	238	194.29
Change	0.0	53.9	57.5	50.0	50.3	48.3	47.2	48.7	49.7	51.0	52.8	50.93
% chg	0.00%	124.66%	55.56%	36.45%	33.86%	30.96%	29.09%	29.56%	29.93%	30.47%	28.57%	42.91%
United States												
Baseline	1,344	1,616	1,799	1,966	2,164	2,397	2,555	2,707	2,866	3,028	3,132	2,423.20
Scenario 1	1,344	2,723	2,759	2,910	2,917	3,021	3,093	3,146	3,229	3,300	3,340	3,043.80
Change	0.0	1,106.7	960.0	944.3	753.5	623.7	537.3	439.0	362.0	272.1	207.4	620.61
% chg	0.00%	68.46%	53.38%	48.03%	34.82%	26.02%	21.03%	16.22%	12.63%	8.99%	6.62%	29.62%
Venezuela												
Baseline	92	85	106	120	124	127	129	128	126	124	121	119.00
Scenario 1	92	91	128	153	168	181	190	197	202	206	208	172.43
Change	0.0	6.5	21.8	33.7	43.9	53.2	61.5	68.8	75.5	81.9	87.5	53.43
% chg	0.00%	7.61%	20.60%	28.20%	35.37%	41.77%	47.71%	53.80%	59.86%	66.03%	72.32%	43.33%
Rest of World												
Baseline	4,152	4,747	4,937	5,096	5,133	5,214	5,288	5,331	5,380	5,425	5,455	5,200.54
Scenario 1	4,152	3,729	4,301	4,323	4,295	4,334	4,379	4,400	4,428	4,459	4,469	4,311.79
Change	0.0	-1,017.7	-636.6	-772.3	-838.0	-879.5	-908.4	-930.6	-951.9	-966.1	-986.3	-888.75
% chg	0.00%	-21.44%	-12.89%	-15.16%	-16.32%	-16.87%	-17.18%	-17.46%	-17.69%	-17.81%	-18.08%	-17.09%
Total Imports ^[2]												
Baseline	25,316	28,293	29,423	30,337	30,892	31,611	32,366	33,088	33,893	34,741	35,508	32,015.18
Scenario 1	25,316	27,428	29,434	30,883	31,705	32,604	33,497	34,325	35,218	36,155	37,005	32,825.41
Change	0	-865	11	546	813	993	1,131	1,237	1,325	1,414	1,497	810.24
% chg	0.00%	-3.06%	0.04%	1.80%	2.63%	3.14%	3.50%	3.74%	3.91%	4.07%	4.22%	2.40%
(U.S. Dollars per Metric Ton)												
Sugar Prices												
FOB Caribbean Price												
Baseline	190	186	199	199	211	215	216	222	227	232	239	214.61
Scenario 1	190	280	267	264	276	279	281	287	292	296	302	282.31
Change	0.0	94.0	68.3	65.4	64.5	64.5	64.4	64.3	64.2	63.6	63.6	67.69
% chg	0.00%	50.56%	34.38%	32.92%	30.55%	30.04%	29.80%	28.90%	28.23%	27.43%	26.65%	31.95%
New York Spot												
Baseline	465	458	439	427	418	409	408	407	402	396	394	415.78
Scenario 1	465	302	289	286	298	301	303	309	314	318	325	304.35
Change	0.0	-156.4	-149.7	-140.5	-120.5	-107.5	-105.3	-97.9	-88.6	-78.0	-69.9	-111.43
% chg	0.00%	-34.13%	-34.10%	-32.92%	-28.80%	-26.31%	-25.81%	-24.09%	-22.03%	-19.71%	-17.72%	-26.56%

^[1] Average is the average for the period 2002/03 to 2011/12.

^[2] Total exports (imports) are computed by summing up all positive (negative) exports and negative (positive) imports and *not* by summing trade flows of net exporters (importers).

Scenario 1 = Trade Liberalization Reform

Table B2: Impacts of Trade Liberalization Reform on Sugar Production and Consumption

	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	Average ^[1]
World												
(Million Metric Tons)												
Production												
Baseline	127	134	136	139	141	144	146	148	151	153	156	144.82
Scenario 1	127	134	138	141	143	145	147	150	152	155	157	146.02
Change	0.0	0.0	1.7	1.6	1.4	1.3	1.3	1.2	1.2	1.2	1.1	1.20
% chg	0.00%	-0.02%	1.27%	1.13%	1.01%	0.92%	0.88%	0.83%	0.78%	0.75%	0.72%	0.83%
Consumption												
Baseline	132	135	137	139	142	144	146	149	151	154	156	145.25
Scenario 1	132	134	138	140	143	145	147	150	152	155	157	146.08
Change	0.0	-0.7	0.9	1.0	1.1	1.0	1.0	1.0	1.0	1.1	0.8	0.82
% chg	0.00%	-0.54%	0.62%	0.71%	0.74%	0.72%	0.71%	0.70%	0.69%	0.68%	0.54%	0.56%
Algeria												
(Thousand Metric Tons)												
Production												
Baseline	10	10	10	10	10	10	10	10	10	11	11	10.35
Scenario 1	10	10	10	11	11	11	11	11	11	11	11	10.60
Change	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.25
% chg	0.00%	0.00%	2.70%	2.96%	2.95%	2.82%	2.70%	2.61%	2.51%	2.40%	2.28%	2.39%
Consumption												
Baseline	950	976	985	992	1,000	1,010	1,020	1,031	1,042	1,053	1,066	1,017.42
Scenario 1	950	940	963	972	982	992	1,002	1,014	1,025	1,037	1,050	997.65
Change	0.0	-36.7	-21.6	-19.9	-18.4	-18.0	-17.9	-17.2	-16.7	-16.0	-15.4	-19.78
% chg	0.00%	-3.76%	-2.19%	-2.01%	-1.84%	-1.79%	-1.75%	-1.67%	-1.61%	-1.52%	-1.45%	-1.96%
Argentina												
Production												
Baseline	1,540	1,587	1,622	1,648	1,667	1,680	1,691	1,700	1,710	1,720	1,729	1,675.39
Scenario 1	1,540	1,587	1,620	1,610	1,613	1,617	1,623	1,630	1,637	1,643	1,649	1,623.02
Change	0.0	0.0	-1.7	-37.6	-53.6	-63.4	-68.0	-70.3	-73.4	-76.2	-79.6	-52.37
% chg	0.00%	0.00%	-0.11%	-2.28%	-3.21%	-3.77%	-4.02%	-4.14%	-4.29%	-4.43%	-4.60%	-3.09%
Consumption												
Baseline	1,470	1,472	1,487	1,509	1,526	1,547	1,569	1,589	1,610	1,631	1,652	1,559.19
Scenario 1	1,470	1,475	1,513	1,537	1,556	1,577	1,600	1,621	1,643	1,665	1,686	1,587.28
Change	0.0	2.6	25.2	28.2	29.9	30.6	31.1	32.0	32.7	33.9	34.6	28.08
% chg	0.00%	0.18%	1.70%	1.87%	1.96%	1.98%	1.99%	2.01%	2.03%	2.08%	2.09%	1.79%
Australia												
Production												
Baseline	4,662	5,035	5,437	5,862	5,978	6,093	6,210	6,327	6,445	6,564	6,684	6,063.38
Scenario 1	4,662	5,035	5,682	6,175	6,315	6,447	6,570	6,684	6,797	6,911	7,026	6,364.24
Change	0.0	0.0	245.6	313.1	337.7	353.5	360.6	357.3	352.2	346.8	341.8	300.86
% chg	0.00%	0.00%	4.52%	5.34%	5.65%	5.80%	5.81%	5.65%	5.47%	5.28%	5.11%	4.86%
Consumption												
Baseline	1,020	1,031	1,041	1,053	1,059	1,069	1,081	1,090	1,099	1,108	1,117	1,074.69
Scenario 1	1,020	1,004	1,018	1,030	1,038	1,047	1,059	1,068	1,078	1,087	1,095	1,052.37
Change	0.0	-26.6	-22.5	-22.3	-21.7	-21.7	-21.9	-21.7	-21.7	-21.6	-21.5	-22.32
% chg	0.00%	-2.58%	-2.16%	-2.12%	-2.04%	-2.03%	-2.02%	-2.00%	-1.98%	-1.95%	-1.93%	-2.08%
Brazil												
Production												
Baseline	18,500	20,624	21,077	21,442	21,591	21,893	22,118	22,251	22,415	22,577	22,729	21,871.81
Scenario 1	18,500	20,597	22,453	23,215	23,531	23,910	24,175	24,327	24,496	24,663	24,812	23,617.86
Change	0.0	-26.6	1,375.8	1,773.0	1,939.1	2,016.4	2,056.9	2,075.7	2,081.6	2,085.8	2,082.7	1,746.05
% chg	0.00%	-0.13%	6.53%	8.27%	8.98%	9.21%	9.30%	9.33%	9.29%	9.24%	9.16%	7.92%
Consumption												
Baseline	9,450	9,706	9,936	10,154	10,355	10,549	10,723	10,879	11,014	11,125	11,211	10,565.25
Scenario 1	9,450	9,277	9,592	9,808	10,016	10,203	10,367	10,518	10,646	10,751	10,831	10,201.03
Change	0.0	-428.8	-343.9	-345.7	-338.5	-346.0	-356.0	-360.9	-367.9	-374.1	-380.3	-364.23
% chg	0.00%	-4.42%	-3.46%	-3.40%	-3.27%	-3.28%	-3.32%	-3.32%	-3.34%	-3.36%	-3.39%	-3.46%
Canada												
Production												
Baseline	115	116	116	116	116	116	116	116	116	116	117	116.21
Scenario 1	115	116	117	117	117	117	117	117	117	117	118	117.11
Change	0.0	0.0	1.5	1.1	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.90
% chg	0.00%	0.00%	1.28%	0.97%	0.84%	0.77%	0.78%	0.76%	0.78%	0.76%	0.74%	0.77%
Consumption												
Baseline	1,240	1,252	1,259	1,273	1,280	1,295	1,311	1,327	1,345	1,365	1,386	1,309.39
Scenario 1	1,240	1,222	1,238	1,252	1,262	1,277	1,293	1,309	1,327	1,348	1,369	1,289.63
Change	0.0	-29.8	-21.1	-20.4	-18.9	-18.7	-18.7	-18.1	-17.8	-17.3	-16.8	-19.76
% chg	0.00%	-2.38%	-1.67%	-1.60%	-1.48%	-1.44%	-1.42%	-1.37%	-1.32%	-1.27%	-1.21%	-1.52%

Table B2: (continued)

	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	Average ^[1]
China												
Production	(Thousand Metric Tons)											
Baseline	7,623	7,735	7,824	8,026	8,180	8,359	8,494	8,593	8,713	8,846	8,980	8,375.08
Scenario 1	7,623	7,735	8,432	8,557	8,650	8,767	8,863	8,934	9,025	9,135	9,244	8,733.96
Change	0.0	0.0	607.7	530.5	469.6	407.6	369.1	340.8	311.5	288.4	263.8	358.88
% chg	0.00%	0.00%	7.77%	6.61%	5.74%	4.88%	4.35%	3.97%	3.57%	3.26%	2.94%	4.31%
Consumption												
Baseline	8,800	8,903	9,046	9,203	9,396	9,582	9,802	10,075	10,412	10,782	11,149	9,834.95
Scenario 1	8,800	8,071	8,612	8,820	9,072	9,284	9,526	9,827	10,184	10,576	10,965	9,493.71
Change	0.0	-832.6	-434.6	-382.6	-323.9	-297.7	-275.2	-247.4	-228.4	-205.3	-184.6	-341.24
% chg	0.00%	-9.35%	-4.80%	-4.16%	-3.45%	-3.11%	-2.81%	-2.46%	-2.19%	-1.90%	-1.66%	-3.59%
Colombia												
Production												
Baseline	2,265	2,290	2,309	2,350	2,382	2,429	2,472	2,511	2,555	2,600	2,646	2,454.63
Scenario 1	2,265	2,290	2,272	2,252	2,242	2,256	2,276	2,299	2,328	2,361	2,394	2,296.99
Change	0.0	0.0	-37.4	-98.5	-140.5	-173.0	-195.9	-212.5	-226.9	-239.7	-252.1	-157.64
% chg	0.00%	0.00%	-1.62%	-4.19%	-5.90%	-7.12%	-7.92%	-8.46%	-8.88%	-9.22%	-9.53%	-6.28%
Consumption												
Baseline	1,350	1,378	1,398	1,425	1,447	1,472	1,499	1,524	1,549	1,573	1,597	1,486.29
Scenario 1	1,350	1,395	1,436	1,467	1,489	1,516	1,543	1,569	1,595	1,620	1,644	1,527.34
Change	0.0	16.9	38.1	41.3	42.5	43.2	44.1	44.9	45.6	46.7	47.3	41.05
% chg	0.00%	1.23%	2.72%	2.90%	2.94%	2.94%	2.94%	2.94%	2.94%	2.97%	2.96%	2.75%
Cuba												
Production												
Baseline	3,200	3,329	3,463	3,608	3,758	3,918	4,083	4,253	4,428	4,610	4,798	4,024.91
Scenario 1	3,200	3,329	3,536	3,731	3,923	4,141	4,361	4,581	4,805	5,031	5,259	4,269.67
Change	0.0	0.0	73.4	122.8	165.0	222.9	277.3	328.7	376.2	420.5	461.0	244.76
% chg	0.00%	0.00%	2.12%	3.40%	4.39%	5.69%	6.79%	7.73%	8.49%	9.12%	9.61%	5.73%
Consumption												
Baseline	700	718	728	744	754	769	784	798	812	826	839	777.13
Scenario 1	700	665	694	712	724	738	754	768	782	797	811	744.48
Change	0.0	-52.5	-33.9	-32.0	-30.5	-30.4	-30.3	-29.9	-29.5	-28.9	-28.5	-32.64
% chg	0.00%	-7.32%	-4.65%	-4.30%	-4.05%	-3.95%	-3.87%	-3.74%	-3.64%	-3.50%	-3.40%	-4.24%
Eastern Europe												
Production												
Baseline	3,188	3,363	3,326	3,303	3,285	3,269	3,253	3,238	3,222	3,207	3,191	3,265.61
Scenario 1	3,188	3,363	3,148	3,031	2,977	2,951	2,935	2,924	2,913	2,902	2,891	3,003.62
Change	0.0	0.0	-177.6	-272.3	-307.5	-317.7	-317.8	-314.1	-309.3	-304.1	-299.5	-261.98
% chg	0.00%	0.00%	-5.34%	-8.25%	-9.36%	-9.72%	-9.77%	-9.70%	-9.60%	-9.48%	-9.39%	-8.06%
Consumption												
Baseline	4,217	4,263	4,295	4,326	4,347	4,364	4,377	4,381	4,379	4,371	4,356	4,346.01
Scenario 1	4,217	4,329	4,375	4,408	4,425	4,442	4,454	4,457	4,454	4,445	4,428	4,421.47
Change	0.0	66.2	80.0	81.4	78.3	77.4	77.0	75.4	74.2	73.2	71.5	75.46
% chg	0.00%	1.55%	1.86%	1.88%	1.80%	1.77%	1.76%	1.72%	1.69%	1.67%	1.64%	1.74%
Egypt												
Production												
Baseline	1,375	1,410	1,437	1,462	1,487	1,512	1,537	1,563	1,589	1,615	1,642	1,525.31
Scenario 1	1,375	1,410	1,437	1,462	1,487	1,512	1,537	1,563	1,589	1,615	1,642	1,525.31
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
% chg	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Consumption												
Baseline	2,080	2,137	2,177	2,233	2,277	2,331	2,389	2,441	2,496	2,552	2,608	2,364.13
Scenario 1	2,080	1,912	2,025	2,087	2,135	2,189	2,246	2,299	2,354	2,411	2,467	2,212.42
Change	0.0	-225.9	-152.4	-145.2	-141.6	-142.1	-143.0	-142.5	-142.5	-141.1	-140.8	-151.71
% chg	0.00%	-10.57%	-7.00%	-6.50%	-6.22%	-6.10%	-5.99%	-5.84%	-5.71%	-5.53%	-5.40%	-6.48%
European Union												
Production												
Baseline	16,178	17,835	18,013	18,141	18,318	18,522	18,746	18,982	19,229	19,486	19,752	18,702.35
Scenario 1	16,178	17,835	18,013	18,141	18,318	18,522	18,746	18,982	19,229	19,486	19,752	18,702.35
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
% chg	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Consumption												
Baseline	14,700	14,768	14,815	14,851	14,888	14,921	14,950	14,982	15,015	15,050	15,088	14,932.70
Scenario 1	14,700	15,425	15,563	15,601	15,593	15,607	15,620	15,625	15,635	15,649	15,659	15,597.65
Change	0.0	657.8	748.1	749.1	705.5	685.4	670.0	643.4	619.9	599.0	571.2	664.94
% chg	0.00%	4.45%	5.05%	5.04%	4.74%	4.59%	4.48%	4.29%	4.13%	3.98%	3.79%	4.46%

Table B2: (continued)

	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	Average ^[1]
Former Soviet Union												
Production	(Thousand Metric Tons)											
Baseline	4,111	4,250	4,327	4,412	4,462	4,529	4,580	4,614	4,650	4,686	4,719	4,523.13
Scenario 1	4,111	4,250	4,212	4,037	3,893	3,823	3,781	3,754	3,751	3,764	3,782	3,904.78
Change	0.0	0.0	-115.9	-374.6	-569.0	-706.5	-799.1	-859.8	-898.9	-922.3	-937.4	-618.35
% chg	0.00%	0.00%	-2.68%	-8.49%	-12.75%	-15.60%	-17.45%	-18.64%	-19.33%	-19.68%	-19.86%	-13.45%
Consumption												
Baseline	11,649	11,819	11,846	11,985	12,013	12,124	12,256	12,348	12,453	12,565	12,654	12,206.35
Scenario 1	11,649	11,870	11,976	12,118	12,146	12,254	12,383	12,473	12,575	12,686	12,773	12,325.21
Change	0.0	51.6	129.4	133.3	132.2	129.3	126.5	124.3	122.1	121.0	118.9	118.86
% chg	0.00%	0.44%	1.09%	1.11%	1.10%	1.07%	1.03%	1.01%	0.98%	0.96%	0.94%	0.97%
India												
Production												
Baseline	18,350	18,801	19,206	19,641	20,070	20,507	20,940	21,371	21,804	22,237	22,670	20,724.70
Scenario 1	18,350	18,801	19,206	19,641	20,070	20,507	20,940	21,371	21,804	22,237	22,670	20,724.70
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
% chg	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Consumption												
Baseline	18,000	18,426	18,795	19,234	19,633	20,065	20,511	20,947	21,392	21,842	22,291	20,313.63
Scenario 1	18,000	18,768	19,514	20,002	20,462	20,918	21,383	21,854	22,329	22,815	23,298	21,134.24
Change	0.0	341.4	718.7	768.2	829.4	853.1	872.3	906.4	936.5	972.6	1,007.4	820.60
% chg	0.00%	1.85%	3.82%	3.99%	4.22%	4.25%	4.25%	4.33%	4.38%	4.45%	4.52%	4.01%
Indonesia												
Production												
Baseline	1,700	1,619	1,593	1,593	1,617	1,652	1,694	1,739	1,788	1,838	1,889	1,702.10
Scenario 1	1,700	1,619	1,620	1,620	1,642	1,676	1,717	1,761	1,809	1,858	1,908	1,723.01
Change	0.0	0.0	26.6	26.7	25.8	23.7	22.5	22.1	21.4	20.6	19.6	20.90
% chg	0.00%	0.00%	1.67%	1.67%	1.59%	1.43%	1.33%	1.27%	1.20%	1.12%	1.04%	1.23%
Consumption												
Baseline	3,400	3,481	3,569	3,676	3,788	3,905	4,031	4,155	4,288	4,431	4,585	3,990.96
Scenario 1	3,400	3,406	3,498	3,597	3,687	3,789	3,900	4,007	4,122	4,249	4,382	3,863.72
Change	0.0	-74.4	-71.1	-79.3	-101.4	-116.4	-130.3	-148.0	-165.5	-182.7	-203.3	-127.24
% chg	0.00%	-2.14%	-1.99%	-2.16%	-2.68%	-2.98%	-3.23%	-3.56%	-3.86%	-4.12%	-4.43%	-3.12%
Iran												
Production												
Baseline	775	742	749	759	768	779	789	799	809	819	825	783.70
Scenario 1	775	742	762	772	781	791	800	809	819	828	833	793.70
Change	0.0	0.0	12.9	13.3	12.7	11.7	11.0	10.5	9.9	9.3	8.7	9.99
% chg	0.00%	0.00%	1.72%	1.75%	1.66%	1.50%	1.39%	1.31%	1.22%	1.14%	1.05%	1.27%
Consumption												
Baseline	2,000	2,057	2,118	2,187	2,256	2,329	2,404	2,480	2,558	2,638	2,720	2,374.63
Scenario 1	2,000	2,022	2,098	2,168	2,240	2,313	2,388	2,465	2,544	2,625	2,707	2,356.98
Change	0.0	-35.7	-19.8	-18.6	-16.1	-15.7	-15.7	-14.8	-14.2	-13.3	-12.4	-17.65
% chg	0.00%	-1.74%	-0.93%	-0.85%	-0.71%	-0.68%	-0.66%	-0.60%	-0.55%	-0.50%	-0.46%	-0.77%
Japan												
Production												
Baseline	795	803	814	827	840	852	863	873	882	891	898	854.26
Scenario 1	795	803	792	770	751	735	721	711	703	695	689	736.93
Change	0.0	0.0	-22.2	-57.9	-88.4	-117.3	-141.7	-161.8	-179.6	-195.2	-209.2	-117.33
% chg	0.00%	0.00%	-2.73%	-6.99%	-10.53%	-13.77%	-16.42%	-18.53%	-20.36%	-21.92%	-23.29%	-13.46%
Consumption												
Baseline	2,350	2,341	2,344	2,354	2,364	2,376	2,388	2,400	2,411	2,423	2,433	2,383.36
Scenario 1	2,350	2,423	2,430	2,439	2,443	2,451	2,458	2,464	2,470	2,475	2,478	2,453.02
Change	0.0	81.4	85.2	84.3	79.1	75.0	70.6	64.8	58.6	52.3	45.4	69.66
% chg	0.00%	3.48%	3.63%	3.58%	3.35%	3.16%	2.96%	2.70%	2.43%	2.16%	1.87%	2.93%
Malaysia												
Production												
Baseline	112	116	121	125	129	132	136	140	144	149	153	134.52
Scenario 1	112	116	121	125	129	132	136	140	144	149	153	134.52
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
% chg	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Consumption												
Baseline	1,100	1,145	1,185	1,227	1,267	1,313	1,363	1,412	1,463	1,515	1,567	1,345.74
Scenario 1	1,100	1,111	1,154	1,193	1,228	1,273	1,322	1,368	1,416	1,466	1,515	1,304.52
Change	0.0	-33.9	-31.3	-34.0	-38.2	-40.2	-41.7	-44.4	-46.9	-49.2	-52.5	-41.23
% chg	0.00%	-2.96%	-2.64%	-2.77%	-3.01%	-3.06%	-3.06%	-3.14%	-3.21%	-3.25%	-3.35%	-3.05%

Table B2: (continued)

	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	Average ^[1]
Mexico												
Production	(Thousand Metric Tons)											
Baseline	5,092	5,277	5,423	5,560	5,690	5,817	6,037	6,248	6,467	6,688	6,850	6,005.68
Scenario 1	5,092	5,277	5,423	5,560	5,690	5,817	6,037	6,248	6,467	6,688	6,850	6,005.68
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
% chg	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Consumption												
Baseline	4,543	4,574	4,607	4,655	4,705	4,747	4,810	4,870	4,931	4,990	5,047	4,793.55
Scenario 1	4,543	4,634	4,678	4,729	4,779	4,821	4,886	4,946	5,007	5,067	5,124	4,867.21
Change	0.0	60.1	71.3	74.6	73.7	74.4	75.8	76.1	76.5	77.2	76.9	73.66
% chg	0.00%	1.31%	1.55%	1.60%	1.57%	1.57%	1.58%	1.56%	1.55%	1.55%	1.52%	1.54%
Morocco												
Production												
Baseline	545	537	545	553	563	572	582	592	603	613	623	578.34
Scenario 1	545	537	545	553	563	572	582	592	603	613	623	578.34
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
% chg	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Consumption												
Baseline	1,000	1,028	1,049	1,074	1,095	1,120	1,145	1,168	1,192	1,217	1,241	1,132.94
Scenario 1	1,000	1,039	1,064	1,093	1,104	1,126	1,151	1,175	1,200	1,225	1,250	1,142.67
Change	0.0	10.2	14.5	18.6	8.7	6.4	5.8	6.9	7.7	8.8	9.7	9.72
% chg	0.00%	0.99%	1.38%	1.73%	0.79%	0.57%	0.51%	0.59%	0.65%	0.72%	0.78%	0.87%
Pakistan												
Production												
Baseline	3,006	2,994	3,012	3,051	3,107	3,174	3,247	3,326	3,408	3,492	3,579	3,238.97
Scenario 1	3,006	2,994	3,090	3,117	3,159	3,207	3,268	3,338	3,410	3,486	3,563	3,263.10
Change	0.0	0.0	78.5	65.5	51.6	33.7	20.6	11.7	2.2	-6.7	-15.9	24.13
% chg	0.00%	0.00%	2.61%	2.15%	1.66%	1.06%	0.64%	0.35%	0.07%	-0.19%	-0.44%	0.79%
Consumption												
Baseline	3,450	3,478	3,502	3,539	3,577	3,625	3,682	3,745	3,817	3,898	3,988	3,685.28
Scenario 1	3,450	3,397	3,479	3,520	3,568	3,618	3,676	3,743	3,818	3,902	3,996	3,671.85
Change	0.0	-80.4	-23.7	-18.7	-8.9	-7.0	-6.2	-2.3	0.6	4.2	8.0	-13.43
% chg	0.00%	-2.31%	-0.68%	-0.53%	-0.25%	-0.19%	-0.17%	-0.06%	0.02%	0.11%	0.20%	-0.39%
Peru												
Production												
Baseline	810	840	875	907	935	964	991	1,018	1,045	1,072	1,100	974.77
Scenario 1	810	840	867	882	898	918	940	961	984	1,008	1,032	933.10
Change	0.0	0.0	-8.4	-25.6	-37.2	-45.9	-51.9	-56.2	-60.2	-63.8	-67.6	-41.67
% chg	0.00%	0.00%	-0.96%	-2.82%	-3.98%	-4.76%	-5.23%	-5.52%	-5.76%	-5.95%	-6.14%	-4.11%
Consumption												
Baseline	880	897	910	929	945	966	989	1,012	1,038	1,065	1,095	984.67
Scenario 1	880	906	933	953	970	991	1,014	1,038	1,064	1,092	1,121	1,008.36
Change	0.0	8.8	22.4	24.3	24.9	25.2	25.6	25.9	26.2	26.7	26.9	23.69
% chg	0.00%	0.98%	2.46%	2.62%	2.64%	2.61%	2.59%	2.56%	2.52%	2.51%	2.46%	2.39%
Philippines												
Production												
Baseline	1,800	1,789	1,794	1,818	1,845	1,874	1,902	1,929	1,955	1,982	2,008	1,889.67
Scenario 1	1,800	1,789	1,746	1,674	1,627	1,585	1,559	1,545	1,537	1,533	1,532	1,612.72
Change	0.0	0.0	-48.0	-144.3	-218.7	-288.6	-343.0	-383.3	-418.7	-449.0	-475.9	-276.95
% chg	0.00%	0.00%	-2.68%	-7.94%	-11.85%	-15.40%	-18.04%	-19.87%	-21.41%	-22.65%	-23.70%	-14.35%
Consumption												
Baseline	1,950	1,984	2,010	2,042	2,067	2,096	2,129	2,159	2,191	2,222	2,250	2,115.09
Scenario 1	1,950	2,014	2,084	2,123	2,156	2,191	2,227	2,264	2,302	2,340	2,375	2,207.52
Change	0.0	30.3	73.3	80.2	89.6	94.4	98.7	105.1	111.0	117.6	124.2	92.43
% chg	0.00%	1.53%	3.64%	3.92%	4.33%	4.50%	4.64%	4.87%	5.07%	5.29%	5.52%	4.33%
South Africa												
Production												
Baseline	2,690	2,940	3,076	3,167	3,235	3,291	3,342	3,389	3,435	3,480	3,524	3,288.02
Scenario 1	2,690	2,940	3,095	3,174	3,235	3,292	3,347	3,400	3,451	3,501	3,549	3,298.37
Change	0.0	0.0	18.3	6.5	0.7	0.7	5.2	10.8	16.2	20.8	24.2	10.36
% chg	0.00%	0.00%	0.60%	0.21%	0.02%	0.02%	0.15%	0.32%	0.47%	0.60%	0.69%	0.31%
Consumption												
Baseline	1,665	1,685	1,700	1,718	1,732	1,732	1,738	1,745	1,745	1,746	1,748	1,728.80
Scenario 1	1,665	1,683	1,700	1,718	1,732	1,732	1,737	1,744	1,744	1,745	1,747	1,728.34
Change	0.0	-1.4	0.3	0.2	0.0	-0.3	-0.5	-0.6	-0.7	-0.7	-0.8	-0.45
% chg	0.00%	-0.08%	0.02%	0.01%	0.00%	-0.02%	-0.03%	-0.04%	-0.04%	-0.04%	-0.05%	-0.03%

Table B2: (continued)

	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	Average ^[1]
South Korea												
Production	(Thousand Metric Tons)											
Baseline	0	0	0	0	0	0	0	0	0	0	0	0.00
Scenario 1	0	0	0	0	0	0	0	0	0	0	0	0.00
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
% chg	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Consumption												
Baseline	1,230	1,293	1,342	1,396	1,437	1,483	1,530	1,570	1,608	1,644	1,675	1,497.67
Scenario 1	1,230	1,346	1,414	1,472	1,518	1,568	1,617	1,661	1,702	1,741	1,776	1,581.43
Change	0.0	52.4	71.9	76.1	81.4	84.5	87.3	90.9	94.2	97.7	101.1	83.76
% chg	0.00%	4.06%	5.36%	5.46%	5.66%	5.70%	5.71%	5.79%	5.86%	5.94%	6.03%	5.56%
Thailand												
Production												
Baseline	5,225	5,505	5,697	5,866	6,032	6,199	6,369	6,541	6,717	6,895	7,012	6,283.39
Scenario 1	5,225	5,505	5,668	5,783	5,914	6,053	6,206	6,370	6,539	6,713	6,826	6,157.79
Change	0.0	0.0	-29.6	-83.5	-117.2	-145.4	-162.9	-171.3	-177.6	-182.0	-186.4	-125.60
% chg	0.00%	0.00%	-0.52%	-1.42%	-1.94%	-2.35%	-2.56%	-2.62%	-2.64%	-2.64%	-2.66%	-1.94%
Consumption												
Baseline	1,750	1,807	1,862	1,922	1,982	2,047	2,114	2,183	2,254	2,327	2,401	2,090.00
Scenario 1	1,750	1,841	1,946	2,013	2,082	2,149	2,220	2,294	2,369	2,446	2,525	2,188.66
Change	0.0	34.8	84.1	90.4	99.5	102.7	105.6	110.7	115.0	119.6	124.2	98.66
% chg	0.00%	1.92%	4.51%	4.70%	5.02%	5.02%	5.00%	5.07%	5.10%	5.14%	5.17%	4.67%
Turkey												
Production												
Baseline	1,900	1,964	1,956	1,975	2,002	2,038	2,075	2,112	2,150	2,190	2,212	2,067.43
Scenario 1	1,900	1,964	1,956	1,975	2,002	2,038	2,075	2,112	2,150	2,190	2,212	2,067.43
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
% chg	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Consumption												
Baseline	2,000	2,041	2,077	2,117	2,154	2,194	2,234	2,274	2,314	2,355	2,395	2,215.55
Scenario 1	2,000	2,069	2,116	2,157	2,197	2,237	2,279	2,320	2,361	2,403	2,445	2,258.36
Change	0.0	28.4	38.3	40.0	42.3	43.4	44.4	45.8	47.1	48.5	49.9	42.81
% chg	0.00%	1.39%	1.84%	1.89%	1.96%	1.98%	1.99%	2.01%	2.03%	2.06%	2.08%	1.92%
United States												
Production												
Baseline	7,189	7,924	8,065	8,034	7,983	7,942	7,906	7,917	7,940	7,958	7,983	7,965.40
Scenario 1	7,189	7,924	7,478	7,441	7,498	7,580	7,670	7,729	7,787	7,856	7,922	7,688.57
Change	0.0	0.0	-587.7	-592.9	-485.0	-362.0	-236.1	-188.1	-153.2	-101.8	-61.5	-276.83
% chg	0.00%	0.00%	-7.29%	-7.38%	-6.07%	-4.56%	-2.99%	-2.38%	-1.93%	-1.28%	-0.77%	-3.46%
Consumption												
Baseline	9,335	9,469	9,669	9,853	10,026	10,203	10,362	10,517	10,676	10,834	10,976	10,258.58
Scenario 1	9,335	9,673	9,862	10,031	10,176	10,335	10,488	10,632	10,777	10,921	11,050	10,394.51
Change	0.0	204.2	192.5	177.9	150.0	131.7	126.3	114.6	101.1	86.6	74.3	135.93
% chg	0.00%	2.16%	1.99%	1.81%	1.50%	1.29%	1.22%	1.09%	0.95%	0.80%	0.68%	1.35%
Venezuela												
Production												
Baseline	710	711	721	731	740	748	756	763	770	776	782	749.92
Scenario 1	710	711	717	718	718	717	717	718	718	719	720	717.25
Change	0.0	0.0	-3.7	-13.3	-22.4	-31.0	-38.7	-45.5	-51.8	-57.4	-62.7	-32.67
% chg	0.00%	0.00%	-0.52%	-1.82%	-3.03%	-4.15%	-5.12%	-5.97%	-6.72%	-7.40%	-8.01%	-4.27%
Consumption												
Baseline	850	856	861	868	873	879	885	889	892	896	898	879.56
Scenario 1	850	863	880	890	895	901	908	912	916	920	923	900.83
Change	0.0	7.0	19.5	21.4	22.1	22.6	23.1	23.5	23.9	24.6	24.9	21.28
% chg	0.00%	0.82%	2.27%	2.47%	2.54%	2.57%	2.61%	2.65%	2.68%	2.74%	2.77%	2.41%

[1] Average is the average for the period 2002/03 to 2011/12.

Scenario 1 = Trade Liberalization Reform

Table C1: Impacts of Trade Liberalization and Domestic Production Subsidy Reforms on Sugar Price and Trade

	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	Average ^[1]
Net Exporters												
(Thousand Metric Tons)												
Argentina												
Baseline	90	114	135	136	143	134	123	115	105	95	88	118.83
Scenario 2	90	247	337	305	299	268	242	223	200	177	157	245.60
Change	0.0	133.6	201.8	169.1	156.2	134.5	119.3	107.8	94.8	81.5	69.1	126.77
% chg	0.00%	117.49%	149.26%	124.11%	109.53%	100.38%	97.05%	93.60%	89.89%	85.40%	78.83%	104.55%
Australia												
Baseline	3,646	4,007	4,398	4,811	4,920	5,025	5,130	5,238	5,346	5,456	5,568	4,989.95
Scenario 2	3,646	4,145	5,056	5,559	5,736	5,859	5,952	6,033	6,112	6,190	6,273	5,691.56
Change	0.0	138.5	657.6	747.9	816.6	834.1	822.4	795.0	765.7	733.3	705.0	701.60
% chg	0.00%	3.46%	14.95%	15.55%	16.60%	16.60%	16.03%	15.18%	14.32%	13.44%	12.66%	13.88%
Brazil												
Baseline	9,500	10,919	11,147	11,295	11,243	11,351	11,401	11,377	11,406	11,456	11,521	11,311.48
Scenario 2	9,500	12,232	15,359	16,136	16,567	16,786	16,811	16,728	16,674	16,609	16,552	16,045.25
Change	0.0	1,313.1	4,212.2	4,841.1	5,323.6	5,435.3	5,409.9	5,350.8	5,267.9	5,153.4	5,030.5	4,733.77
% chg	0.00%	12.03%	37.79%	42.86%	47.35%	47.88%	47.45%	47.03%	46.19%	44.99%	43.66%	41.72%
Colombia												
Baseline	920	913	913	924	936	956	972	987	1,006	1,027	1,050	968.40
Scenario 2	920	990	1,059	1,046	1,046	1,041	1,033	1,027	1,024	1,022	1,022	1,031.15
Change	0.0	77.1	145.9	121.7	110.1	85.2	60.9	40.1	18.4	-4.7	-27.4	62.75
% chg	0.00%	8.45%	15.98%	13.16%	11.76%	8.91%	6.27%	4.06%	1.83%	-0.45%	-2.61%	6.74%
Cuba												
Baseline	2,700	2,625	2,741	2,863	3,002	3,145	3,293	3,449	3,611	3,778	3,953	3,245.84
Scenario 2	2,700	2,752	3,064	3,338	3,625	3,912	4,188	4,461	4,725	4,982	5,234	4,028.13
Change	0.0	127.3	322.8	474.9	623.0	767.5	895.6	1,012.0	1,114.8	1,203.7	1,281.4	782.29
% chg	0.00%	4.85%	11.77%	16.59%	20.75%	24.40%	27.20%	29.34%	30.88%	31.86%	32.42%	23.01%
European Union												
Baseline	1,850	3,065	3,170	3,248	3,385	3,555	3,753	3,960	4,177	4,403	4,634	3,734.87
Scenario 2	1,850	-5,821	-7,758	-8,894	-9,165	-9,124	-8,934	-8,649	-8,306	-7,944	-7,555	-8,214.96
Change	0.0	-8,885.9	-10,927.5	-12,142.1	-12,549.1	-12,679.5	-12,686.7	-12,608.2	-12,483.3	-12,346.9	-12,189.2	-11,949.83
% chg	0.00%	-289.90%	-344.76%	-373.78%	-370.77%	-356.63%	-338.09%	-318.42%	-298.87%	-280.45%	-263.04%	-323.47%
India												
Baseline	1,000	1,067	915	784	728	673	622	589	559	530	507	697.32
Scenario 2	1,000	1,495	78	-19	-279	-352	-338	-342	-351	-349	-352	-80.75
Change	0.0	427.9	-836.7	-803.0	-1,006.8	-1,024.7	-959.4	-930.6	-910.0	-879.0	-858.4	-778.07
% chg	0.00%	40.11%	-91.43%	-102.38%	-138.37%	-152.27%	-154.29%	-157.97%	-162.82%	-165.90%	-169.42%	-125.47%
Mexico												
Baseline	530	702	819	909	991	1,076	1,234	1,386	1,546	1,707	1,812	1,218.33
Scenario 2	530	669	815	298	326	414	561	721	929	1,127	1,272	713.16
Change	0.0	-33.5	-4.6	-610.8	-665.5	-662.7	-673.1	-665.0	-616.9	-580.1	-539.4	-505.17
% chg	0.00%	-4.76%	-0.56%	-67.21%	-67.15%	-61.56%	-54.53%	-47.97%	-39.91%	-33.98%	-29.78%	-40.74%
Pakistan												
Baseline	-200	-288	-416	-459	-457	-445	-431	-415	-405	-401	-404	-412.19
Scenario 2	-200	61	170	177	198	196	190	181	161	132	95	156.16
Change	0.0	349.2	586.5	636.2	654.9	641.2	621.0	596.0	566.0	533.1	499.4	568.35
% chg	0.00%	-121.35%	-140.88%	-138.67%	-143.19%	-144.00%	-144.24%	-143.45%	-139.70%	-132.89%	-123.60%	-137.20%
South Africa												
Baseline	1,230	1,221	1,369	1,440	1,503	1,551	1,594	1,634	1,677	1,718	1,763	1,547.00
Scenario 2	1,230	1,295	1,520	1,620	1,707	1,765	1,814	1,858	1,900	1,938	1,977	1,739.34
Change	0.0	73.9	150.6	179.8	203.9	214.5	220.2	223.8	223.4	219.4	213.8	192.34
% chg	0.00%	6.05%	11.00%	12.48%	13.57%	13.83%	13.82%	13.70%	13.32%	12.77%	12.13%	12.27%
Thailand												
Baseline	3,550	3,662	3,816	3,925	4,042	4,144	4,241	4,347	4,452	4,562	4,607	4,179.72
Scenario 2	3,550	3,825	3,951	4,052	4,132	4,198	4,268	4,347	4,425	4,508	4,527	4,223.20
Change	0.0	163.8	135.4	126.6	90.2	53.7	26.6	0.1	-27.8	-54.0	-79.7	43.48
% chg	0.00%	4.47%	3.55%	3.23%	2.23%	1.30%	0.63%	0.00%	-0.62%	-1.18%	-1.73%	1.19%
Total Exports ^[2]												
Baseline	25,316	28,293	29,423	30,337	30,892	31,611	32,366	33,088	33,893	34,741	35,508	32,015.18
Scenario 2	25,316	29,564	33,369	34,549	35,726	36,454	36,913	37,201	37,492	37,941	38,416	35,762.52
Change	0.0	1,270.7	3,945.4	4,212.3	4,834.4	4,843.7	4,547.2	4,113.1	3,599.1	3,199.8	2,907.8	3,747.35
% chg	0.00%	4.49%	13.41%	13.88%	15.65%	15.32%	14.05%	12.43%	10.62%	9.21%	8.19%	11.73%
Net Importers												
Algeria												
Baseline	940	966	974	981	990	999	1,009	1,020	1,031	1,043	1,055	1,006.76
Scenario 2	940	855	914	912	929	942	954	967	982	996	1,011	946.14
Change	0.0	-111.3	-60.0	-69.4	-61.2	-56.7	-55.0	-52.6	-49.2	-46.5	-44.1	-60.62
% chg	0.00%	-11.53%	-6.16%	-7.08%	-6.19%	-5.68%	-5.45%	-5.16%	-4.77%	-4.46%	-4.18%	-6.07%

Table C1: (continued)

	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	Average ^[1]
(Thousand Metric Tons)												
Canada												
Baseline	1,094	1,128	1,144	1,161	1,169	1,185	1,201	1,217	1,235	1,255	1,275	1,196.84
Scenario 2	1,094	1,028	1,080	1,092	1,107	1,124	1,141	1,158	1,178	1,199	1,221	1,132.81
Change	0.0	-100.0	-63.3	-68.9	-62.6	-60.3	-60.1	-58.7	-56.8	-55.5	-54.0	-64.03
% chg	0.00%	-8.86%	-5.54%	-5.94%	-5.36%	-5.09%	-5.00%	-4.82%	-4.60%	-4.42%	-4.24%	-5.39%
China												
Baseline	1,177	1,159	1,201	1,169	1,203	1,219	1,310	1,478	1,690	1,923	2,155	1,450.67
Scenario 2	1,177	-1,853	-1,914	-1,950	-1,689	-1,343	-984	-598	-182	233	624	-965.58
Change	0.0	-3,011.4	-3,114.5	-3,119.1	-2,892.8	-2,562.5	-2,293.6	-2,075.8	-1,871.8	-1,690.8	-1,530.2	-2,416.26
% chg	0.00%	-259.92%	-259.35%	-266.78%	-240.37%	-210.19%	-175.13%	-140.45%	-110.77%	-87.91%	-71.02%	-182.19%
Eastern Europe												
Baseline	1,029	897	966	1,030	1,067	1,106	1,139	1,160	1,176	1,185	1,187	1,091.26
Scenario 2	1,029	1,014	1,224	1,332	1,386	1,433	1,466	1,485	1,500	1,510	1,510	1,385.99
Change	0.0	117.2	257.4	302.5	319.2	326.4	327.2	325.4	324.9	324.2	323.0	294.73
% chg	0.00%	13.06%	26.63%	29.38%	29.92%	29.51%	28.74%	28.07%	27.63%	27.35%	27.20%	26.75%
Egypt												
Baseline	745	747	752	778	792	819	850	876	904	933	961	841.22
Scenario 2	745	301	455	450	483	510	525	532	539	541	535	487.17
Change	0.0	-445.9	-296.1	-327.9	-308.9	-309.7	-325.3	-343.6	-364.4	-392.3	-426.4	-354.04
% chg	0.00%	-59.71%	-39.40%	-42.16%	-38.99%	-37.80%	-38.26%	-39.22%	-40.31%	-42.04%	-44.36%	-42.23%
Former Soviet Union												
Baseline	6,286	7,565	7,469	7,520	7,471	7,516	7,600	7,651	7,716	7,791	7,840	7,613.89
Scenario 2	6,286	7,086	6,898	6,952	6,938	7,058	7,220	7,345	7,489	7,644	7,767	7,239.65
Change	0.0	-479.2	-570.5	-568.0	-533.2	-458.2	-380.3	-305.7	-226.6	-147.4	-73.3	-374.24
% chg	0.00%	-6.33%	-7.64%	-7.55%	-7.14%	-6.10%	-5.00%	-4.00%	-2.94%	-1.89%	-0.93%	-4.95%
Indonesia												
Baseline	1,600	1,406	1,789	2,003	2,133	2,230	2,320	2,401	2,486	2,579	2,680	2,202.74
Scenario 2	1,600	1,163	1,052	1,124	1,095	1,069	1,057	1,035	1,009	992	977	1,057.30
Change	0.0	-243.0	-736.8	-879.4	-1,037.5	-1,161.3	-1,263.1	-1,365.9	-1,477.1	-1,586.6	-1,703.6	-1,145.44
% chg	0.00%	-17.28%	-41.18%	-43.90%	-48.64%	-52.06%	-54.45%	-56.88%	-59.42%	-61.53%	-63.56%	-49.89%
Iran												
Baseline	1,200	1,304	1,357	1,419	1,478	1,540	1,606	1,672	1,740	1,810	1,885	1,581.21
Scenario 2	1,200	1,150	1,230	1,281	1,349	1,418	1,487	1,557	1,630	1,704	1,784	1,458.90
Change	0.0	-153.7	-127.3	-137.9	-128.6	-122.6	-119.6	-115.4	-110.3	-106.0	-101.6	-122.31
% chg	0.00%	-11.79%	-9.38%	-9.72%	-8.70%	-7.96%	-7.45%	-6.90%	-6.34%	-5.86%	-5.39%	-7.95%
Japan												
Baseline	1,548	1,553	1,536	1,529	1,524	1,524	1,525	1,527	1,529	1,532	1,535	1,531.41
Scenario 2	1,548	1,597	1,745	1,870	1,979	2,072	2,150	2,212	2,260	2,296	2,320	2,050.05
Change	0.0	43.8	208.8	341.5	454.2	548.4	625.1	685.2	731.0	763.9	784.6	518.65
% chg	0.00%	2.82%	13.59%	22.34%	29.79%	35.99%	40.99%	44.88%	47.81%	49.86%	51.11%	33.92%
Malaysia												
Baseline	1,125	1,051	1,079	1,113	1,144	1,185	1,229	1,272	1,318	1,365	1,412	1,216.80
Scenario 2	1,125	951	958	980	1,003	1,037	1,079	1,119	1,163	1,208	1,252	1,074.94
Change	0.0	-99.8	-121.8	-132.7	-142.0	-147.3	-150.2	-152.8	-155.1	-157.1	-159.9	-141.86
% chg	0.00%	-9.50%	-11.28%	-11.92%	-12.41%	-12.43%	-12.22%	-12.01%	-11.77%	-11.51%	-11.32%	-11.64%
Morocco												
Baseline	455	490	504	521	534	549	565	578	592	606	619	555.86
Scenario 2	455	454	451	468	476	491	507	523	539	555	566	503.14
Change	0.0	-35.3	-53.0	-53.2	-58.1	-58.3	-58.0	-55.1	-52.6	-50.5	-52.8	-52.71
% chg	0.00%	-7.21%	-10.51%	-10.21%	-10.88%	-10.62%	-10.27%	-9.53%	-8.90%	-8.34%	-8.53%	-9.50%
Peru												
Baseline	70	57	34	20	8	0	-4	-7	-8	-8	-7	8.61
Scenario 2	70	5	-31	-41	-47	-47	-43	-40	-34	-26	-17	-32.05
Change	0.0	-51.6	-65.6	-61.3	-55.8	-47.1	-39.5	-32.7	-25.4	-17.7	-10.1	-40.67
% chg	0.00%	-91.07%	-191.66%	-299.12%	-658.92%	-1045.46%	1020.20%	480.69%	305.91%	216.90%	143.35%	-952.92%
Philippines												
Baseline	133	181	204	214	211	214	220	224	229	233	236	216.54
Scenario 2	133	71	-15	17	32	80	131	179	232	286	339	135.16
Change	0.0	-109.7	-218.5	-196.8	-178.6	-134.6	-88.9	-44.9	2.8	52.7	102.7	-81.38
% chg	0.00%	-60.55%	-107.26%	-92.09%	-84.80%	-62.82%	-40.44%	-20.05%	1.22%	22.56%	43.57%	-40.07%
South Korea												
Baseline	1,225	1,311	1,352	1,402	1,439	1,483	1,528	1,567	1,604	1,640	1,671	1,499.67
Scenario 2	1,225	1,326	1,411	1,450	1,499	1,549	1,597	1,640	1,683	1,724	1,761	1,564.06
Change	0.0	14.5	58.8	48.7	60.5	65.9	68.5	73.5	79.3	84.4	89.8	64.39
% chg	0.00%	1.11%	4.35%	3.48%	4.21%	4.44%	4.48%	4.69%	4.94%	5.14%	5.37%	4.22%

Table C1: (continued)

	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	Average ^[1]
(Thousand Metric Tons)												
Turkey												
Baseline	-300	43	104	137	149	156	162	165	166	167	185	143.36
Scenario 2	-300	883	251	-27	-354	-624	-826	-986	-1,126	-1,230	-1,290	-532.89
Change	0.0	840.1	147.6	-163.8	-503.0	-780.0	-988.0	-1,150.9	-1,292.3	-1,397.5	-1,474.7	-676.25
% chg	0.00%	1944.11%	142.53%	-119.45%	-338.63%	-500.48%	-609.30%	-699.08%	-777.65%	-834.61%	-797.60%	-259.02%
United States												
Baseline	1,344	1,616	1,799	1,966	2,164	2,397	2,555	2,707	2,866	3,028	3,132	2,423.20
Scenario 2	1,344	1,803	2,462	2,677	2,913	3,049	3,141	3,226	3,321	3,390	3,430	2,941.35
Change	0.0	186.9	663.1	710.7	749.8	652.1	585.6	519.1	454.5	361.9	297.9	518.16
% chg	0.00%	11.56%	36.87%	36.15%	34.66%	27.20%	22.92%	19.17%	15.85%	11.95%	9.51%	22.58%
Venezuela												
Baseline	92	85	106	120	124	127	129	128	126	124	121	119.00
Scenario 2	92	38	57	62	65	69	71	72	74	76	78	66.27
Change	0.0	-46.5	-49.0	-57.8	-59.1	-58.6	-57.8	-55.7	-52.1	-47.8	-42.9	-52.73
% chg	0.00%	-54.77%	-46.16%	-48.36%	-47.60%	-46.06%	-44.83%	-43.50%	-41.28%	-38.56%	-35.49%	-44.66%
Rest of World												
Baseline	4,152	4,747	4,937	5,096	5,133	5,214	5,288	5,331	5,380	5,425	5,455	5,200.54
Scenario 2	4,152	2,317	3,722	3,270	3,328	3,377	3,417	3,459	3,534	3,594	3,636	3,365.42
Change	0.0	-2,430.1	-1,215.2	-1,825.9	-1,805.3	-1,836.5	-1,870.3	-1,871.8	-1,845.5	-1,831.4	-1,819.2	-1,835.13
% chg	0.00%	-51.19%	-24.61%	-35.83%	-35.17%	-35.22%	-35.37%	-35.11%	-34.31%	-33.76%	-33.35%	-35.39%
Total Imports ^[2]												
Baseline	25,316	28,293	29,423	30,337	30,892	31,611	32,366	33,088	33,893	34,741	35,508	32,015.18
Scenario 2	25,316	29,564	33,369	34,549	35,726	36,454	36,913	37,201	37,492	37,941	38,416	35,762.52
Change	0.0	1,270.7	3,945.4	4,212.3	4,834.4	4,843.7	4,547.2	4,113.1	3,599.1	3,199.8	2,907.8	3,747.35
% chg	0.00%	4.49%	13.41%	13.88%	15.65%	15.32%	14.05%	12.43%	10.62%	9.21%	8.19%	11.73%
(U.S. Dollars per Metric Ton)												
Sugar Prices												
FOB Caribbean Price												
Baseline	190	186	199	199	211	215	216	222	227	232	239	214.61
Scenario 2	190	410	334	351	351	347	346	349	349	350	353	353.93
Change	0.0	224.4	135.3	151.9	139.6	132.3	129.7	126.5	121.4	117.6	114.5	139.32
% chg	0.00%	120.72%	68.06%	76.40%	66.08%	61.66%	59.99%	56.90%	53.39%	50.67%	47.94%	66.18%
New York Spot												
Baseline	465	458	439	427	418	409	408	407	402	396	394	415.78
Scenario 2	465	432	356	373	373	369	368	371	371	372	375	375.97
Change	0.0	-26.0	-82.7	-54.1	-45.4	-39.6	-40.0	-35.7	-31.4	-24.1	-19.0	-39.80
% chg	0.00%	-5.67%	-18.84%	-12.67%	-10.86%	-9.69%	-9.82%	-8.78%	-7.80%	-6.09%	-4.83%	-9.50%

^[1] Average is the average for the period 2002/03 to 2011/12.

^[2] Total exports (imports) are computed by summing up all positive (negative) exports and negative (positive) imports and *not* by summing trade flows of net exporters (importers).
Scenario 2 = Trade Liberalization and Domestic Production Subsidy Reforms

Table C2: Impacts of Trade Liberalization and Domestic Production Subsidy Reforms on Sugar Production and Consumption

	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	Average ^[1]
World (Million Metric Tons)												
Production												
Baseline	127	134	136	139	141	144	146	148	151	153	156	144.82
Scenario 2	127	123	134	134	137	140	143	145	148	151	153	140.76
Change	0.0	-10.8	-2.6	-4.9	-3.8	-3.4	-3.3	-3.2	-3.0	-2.9	-2.7	-4.06
% chg	0.00%	-8.09%	-1.88%	-3.52%	-2.68%	-2.37%	-2.29%	-2.18%	-1.97%	-1.86%	-1.76%	-2.86%
Consumption												
Baseline	132	135	137	139	142	144	146	149	151	154	156	145.25
Scenario 2	132	127	133	135	138	140	143	145	148	151	153	141.21
Change	0.0	-8.2	-3.8	-4.7	-4.0	-3.7	-3.5	-3.4	-3.1	-3.0	-3.0	-4.04
% chg	0.00%	-6.10%	-2.76%	-3.40%	-2.84%	-2.54%	-2.41%	-2.26%	-2.07%	-1.92%	-1.93%	-2.82%
Algeria (Thousand Metric Tons)												
Production												
Baseline	10	10	10	10	10	10	10	10	10	11	11	10.35
Scenario 2	10	10	11	11	11	11	11	11	11	11	11	11.10
Change	0.0	0.0	0.8	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.7	0.76
% chg	0.00%	0.00%	8.04%	8.44%	9.23%	9.01%	8.53%	8.10%	7.67%	7.17%	6.70%	7.23%
Consumption												
Baseline	950	976	985	992	1,000	1,010	1,020	1,031	1,042	1,053	1,066	1,017.42
Scenario 2	950	867	926	923	940	954	966	979	993	1,008	1,022	957.74
Change	0.0	-109.1	-59.1	-68.3	-60.3	-55.9	-54.3	-51.9	-48.5	-45.9	-43.6	-59.69
% chg	0.00%	-11.17%	-6.00%	-6.89%	-6.03%	-5.54%	-5.32%	-5.03%	-4.66%	-4.36%	-4.09%	-5.91%
Argentina												
Production												
Baseline	1,540	1,587	1,622	1,648	1,667	1,680	1,691	1,700	1,710	1,720	1,729	1,675.39
Scenario 2	1,540	1,587	1,780	1,747	1,768	1,764	1,759	1,760	1,762	1,761	1,760	1,744.81
Change	0.0	0.0	158.5	99.0	101.2	83.7	68.2	59.7	51.5	41.0	31.4	69.43
% chg	0.00%	0.00%	9.78%	6.01%	6.07%	4.98%	4.03%	3.51%	3.01%	2.38%	1.82%	4.16%
Consumption												
Baseline	1,470	1,472	1,487	1,509	1,526	1,547	1,569	1,589	1,610	1,631	1,652	1,559.19
Scenario 2	1,470	1,367	1,431	1,441	1,469	1,494	1,517	1,540	1,564	1,588	1,612	1,502.34
Change	0.0	-105.5	-56.0	-67.7	-57.5	-53.0	-51.8	-49.1	-45.4	-42.6	-39.9	-56.86
% chg	0.00%	-7.17%	-3.77%	-4.49%	-3.77%	-3.43%	-3.30%	-3.09%	-2.82%	-2.61%	-2.42%	-3.69%
Australia												
Production												
Baseline	4,662	5,035	5,437	5,862	5,978	6,093	6,210	6,327	6,445	6,564	6,684	6,063.38
Scenario 2	4,662	5,035	6,023	6,539	6,733	6,872	6,980	7,071	7,161	7,248	7,340	6,700.27
Change	0.0	0.0	586.3	677.0	755.6	778.8	770.2	744.2	716.4	684.3	656.0	636.89
% chg	0.00%	0.00%	10.78%	11.55%	12.64%	12.78%	12.40%	11.76%	11.12%	10.42%	9.81%	10.33%
Consumption												
Baseline	1,020	1,031	1,041	1,053	1,059	1,069	1,081	1,090	1,099	1,108	1,117	1,074.69
Scenario 2	1,020	967	986	995	1,004	1,014	1,026	1,036	1,045	1,055	1,063	1,019.19
Change	0.0	-63.5	-54.7	-57.2	-55.1	-54.5	-54.7	-54.4	-53.9	-53.6	-53.3	-55.50
% chg	0.00%	-6.16%	-5.26%	-5.44%	-5.20%	-5.10%	-5.06%	-4.99%	-4.91%	-4.84%	-4.77%	-5.17%
Brazil												
Production												
Baseline	18,500	20,624	21,077	21,442	21,591	21,893	22,118	22,251	22,415	22,577	22,729	21,871.81
Scenario 2	18,500	20,607	24,451	25,348	26,035	26,446	26,619	26,680	26,752	26,783	26,796	25,651.73
Change	0.0	-16.6	3,374.1	3,906.0	4,443.2	4,552.5	4,501.1	4,428.3	4,337.0	4,206.2	4,067.3	3,779.92
% chg	0.00%	-0.08%	16.01%	18.22%	20.58%	20.79%	20.35%	19.90%	19.35%	18.63%	17.89%	17.16%
Consumption												
Baseline	9,450	9,706	9,936	10,154	10,355	10,549	10,723	10,879	11,014	11,125	11,211	10,565.25
Scenario 2	9,450	8,682	9,085	9,235	9,462	9,650	9,803	9,947	10,071	10,167	10,238	9,633.87
Change	0.0	-1,023.9	-851.0	-919.0	-892.8	-899.1	-920.3	-932.8	-943.3	-958.5	-973.0	-931.38
% chg	0.00%	-10.55%	-8.56%	-9.05%	-8.62%	-8.52%	-8.58%	-8.57%	-8.56%	-8.62%	-8.68%	-8.83%
Canada												
Production												
Baseline	115	116	116	116	116	116	116	116	116	116	117	116.21
Scenario 2	115	116	121	120	120	120	119	119	119	119	119	119.22
Change	0.0	0.0	4.8	3.8	3.8	3.4	3.2	3.0	2.9	2.7	2.5	3.00
% chg	0.00%	0.00%	4.12%	3.25%	3.26%	2.96%	2.74%	2.58%	2.48%	2.31%	2.15%	2.59%
Consumption												
Baseline	1,240	1,252	1,259	1,273	1,280	1,295	1,311	1,327	1,345	1,365	1,386	1,309.39
Scenario 2	1,240	1,173	1,198	1,208	1,220	1,237	1,253	1,270	1,290	1,311	1,334	1,249.47
Change	0.0	-79.3	-60.7	-65.0	-60.2	-58.5	-58.0	-56.6	-55.0	-53.7	-52.3	-59.92
% chg	0.00%	-6.33%	-4.82%	-5.11%	-4.70%	-4.51%	-4.42%	-4.27%	-4.09%	-3.93%	-3.78%	-4.60%

Table C2: (continued)

	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	Average ^[1]
China												
(Thousand Metric Tons)												
Production												
Baseline	7,623	7,735	7,824	8,026	8,180	8,359	8,494	8,593	8,713	8,846	8,980	8,375.08
Scenario 2	7,623	7,640	9,532	9,481	9,709	9,740	9,712	9,685	9,698	9,726	9,769	9,469.22
Change	0.0	-94.9	1,707.5	1,454.9	1,529.0	1,381.3	1,218.2	1,092.3	984.8	879.6	788.8	1,094.14
% chg	0.00%	-1.23%	21.82%	18.13%	18.69%	16.52%	14.34%	12.71%	11.30%	9.94%	8.78%	13.10%
Consumption												
Baseline	8,800	8,903	9,046	9,203	9,396	9,582	9,802	10,075	10,412	10,782	11,149	9,834.95
Scenario 2	8,800	6,171	7,607	7,553	8,002	8,363	8,696	9,066	9,502	9,950	10,390	8,529.91
Change	0.0	-2,732.1	-1,439.3	-1,650.3	-1,394.3	-1,218.1	-1,105.9	-1,009.1	-910.7	-831.5	-759.2	-1,305.04
% chg	0.00%	-30.69%	-15.91%	-17.93%	-14.84%	-12.71%	-11.28%	-10.02%	-8.75%	-7.71%	-6.81%	-13.66%
Colombia												
Production												
Baseline	2,265	2,290	2,309	2,350	2,382	2,429	2,472	2,511	2,555	2,600	2,646	2,454.63
Scenario 2	2,265	2,290	2,435	2,438	2,469	2,495	2,515	2,537	2,563	2,588	2,614	2,494.41
Change	0.0	0.0	126.0	88.1	86.7	66.4	43.4	25.2	7.4	-12.7	-32.7	39.78
% chg	0.00%	0.00%	5.45%	3.75%	3.64%	2.74%	1.76%	1.00%	0.29%	-0.49%	-1.24%	1.69%
Consumption												
Baseline	1,350	1,378	1,398	1,425	1,447	1,472	1,499	1,524	1,549	1,573	1,597	1,486.29
Scenario 2	1,350	1,307	1,375	1,391	1,422	1,453	1,481	1,509	1,537	1,565	1,591	1,463.12
Change	0.0	-70.5	-23.0	-33.9	-24.4	-19.8	-18.2	-15.5	-11.7	-8.7	-6.0	-23.17
% chg	0.00%	-5.12%	-1.64%	-2.38%	-1.69%	-1.34%	-1.22%	-1.02%	-0.76%	-0.55%	-0.37%	-1.61%
Cuba												
Production												
Baseline	3,200	3,329	3,463	3,608	3,758	3,918	4,083	4,253	4,428	4,610	4,798	4,024.91
Scenario 2	3,200	3,296	3,704	3,989	4,298	4,608	4,903	5,191	5,474	5,747	6,015	4,722.58
Change	0.0	-32.9	241.0	380.6	539.9	690.0	819.8	938.6	1,045.3	1,137.1	1,217.2	697.67
% chg	0.00%	-0.99%	6.96%	10.55%	14.37%	17.61%	20.08%	22.07%	23.60%	24.66%	25.37%	16.43%
Consumption												
Baseline	700	718	728	744	754	769	784	798	812	826	839	777.13
Scenario 2	700	574	647	651	671	690	708	724	741	758	774	693.96
Change	0.0	-143.4	-80.7	-92.6	-83.3	-78.3	-76.5	-74.1	-70.3	-67.5	-65.0	-83.17
% chg	0.00%	-19.97%	-11.09%	-12.44%	-11.05%	-10.18%	-9.76%	-9.29%	-8.66%	-8.17%	-7.75%	-10.84%
Eastern Europe												
Production												
Baseline	3,188	3,363	3,326	3,303	3,285	3,269	3,253	3,238	3,222	3,207	3,191	3,265.61
Scenario 2	3,188	3,363	3,221	3,096	3,050	3,019	2,997	2,981	2,967	2,952	2,937	3,058.26
Change	0.0	0.0	-104.7	-206.8	-235.1	-249.6	-255.9	-256.6	-255.0	-254.2	-254.2	-207.34
% chg	0.00%	0.00%	-3.15%	-6.26%	-7.16%	-7.63%	-7.86%	-7.93%	-7.93%	-7.95%	-7.97%	-6.38%
Consumption												
Baseline	4,217	4,263	4,295	4,326	4,347	4,364	4,377	4,381	4,379	4,371	4,356	4,346.01
Scenario 2	4,217	4,302	4,365	4,390	4,413	4,433	4,446	4,451	4,450	4,443	4,427	4,412.02
Change	0.0	39.0	70.4	64.1	66.6	68.6	69.4	69.5	70.5	71.1	71.0	66.01
% chg	0.00%	0.91%	1.64%	1.48%	1.53%	1.57%	1.58%	1.59%	1.61%	1.63%	1.63%	1.52%
Egypt												
Production												
Baseline	1,375	1,410	1,437	1,462	1,487	1,512	1,537	1,563	1,589	1,615	1,642	1,525.31
Scenario 2	1,375	1,276	1,398	1,407	1,445	1,488	1,534	1,585	1,645	1,709	1,777	1,526.41
Change	0.0	-133.5	-39.3	-55.2	-41.9	-23.7	-3.3	22.3	56.1	93.6	135.7	1.10
% chg	0.00%	-9.47%	-2.73%	-3.77%	-2.82%	-1.57%	-0.22%	1.43%	3.53%	5.80%	8.27%	-0.16%
Consumption												
Baseline	2,080	2,137	2,177	2,233	2,277	2,331	2,389	2,441	2,496	2,552	2,608	2,364.13
Scenario 2	2,080	1,550	1,840	1,847	1,924	1,996	2,059	2,119	2,187	2,253	2,317	2,009.15
Change	0.0	-587.3	-337.8	-385.9	-352.6	-334.7	-329.8	-322.2	-309.0	-299.3	-291.2	-354.97
% chg	0.00%	-27.48%	-15.52%	-17.28%	-15.49%	-14.36%	-13.81%	-13.20%	-12.38%	-11.73%	-11.16%	-15.24%
European Union												
Production												
Baseline	16,178	17,835	18,013	18,141	18,318	18,522	18,746	18,982	19,229	19,486	19,752	18,702.35
Scenario 2	16,178	9,248	7,762	6,533	6,271	6,340	6,544	6,836	7,201	7,584	7,988	7,230.69
Change	0.0	-8,586.1	-10,250.8	-11,607.4	-12,046.5	-12,182.6	-12,202.2	-12,146.0	-12,028.3	-11,902.3	-11,764.5	-11,471.66
% chg	0.00%	-48.14%	-56.91%	-63.98%	-65.76%	-65.77%	-65.09%	-63.99%	-62.55%	-61.08%	-59.56%	-61.28%
Consumption												
Baseline	14,700	14,768	14,815	14,851	14,888	14,921	14,950	14,982	15,015	15,050	15,088	14,932.70
Scenario 2	14,700	14,995	15,356	15,336	15,367	15,405	15,429	15,446	15,474	15,499	15,520	15,382.79
Change	0.0	227.4	541.0	484.6	479.4	484.0	479.6	464.7	458.4	449.3	432.5	450.09
% chg	0.00%	1.54%	3.65%	3.26%	3.22%	3.24%	3.21%	3.10%	3.05%	2.99%	2.87%	3.01%

Table C2: (continued)

	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	Average ^[1]
Former Soviet Union												
Production	(Thousand Metric Tons)											
Baseline	4,111	4,250	4,327	4,412	4,462	4,529	4,580	4,614	4,650	4,686	4,719	4,523.13
Scenario 2	4,111	4,250	4,936	4,918	4,983	4,993	4,964	4,926	4,896	4,858	4,821	4,854.56
Change	0.0	0.0	608.1	506.2	520.6	463.4	383.8	312.7	245.5	172.3	101.7	331.43
% chg	0.00%	0.00%	14.05%	11.47%	11.67%	10.23%	8.38%	6.78%	5.28%	3.68%	2.16%	7.37%
Consumption												
Baseline	11,649	11,819	11,846	11,985	12,013	12,124	12,256	12,348	12,453	12,565	12,654	12,206.35
Scenario 2	11,649	11,548	11,814	11,914	11,973	12,101	12,239	12,339	12,454	12,574	12,669	12,162.57
Change	0.0	-270.7	-32.2	-70.4	-40.4	-23.3	-16.9	-9.7	1.3	9.2	15.3	-43.78
% chg	0.00%	-2.29%	-0.27%	-0.59%	-0.34%	-0.19%	-0.14%	-0.08%	0.01%	0.07%	0.12%	-0.37%
India												
Production												
Baseline	18,350	18,801	19,206	19,641	20,070	20,507	20,940	21,371	21,804	22,237	22,670	20,724.70
Scenario 2	18,350	17,735	18,327	18,485	18,989	19,497	20,001	20,521	21,054	21,576	22,095	19,827.87
Change	0.0	-1,066.5	-879.0	-1,155.8	-1,081.0	-1,009.6	-939.5	-850.5	-749.4	-661.1	-575.9	-896.82
% chg	0.00%	-5.67%	-4.58%	-5.88%	-5.39%	-4.92%	-4.49%	-3.98%	-3.44%	-2.97%	-2.54%	-4.39%
Consumption												
Baseline	18,000	18,426	18,795	19,234	19,633	20,065	20,511	20,947	21,392	21,842	22,291	20,313.63
Scenario 2	18,000	17,425	18,591	18,856	19,445	19,961	20,435	20,934	21,457	21,971	22,488	20,156.38
Change	0.0	-1,001.7	-204.2	-378.3	-187.3	-104.3	-75.3	-12.7	65.2	129.1	196.9	-157.25
% chg	0.00%	-5.44%	-1.09%	-1.97%	-0.95%	-0.52%	-0.37%	-0.06%	0.30%	0.59%	0.88%	-0.86%
Indonesia												
Production												
Baseline	1,700	1,619	1,593	1,593	1,617	1,652	1,694	1,739	1,788	1,838	1,889	1,702.10
Scenario 2	1,700	1,564	2,148	2,253	2,424	2,574	2,702	2,831	2,976	3,119	3,266	2,585.88
Change	0.0	-54.2	555.0	659.9	807.5	921.7	1,008.1	1,092.2	1,188.7	1,281.2	1,377.5	883.78
% chg	0.00%	-3.35%	34.84%	41.43%	49.95%	55.79%	59.50%	62.80%	66.49%	69.71%	72.93%	51.01%
Consumption												
Baseline	3,400	3,481	3,569	3,676	3,788	3,905	4,031	4,155	4,288	4,431	4,585	3,990.96
Scenario 2	3,400	3,256	3,386	3,463	3,560	3,664	3,774	3,880	3,998	4,124	4,258	3,736.33
Change	0.0	-224.3	-183.1	-213.8	-228.2	-240.8	-256.7	-274.5	-290.1	-307.3	-327.4	-254.63
% chg	0.00%	-6.44%	-5.13%	-5.82%	-6.02%	-6.17%	-6.37%	-6.61%	-6.77%	-6.93%	-7.14%	-6.34%
Iran												
Production												
Baseline	775	742	749	759	768	779	789	799	809	819	825	783.70
Scenario 2	775	742	790	802	814	824	831	839	847	854	858	820.02
Change	0.0	0.0	41.6	42.6	46.3	44.7	42.1	40.0	37.8	35.3	32.7	36.32
% chg	0.00%	0.00%	5.56%	5.62%	6.02%	5.74%	5.34%	5.00%	4.67%	4.31%	3.97%	4.62%
Consumption												
Baseline	2,000	2,057	2,118	2,187	2,256	2,329	2,404	2,480	2,558	2,638	2,720	2,374.63
Scenario 2	2,000	1,942	2,036	2,097	2,173	2,249	2,324	2,402	2,482	2,564	2,648	2,291.74
Change	0.0	-115.2	-81.6	-90.2	-82.5	-80.0	-79.8	-78.1	-75.6	-73.9	-71.8	-82.88
% chg	0.00%	-5.60%	-3.86%	-4.13%	-3.66%	-3.43%	-3.32%	-3.15%	-2.96%	-2.80%	-2.64%	-3.55%
Japan												
Production												
Baseline	795	803	814	827	840	852	863	873	882	891	898	854.26
Scenario 2	795	803	674	546	443	360	291	236	195	166	146	385.92
Change	0.0	0.0	-140.4	-281.9	-396.3	-492.2	-572.1	-636.8	-687.0	-725.0	-751.6	-468.34
% chg	0.00%	0.00%	-17.25%	-34.07%	-47.19%	-57.77%	-66.30%	-72.95%	-77.88%	-81.41%	-83.71%	-53.85%
Consumption												
Baseline	2,350	2,341	2,344	2,354	2,364	2,376	2,388	2,400	2,411	2,423	2,433	2,383.36
Scenario 2	2,350	2,381	2,409	2,413	2,421	2,432	2,441	2,448	2,456	2,462	2,467	2,433.09
Change	0.0	40.1	64.6	58.6	57.6	56.2	53.3	48.9	44.6	39.6	33.7	49.72
% chg	0.00%	1.71%	2.76%	2.49%	2.44%	2.37%	2.23%	2.04%	1.85%	1.63%	1.39%	2.09%
Malaysia												
Production												
Baseline	112	116	121	125	129	132	136	140	144	149	153	134.52
Scenario 2	112	133	171	178	188	196	201	204	208	211	214	190.32
Change	0.0	16.3	50.6	53.0	59.9	63.6	64.2	63.6	63.2	62.3	61.4	55.80
% chg	0.00%	13.95%	41.93%	42.49%	46.59%	47.98%	47.08%	45.29%	43.76%	41.97%	40.19%	41.12%
Consumption												
Baseline	1,100	1,145	1,185	1,227	1,267	1,313	1,363	1,412	1,463	1,515	1,567	1,345.74
Scenario 2	1,100	1,065	1,115	1,148	1,185	1,230	1,278	1,323	1,371	1,420	1,468	1,260.34
Change	0.0	-80.2	-70.3	-78.6	-81.3	-83.3	-85.8	-89.2	-91.9	-94.8	-98.6	-85.40
% chg	0.00%	-7.00%	-5.93%	-6.41%	-6.42%	-6.35%	-6.29%	-6.31%	-6.28%	-6.26%	-6.29%	-6.35%

Table C2: (continued)

	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	Average ^[1]
Mexico												
Production	(Thousand Metric Tons)											
Baseline	5,092	5,277	5,423	5,560	5,690	5,817	6,037	6,248	6,467	6,688	6,850	6,005.68
Scenario 2	5,092	5,277	5,485	5,003	5,081	5,214	5,424	5,645	5,914	6,174	6,377	5,559.28
Change	0.0	0.0	61.9	-556.9	-608.6	-603.7	-613.0	-603.7	-553.1	-514.4	-472.3	-446.40
% chg	0.00%	0.00%	1.14%	-10.02%	-10.70%	-10.38%	-10.16%	-9.66%	-8.55%	-7.69%	-6.90%	-7.29%
Consumption												
Baseline	4,543	4,574	4,607	4,655	4,705	4,747	4,810	4,870	4,931	4,990	5,047	4,793.55
Scenario 2	4,543	4,599	4,661	4,704	4,759	4,804	4,869	4,931	4,994	5,056	5,114	4,849.27
Change	0.0	25.0	54.6	49.1	53.6	57.2	59.4	61.1	63.8	66.0	67.4	55.72
% chg	0.00%	0.55%	1.18%	1.05%	1.14%	1.20%	1.23%	1.26%	1.29%	1.32%	1.34%	1.16%
Morocco												
Production												
Baseline	545	537	545	553	563	572	582	592	603	613	623	578.34
Scenario 2	545	522	562	565	575	584	593	603	613	624	634	587.60
Change	0.0	-14.8	17.1	11.7	12.5	12.2	11.3	10.6	10.8	10.6	10.6	9.26
% chg	0.00%	-2.76%	3.14%	2.12%	2.22%	2.13%	1.93%	1.79%	1.78%	1.74%	1.70%	1.58%
Consumption												
Baseline	1,000	1,028	1,049	1,074	1,095	1,120	1,145	1,168	1,192	1,217	1,241	1,132.94
Scenario 2	1,000	977	1,012	1,032	1,049	1,073	1,098	1,124	1,150	1,177	1,203	1,089.49
Change	0.0	-51.3	-36.9	-42.2	-46.3	-46.6	-47.1	-44.7	-42.0	-39.9	-37.6	-43.45
% chg	0.00%	-4.98%	-3.51%	-3.93%	-4.23%	-4.16%	-4.12%	-3.82%	-3.52%	-3.28%	-3.03%	-3.86%
Pakistan												
Production												
Baseline	3,006	2,994	3,012	3,051	3,107	3,174	3,247	3,326	3,408	3,492	3,579	3,238.97
Scenario 2	3,006	2,994	3,358	3,416	3,516	3,577	3,630	3,689	3,748	3,805	3,863	3,559.56
Change	0.0	0.0	346.5	364.9	408.8	403.1	382.6	362.9	340.1	312.3	284.6	320.59
% chg	0.00%	0.00%	11.51%	11.96%	13.16%	12.70%	11.78%	10.91%	9.98%	8.94%	7.95%	9.89%
Consumption												
Baseline	3,450	3,478	3,502	3,539	3,577	3,625	3,682	3,745	3,817	3,898	3,988	3,685.28
Scenario 2	3,450	3,123	3,260	3,266	3,331	3,387	3,444	3,512	3,591	3,677	3,773	3,436.47
Change	0.0	-355.0	-242.2	-272.7	-246.3	-238.3	-238.7	-233.3	-226.0	-220.9	-214.8	-248.81
% chg	0.00%	-10.21%	-6.92%	-7.70%	-6.89%	-6.57%	-6.48%	-6.23%	-5.92%	-5.67%	-5.39%	-6.80%
Peru												
Production												
Baseline	810	840	875	907	935	964	991	1,018	1,045	1,072	1,100	974.77
Scenario 2	810	840	923	942	971	994	1,015	1,036	1,058	1,080	1,102	996.30
Change	0.0	0.0	47.4	35.0	36.0	30.2	23.6	18.6	13.9	8.1	2.4	21.53
% chg	0.00%	0.00%	5.42%	3.86%	3.85%	3.14%	2.38%	1.83%	1.33%	0.76%	0.22%	2.28%
Consumption												
Baseline	880	897	910	929	945	966	989	1,012	1,038	1,065	1,095	984.67
Scenario 2	880	847	891	903	925	949	973	998	1,026	1,056	1,087	965.47
Change	0.0	-49.9	-19.2	-26.3	-20.1	-17.1	-16.0	-14.2	-11.7	-9.7	-7.9	-19.20
% chg	0.00%	-5.56%	-2.11%	-2.84%	-2.13%	-1.77%	-1.62%	-1.41%	-1.13%	-0.91%	-0.72%	-2.02%
Philippines												
Production												
Baseline	1,800	1,789	1,794	1,818	1,845	1,874	1,902	1,929	1,955	1,982	2,008	1,889.67
Scenario 2	1,800	1,789	1,980	1,964	1,993	1,986	1,971	1,961	1,948	1,932	1,915	1,943.82
Change	0.0	0.0	185.3	146.1	147.2	111.9	69.4	32.1	-7.4	-50.3	-92.9	54.15
% chg	0.00%	0.00%	10.33%	8.04%	7.98%	5.97%	3.65%	1.67%	-0.38%	-2.54%	-4.62%	3.01%
Consumption												
Baseline	1,950	1,984	2,010	2,042	2,067	2,096	2,129	2,159	2,191	2,222	2,250	2,115.09
Scenario 2	1,950	1,867	1,978	1,991	2,036	2,074	2,110	2,147	2,188	2,225	2,261	2,087.65
Change	0.0	-116.9	-32.7	-51.6	-30.7	-21.9	-18.9	-12.1	-3.7	3.3	10.8	-27.44
% chg	0.00%	-5.89%	-1.63%	-2.53%	-1.49%	-1.05%	-0.89%	-0.56%	-0.17%	0.15%	0.48%	-1.36%
South Africa												
Production												
Baseline	2,690	2,940	3,076	3,167	3,235	3,291	3,342	3,389	3,435	3,480	3,524	3,288.02
Scenario 2	2,690	2,940	3,234	3,333	3,431	3,500	3,554	3,606	3,653	3,694	3,733	3,467.87
Change	0.0	0.0	157.8	165.9	196.9	208.2	212.2	216.6	218.0	214.3	208.5	179.85
% chg	0.00%	0.00%	5.13%	5.24%	6.09%	6.32%	6.35%	6.39%	6.35%	6.16%	5.92%	5.39%
Consumption												
Baseline	1,665	1,685	1,700	1,718	1,732	1,732	1,738	1,745	1,745	1,746	1,748	1,728.80
Scenario 2	1,665	1,673	1,693	1,709	1,724	1,724	1,730	1,737	1,738	1,738	1,741	1,720.64
Change	0.0	-12.0	-7.2	-8.8	-8.1	-7.9	-7.9	-7.8	-7.5	-7.2	-7.0	-8.15
% chg	0.00%	-0.71%	-0.43%	-0.51%	-0.47%	-0.46%	-0.46%	-0.45%	-0.43%	-0.41%	-0.40%	-0.47%

Table C2: (continued)

	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	Average ^[1]
South Korea												
Production	(Thousand Metric Tons)											
Baseline	0	0	0	0	0	0	0	0	0	0	0	0.00
Scenario 2	0	0	0	0	0	0	0	0	0	0	0	0.00
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
% chg	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Consumption												
Baseline	1,230	1,293	1,342	1,396	1,437	1,483	1,530	1,570	1,608	1,644	1,675	1,497.67
Scenario 2	1,230	1,305	1,392	1,440	1,493	1,546	1,596	1,641	1,686	1,727	1,764	1,558.92
Change	0.0	11.9	50.6	44.3	56.0	62.4	66.1	71.5	77.7	83.2	88.7	61.25
% chg	0.00%	0.92%	3.77%	3.17%	3.90%	4.21%	4.32%	4.56%	4.83%	5.06%	5.30%	4.00%
Thailand												
Production												
Baseline	5,225	5,505	5,697	5,866	6,032	6,199	6,369	6,541	6,717	6,895	7,012	6,283.39
Scenario 2	5,225	5,505	5,812	5,941	6,100	6,241	6,386	6,541	6,700	6,861	6,961	6,304.78
Change	0.0	0.0	114.3	74.2	68.0	42.5	17.7	-0.3	-17.3	-34.6	-50.6	21.39
% chg	0.00%	0.00%	2.01%	1.27%	1.13%	0.69%	0.28%	0.00%	-0.26%	-0.50%	-0.72%	0.39%
Consumption												
Baseline	1,750	1,807	1,862	1,922	1,982	2,047	2,114	2,183	2,254	2,327	2,401	2,090.00
Scenario 2	1,750	1,673	1,827	1,865	1,952	2,028	2,101	2,179	2,261	2,343	2,428	2,065.81
Change	0.0	-134.2	-35.3	-57.0	-30.1	-18.2	-13.7	-4.3	7.1	16.7	27.0	-24.19
% chg	0.00%	-7.43%	-1.89%	-2.97%	-1.52%	-0.89%	-0.65%	-0.20%	0.31%	0.72%	1.13%	-1.34%
Turkey												
Production												
Baseline	1,900	1,964	1,956	1,975	2,002	2,038	2,075	2,112	2,150	2,190	2,212	2,067.43
Scenario 2	1,900	1,134	1,853	2,169	2,542	2,856	3,100	3,301	3,484	3,631	3,733	2,780.43
Change	0.0	-829.4	-102.6	193.7	539.5	817.3	1,024.6	1,189.9	1,334.1	1,441.4	1,521.4	713.00
% chg	0.00%	-42.23%	-5.25%	9.81%	26.95%	40.09%	49.38%	56.35%	62.04%	65.83%	68.78%	33.17%
Consumption												
Baseline	2,000	2,041	2,077	2,117	2,154	2,194	2,234	2,274	2,314	2,355	2,395	2,215.55
Scenario 2	2,000	2,046	2,104	2,140	2,183	2,225	2,267	2,309	2,352	2,395	2,438	2,245.98
Change	0.0	5.6	26.4	22.8	28.5	31.4	32.9	35.3	38.0	40.4	42.9	30.43
% chg	0.00%	0.28%	1.27%	1.08%	1.32%	1.43%	1.47%	1.55%	1.64%	1.72%	1.79%	1.36%
United States												
Production												
Baseline	7,189	7,924	8,065	8,034	7,983	7,942	7,906	7,917	7,940	7,958	7,983	7,965.40
Scenario 2	7,189	7,924	7,824	7,204	7,230	7,296	7,348	7,386	7,463	7,538	7,614	7,482.78
Change	0.0	0.0	-240.9	-829.7	-753.4	-646.8	-558.6	-531.3	-477.1	-419.7	-368.9	-482.62
% chg	0.00%	0.00%	-2.99%	-10.33%	-9.44%	-8.14%	-7.07%	-6.71%	-6.01%	-5.27%	-4.62%	-6.06%
Consumption												
Baseline	9,335	9,469	9,669	9,853	10,026	10,203	10,362	10,517	10,676	10,834	10,976	10,258.58
Scenario 2	9,335	9,504	9,776	9,921	10,082	10,251	10,409	10,557	10,711	10,859	10,993	10,306.18
Change	0.0	34.5	106.3	68.1	56.0	47.8	47.0	40.5	34.2	24.7	16.9	47.60
% chg	0.00%	0.36%	1.10%	0.69%	0.56%	0.47%	0.45%	0.38%	0.32%	0.23%	0.15%	0.47%
Venezuela												
Production												
Baseline	710	711	721	731	740	748	756	763	770	776	782	749.92
Scenario 2	710	711	748	760	775	785	792	798	803	807	809	778.81
Change	0.0	0.0	26.8	29.0	34.7	36.4	36.1	35.2	33.4	30.5	26.9	28.89
% chg	0.00%	0.00%	3.72%	3.96%	4.68%	4.86%	4.77%	4.61%	4.34%	3.93%	3.44%	3.83%
Consumption												
Baseline	850	856	861	868	873	879	885	889	892	896	898	879.56
Scenario 2	850	805	837	838	848	856	863	868	874	879	882	855.09
Change	0.0	-50.7	-23.2	-30.1	-24.8	-22.3	-21.7	-20.4	-18.5	-17.1	-15.8	-24.47
% chg	0.00%	-5.92%	-2.70%	-3.46%	-2.84%	-2.54%	-2.45%	-2.30%	-2.08%	-1.91%	-1.76%	-2.80%

[1] Average is the average for the period 2002/03 to 2011/12.

Scenario 2 = Trade Liberalization and Domestic Production Subsidy Reforms

Table D1: Impacts of Full Market Liberalization Reform on Sugar Price and Trade

	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	Average ^[1]
Net Exporters												
(Thousand Metric Tons)												
Argentina												
Baseline	90	114	135	136	143	134	123	115	105	95	88	118.83
Scenario 3	90	242	329	298	291	260	234	214	191	168	148	237.49
Change	0.0	128.6	193.9	161.7	148.0	126.1	110.7	99.0	85.9	72.6	60.0	118.65
% chg	0.00%	113.09%	143.39%	118.69%	103.76%	94.12%	90.03%	85.96%	81.47%	76.09%	68.53%	97.51%
Australia												
Baseline	3,646	4,007	4,398	4,811	4,920	5,025	5,130	5,238	5,346	5,456	5,568	4,989.95
Scenario 3	3,646	4,142	5,043	5,548	5,722	5,845	5,938	6,018	6,097	6,175	6,259	5,678.64
Change	0.0	135.5	644.3	736.5	802.8	819.8	807.6	780.1	750.9	718.8	690.6	688.69
% chg	0.00%	3.38%	14.65%	15.31%	16.32%	16.31%	15.74%	14.89%	14.04%	13.17%	12.40%	13.62%
Brazil												
Baseline	9,500	10,919	11,147	11,295	11,243	11,351	11,401	11,377	11,406	11,456	11,521	11,311.48
Scenario 3	9,500	12,204	15,272	16,056	16,471	16,686	16,706	16,621	16,564	16,500	16,442	15,952.01
Change	0.0	1,284.9	4,125.1	4,761.1	5,227.5	5,335.0	5,305.1	5,243.4	5,158.6	5,043.8	4,920.7	4,640.53
% chg	0.00%	11.77%	37.01%	42.15%	46.50%	47.00%	46.53%	46.09%	45.23%	44.03%	42.71%	40.90%
Colombia												
Baseline	920	913	913	924	936	956	972	987	1,006	1,027	1,050	968.40
Scenario 3	920	986	1,051	1,038	1,037	1,031	1,022	1,016	1,013	1,010	1,010	1,021.43
Change	0.0	73.6	138.2	113.6	100.6	75.0	50.1	28.7	6.7	-16.6	-39.6	53.03
% chg	0.00%	8.06%	15.13%	12.29%	10.74%	7.84%	5.15%	2.91%	0.67%	-1.62%	-3.77%	5.74%
Cuba												
Baseline	2,700	2,625	2,741	2,863	3,002	3,145	3,293	3,449	3,611	3,778	3,953	3,245.84
Scenario 3	2,700	2,935	3,256	3,551	3,845	4,133	4,408	4,681	4,944	5,200	5,452	4,240.52
Change	0.0	310.7	515.4	687.7	842.7	988.0	1,115.4	1,231.9	1,333.6	1,421.7	1,499.8	994.68
% chg	0.00%	11.84%	18.80%	24.02%	28.07%	31.42%	33.87%	35.72%	36.94%	37.63%	37.94%	29.63%
European Union												
Baseline	1,850	3,065	3,170	3,248	3,385	3,555	3,753	3,960	4,177	4,403	4,634	3,734.87
Scenario 3	1,850	-5,841	-7,795	-8,927	-9,202	-9,162	-8,973	-8,688	-8,346	-7,983	-7,594	-8,251.26
Change	0.0	-8,906.6	-10,964.4	-12,175.3	-12,587.0	-12,717.8	-12,725.9	-12,647.8	-12,522.8	-12,385.8	-12,227.9	-11,986.13
% chg	0.00%	-290.57%	-345.93%	-374.80%	-371.89%	-357.70%	-339.13%	-319.42%	-299.82%	-281.33%	-263.87%	-324.45%
India												
Baseline	1,000	1,067	915	784	728	673	622	589	559	530	507	697.32
Scenario 3	1,000	1,422	26	-90	-348	-423	-410	-415	-424	-422	-426	-151.07
Change	0.0	354.7	-889.4	-873.9	-1,075.7	-1,096.3	-1,031.9	-1,004.0	-983.1	-951.7	-932.7	-848.39
% chg	0.00%	33.25%	-97.19%	-111.41%	-147.84%	-162.89%	-165.95%	-170.43%	-175.91%	-179.62%	-184.10%	-136.21%
Mexico												
Baseline	530	702	819	909	991	1,076	1,234	1,386	1,546	1,707	1,812	1,218.33
Scenario 3	530	667	771	272	291	380	526	686	894	1,093	1,238	681.85
Change	0.0	-35.2	-47.8	-636.7	-700.5	-696.8	-708.1	-700.1	-652.1	-614.6	-573.1	-536.48
% chg	0.00%	-5.01%	-5.83%	-70.06%	-70.68%	-64.73%	-57.36%	-50.49%	-42.19%	-36.00%	-31.64%	-43.40%
Pakistan												
Baseline	-200	-288	-416	-459	-457	-445	-431	-415	-405	-401	-404	-412.19
Scenario 3	-200	52	153	159	177	175	168	158	138	109	72	136.09
Change	0.0	339.3	569.6	618.2	634.8	620.0	598.9	573.3	542.9	509.9	475.9	548.28
% chg	0.00%	-117.93%	-136.82%	-134.76%	-138.80%	-139.24%	-139.10%	-137.98%	-133.99%	-127.09%	-117.79%	-132.35%
South Africa												
Baseline	1,230	1,221	1,369	1,440	1,503	1,551	1,594	1,634	1,677	1,718	1,763	1,547.00
Scenario 3	1,230	1,292	1,515	1,615	1,701	1,759	1,807	1,850	1,893	1,930	1,969	1,733.03
Change	0.0	71.5	146.2	174.7	197.8	207.8	213.0	216.3	215.6	211.5	205.9	186.03
% chg	0.00%	5.86%	10.68%	12.13%	13.16%	13.40%	13.37%	13.24%	12.86%	12.31%	11.68%	11.87%
Thailand												
Baseline	3,550	3,662	3,816	3,925	4,042	4,144	4,241	4,347	4,452	4,562	4,607	4,179.72
Scenario 3	3,550	3,818	3,943	4,042	4,121	4,186	4,256	4,335	4,413	4,496	4,515	4,212.42
Change	0.0	156.3	127.0	116.3	79.3	42.2	14.8	-11.9	-39.7	-65.8	-91.5	32.70
% chg	0.00%	4.27%	3.33%	2.96%	1.96%	1.02%	0.35%	-0.27%	-0.89%	-1.44%	-1.99%	0.93%
Total Exports ^[2]												
Baseline	25,316	28,293	29,423	30,337	30,892	31,611	32,366	33,088	33,893	34,741	35,508	32,015.18
Scenario 3	25,316	29,534	33,246	34,512	35,657	36,380	36,831	37,117	37,405	37,916	38,392	35,699.10
Change	0	1,241	3,823	4,175	4,766	4,769	4,465	4,028	3,512	3,175	2,884	3,683.93
% chg	0.00%	4.39%	12.99%	13.76%	15.43%	15.09%	13.80%	12.17%	10.36%	9.14%	8.12%	11.53%
Net Importers												
Algeria												
Baseline	940	966	974	981	990	999	1,009	1,020	1,031	1,043	1,055	1,006.76
Scenario 3	940	857	915	913	930	944	956	969	983	997	1,012	947.60
Change	0.0	-108.6	-59.5	-67.8	-59.9	-55.3	-53.6	-51.2	-47.8	-45.2	-42.7	-59.16
% chg	0.00%	-11.25%	-6.10%	-6.91%	-6.05%	-5.54%	-5.31%	-5.02%	-4.64%	-4.33%	-4.05%	-5.92%

Table D1: (continued)

	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	Average ^[1]
Canada	(Thousand Metric Tons)											
Baseline	1,094	1,128	1,144	1,161	1,169	1,185	1,201	1,217	1,235	1,255	1,275	1,196.84
Scenario 3	1,094	1,030	1,081	1,094	1,109	1,126	1,142	1,160	1,180	1,201	1,222	1,134.57
Change	0.0	-97.7	-62.1	-67.1	-61.0	-58.6	-58.3	-56.9	-55.1	-53.7	-52.2	-62.27
% chg	0.00%	-8.66%	-5.43%	-5.78%	-5.21%	-4.95%	-4.86%	-4.68%	-4.46%	-4.28%	-4.10%	-5.24%
China	1,177	1,159	1,201	1,169	1,203	1,219	1,310	1,478	1,690	1,923	2,155	1,450.67
Baseline	1,177	-1,774	-1,855	-1,880	-1,619	-1,273	-916	-532	-119	293	684	-899.12
Scenario 3	0.0	-2,932.6	-3,056.3	-3,049.3	-2,822.0	-2,492.5	-2,225.9	-2,010.2	-1,808.7	-1,630.3	-1,470.1	-2,349.79
Change	0.00%	-253.11%	-254.50%	-260.81%	-234.49%	-204.44%	-169.96%	-136.01%	-107.04%	-84.76%	-68.23%	-177.34%
% chg												
Eastern Europe	1,029	897	966	1,030	1,067	1,106	1,139	1,160	1,176	1,185	1,187	1,091.26
Baseline	1,029	1,017	1,226	1,335	1,389	1,435	1,469	1,488	1,503	1,512	1,513	1,388.67
Scenario 3	0.0	120.2	259.6	305.2	321.9	329.2	330.0	328.2	327.5	326.8	325.5	297.41
Change	0.00%	13.40%	26.86%	29.65%	30.17%	29.76%	28.98%	28.30%	27.86%	27.57%	27.42%	27.00%
% chg												
Egypt	745	747	752	778	792	819	850	876	904	933	961	841.22
Baseline	745	177	324	324	359	389	408	420	430	436	434	370.04
Scenario 3	0.0	-569.8	-427.4	-454.1	-433.2	-430.4	-442.3	-456.5	-473.4	-497.4	-527.2	-471.18
Change	0.00%	-76.30%	-56.87%	-58.40%	-54.68%	-52.54%	-52.01%	-52.11%	-52.38%	-53.30%	-54.85%	-56.34%
% chg												
Former Soviet Union	6,286	7,565	7,469	7,520	7,471	7,516	7,600	7,651	7,716	7,791	7,840	7,613.89
Baseline	6,286	7,107	6,925	6,985	6,976	7,099	7,263	7,390	7,535	7,689	7,812	7,278.16
Scenario 3	0.0	-458.4	-543.8	-534.9	-495.2	-417.0	-336.8	-260.7	-181.0	-101.8	-27.7	-335.73
Change	0.00%	-6.06%	-7.28%	-7.11%	-6.63%	-5.55%	-4.43%	-3.41%	-2.35%	-1.31%	-0.35%	-4.45%
% chg												
Indonesia	1,600	1,406	1,789	2,003	2,133	2,230	2,320	2,401	2,486	2,579	2,680	2,202.74
Baseline	1,600	1,170	1,069	1,139	1,114	1,089	1,079	1,058	1,033	1,017	1,003	1,077.23
Scenario 3	0.0	-235.8	-720.0	-863.9	-1,018.5	-1,141.0	-1,241.3	-1,342.7	-1,452.8	-1,561.5	-1,677.5	-1,125.51
Change	0.00%	-16.77%	-40.25%	-43.12%	-47.75%	-51.15%	-53.51%	-55.92%	-58.44%	-60.56%	-62.59%	-49.01%
% chg												
Iran	1,200	1,304	1,357	1,419	1,478	1,540	1,606	1,672	1,740	1,810	1,885	1,581.21
Baseline	1,200	1,154	1,232	1,285	1,353	1,422	1,491	1,561	1,634	1,708	1,788	1,462.67
Scenario 3	0.0	-149.8	-124.5	-134.2	-124.9	-118.8	-115.8	-111.5	-106.4	-102.1	-97.6	-118.55
Change	0.00%	-11.49%	-9.17%	-9.46%	-8.46%	-7.71%	-7.21%	-6.67%	-6.11%	-5.64%	-5.18%	-7.71%
% chg												
Japan	1,548	1,553	1,536	1,529	1,524	1,524	1,525	1,527	1,529	1,532	1,535	1,531.41
Baseline	1,548	1,599	1,695	1,782	1,856	1,927	1,988	2,037	2,080	2,116	2,145	1,922.46
Scenario 3	0.0	45.4	159.7	252.6	331.7	403.0	462.6	510.5	550.8	583.9	610.4	391.05
Change	0.00%	2.92%	10.40%	16.52%	21.76%	26.45%	30.34%	33.44%	36.02%	38.11%	39.77%	25.57%
% chg												
Malaysia	1,125	1,051	1,079	1,113	1,144	1,185	1,229	1,272	1,318	1,365	1,412	1,216.80
Baseline	1,125	953	960	983	1,005	1,040	1,082	1,123	1,166	1,211	1,256	1,077.81
Scenario 3	0.0	-98.0	-119.4	-130.1	-139.2	-144.3	-147.1	-149.6	-151.8	-153.8	-156.5	-138.99
Change	0.00%	-9.33%	-11.06%	-11.69%	-12.16%	-12.18%	-11.97%	-11.76%	-11.52%	-11.27%	-11.08%	-11.40%
% chg												
Morocco	455	490	504	521	534	549	565	578	592	606	619	555.86
Baseline	455	387	374	390	395	407	420	435	449	463	460	417.92
Scenario 3	0.0	-102.7	-130.8	-131.4	-139.0	-142.3	-144.5	-143.3	-142.9	-142.8	-159.6	-137.93
Change	0.00%	-20.98%	-25.92%	-25.20%	-26.02%	-25.91%	-25.60%	-24.78%	-24.15%	-23.57%	-25.78%	-24.79%
% chg												
Peru	70	57	34	20	8	0	-4	-7	-8	-8	-7	8.61
Baseline	70	7	-28	-37	-43	-42	-39	-35	-29	-21	-12	-27.90
Scenario 3	0.0	-49.4	-62.3	-57.6	-51.8	-42.8	-34.9	-28.1	-20.6	-12.8	-5.0	-36.52
Change	0.00%	-87.16%	-182.03%	-281.33%	-611.11%	-9500.16%	903.38%	411.84%	247.83%	156.71%	71.84%	-887.02%
% chg												
Philippines	133	181	204	214	211	214	220	224	229	233	236	216.54
Baseline	133	76	-3	30	48	97	150	199	252	307	360	151.62
Scenario 3	0.0	-104.6	-206.8	-183.6	-162.8	-117.2	-70.1	-25.1	23.3	73.6	124.1	-64.92
Change	0.00%	-57.77%	-101.50%	-85.93%	-77.29%	-54.69%	-31.89%	-11.20%	10.19%	31.54%	52.62%	-32.59%
% chg												
South Korea	1,225	1,311	1,352	1,402	1,439	1,483	1,528	1,567	1,604	1,640	1,671	1,499.67
Baseline	1,225	1,327	1,412	1,452	1,501	1,551	1,598	1,642	1,685	1,725	1,762	1,565.39
Scenario 3	0.0	16.3	59.3	50.2	61.7	67.2	69.9	74.9	80.7	85.7	91.2	65.72
Change	0.00%	1.24%	4.39%	3.58%	4.29%	4.53%	4.57%	4.78%	5.03%	5.23%	5.46%	4.31%
% chg												

Table D1: (continued)

	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	Average ^[1]
(Thousand Metric Tons)												
Turkey												
Baseline	-300	43	104	137	149	156	162	165	166	167	185	143.36
Scenario 3	-300	885	267	-16	-341	-610	-811	-972	-1,111	-1,215	-1,275	-519.94
Change	0.0	841.6	163.1	-153.1	-489.2	-766.2	-973.6	-1,136.2	-1,277.2	-1,382.4	-1,459.8	-663.30
% chg	0.00%	1947.76%	157.44%	-111.68%	-329.33%	-491.60%	-600.42%	-690.13%	-768.61%	-825.62%	-789.53%	-250.17%
United States												
Baseline	1,344	1,616	1,799	1,966	2,164	2,397	2,555	2,707	2,866	3,028	3,132	2,423.20
Scenario 3	1,344	1,837	2,484	2,714	2,947	3,085	3,176	3,261	3,355	3,423	3,463	2,974.49
Change	0.0	220.4	685.5	747.6	783.0	687.4	620.6	554.0	488.5	394.9	330.9	551.29
% chg	0.00%	13.64%	38.11%	38.02%	36.19%	28.67%	24.29%	20.46%	17.04%	13.04%	10.57%	24.00%
Venezuela												
Baseline	92	85	106	120	124	127	129	128	126	124	121	119.00
Scenario 3	92	40	59	65	69	73	76	77	79	81	84	70.28
Change	0.0	-44.6	-46.6	-54.7	-55.5	-54.6	-53.3	-50.9	-47.0	-42.5	-37.4	-48.71
% chg	0.00%	-52.49%	-43.92%	-45.71%	-44.71%	-42.89%	-41.40%	-39.78%	-37.28%	-34.30%	-30.92%	-41.34%
Rest of World												
Baseline	4,152	4,747	4,937	5,096	5,133	5,214	5,288	5,331	5,380	5,425	5,455	5,200.54
Scenario 3	4,152	2,369	3,728	3,306	3,357	3,411	3,452	3,495	3,570	3,630	3,674	3,399.20
Change	0.0	-2,378.5	-1,209.6	-1,789.6	-1,776.1	-1,802.9	-1,835.8	-1,835.9	-1,809.4	-1,794.9	-1,780.7	-1,801.34
% chg	0.00%	-50.10%	-24.50%	-35.12%	-34.60%	-34.58%	-34.72%	-34.44%	-33.63%	-33.08%	-32.64%	-34.74%
Total Imports ^[2]												
Baseline	25,316	28,293	29,423	30,337	30,892	31,611	32,366	33,088	33,893	34,741	35,508	32,015.18
Scenario 3	25,316	29,534	33,246	34,512	35,657	36,380	36,831	37,117	37,405	37,916	38,392	35,699.10
Change	0.0	1,241.1	3,823.0	4,175.0	4,765.8	4,769.4	4,465.2	4,028.3	3,512.2	3,175.5	2,883.9	3,683.93
% chg	0.00%	4.39%	12.99%	13.76%	15.43%	15.09%	13.80%	12.17%	10.36%	9.14%	8.12%	11.53%
(U.S. Dollars per Metric Ton)												
Sugar Prices												
FOB Caribbean Price												
Baseline	190	186	199	199	211	215	216	222	227	232	239	214.61
Scenario 3	190	406	333	348	348	344	343	346	346	347	351	351.36
Change	0.0	219.7	134.3	149.1	137.2	129.9	127.2	124.0	118.9	115.2	112.0	136.74
% chg	0.00%	118.16%	67.55%	74.98%	64.97%	60.50%	58.84%	55.77%	52.32%	49.64%	46.89%	64.96%
New York Spot												
Baseline	465	458	439	427	418	409	408	407	402	396	394	415.78
Scenario 3	465	428	355	370	370	367	365	368	368	369	373	373.40
Change	0.0	-30.8	-83.7	-56.9	-47.8	-42.1	-42.5	-38.2	-33.8	-26.5	-21.5	-42.38
% chg	0.00%	-6.71%	-19.08%	-13.33%	-11.42%	-10.30%	-10.42%	-9.39%	-8.41%	-6.69%	-5.46%	-10.12%

^[1] Average is the average for the period 2002/03 to 2011/12.

^[2] Total exports (imports) are computed by summing up all positive (negative) exports and negative (positive) imports and *not* by summing trade flows of net exporters (importers).
Scenario 3 = Full Market Liberalization Reform

Table D2: Impacts of Full Market Liberalization Reform on Sugar Production and Consumption

	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	Average ^[1]
World												
Production	(Million Metric Tons)											
Baseline	127	134	136	139	141	144	146	148	151	153	156	144.82
Scenario 3	127	123	133	134	137	140	142	145	148	150	153	140.52
Change	0.0	-10.8	-2.9	-5.1	-4.0	-3.7	-3.6	-3.5	-3.2	-3.1	-3.0	-4.30
% chg	0.00%	-8.09%	-2.15%	-3.67%	-2.87%	-2.55%	-2.47%	-2.35%	-2.15%	-2.04%	-1.94%	-3.03%
Consumption												
Baseline	132	135	137	139	142	144	146	149	151	154	156	145.25
Scenario 3	132	127	133	134	137	140	142	145	148	150	153	140.94
Change	0.0	-8.5	-4.1	-5.0	-4.3	-3.9	-3.8	-3.6	-3.4	-3.2	-3.3	-4.31
% chg	0.00%	-6.27%	-3.01%	-3.59%	-3.04%	-2.73%	-2.60%	-2.44%	-2.24%	-2.10%	-2.10%	-3.01%
Algeria												
Production	(Thousand Metric Tons)											
Baseline	10	10	10	10	10	10	10	10	10	11	11	10.35
Scenario 3	10	10	11	11	11	11	11	11	11	11	11	11.09
Change	0.0	0.0	0.8	0.8	0.9	0.9	0.9	0.8	0.8	0.7	0.7	0.74
% chg	0.00%	0.00%	7.84%	8.29%	9.05%	8.82%	8.33%	7.91%	7.47%	6.98%	6.51%	7.12%
Consumption												
Baseline	950	976	985	992	1,000	1,010	1,020	1,031	1,042	1,053	1,066	1,017.42
Scenario 3	950	870	926	925	941	955	967	980	994	1,009	1,023	959.17
Change	0.0	-106.4	-58.5	-66.7	-59.0	-54.5	-52.9	-50.5	-47.2	-44.6	-42.2	-58.25
% chg	0.00%	-10.90%	-5.94%	-6.73%	-5.90%	-5.40%	-5.18%	-4.90%	-4.53%	-4.23%	-3.96%	-5.77%
Argentina												
Production												
Baseline	1,540	1,587	1,622	1,648	1,667	1,680	1,691	1,700	1,710	1,720	1,729	1,675.39
Scenario 3	1,540	1,587	1,774	1,744	1,763	1,759	1,755	1,755	1,757	1,756	1,756	1,740.59
Change	0.0	0.0	152.7	95.8	96.6	79.1	63.5	54.9	46.6	36.1	26.6	65.20
% chg	0.00%	0.00%	9.42%	5.82%	5.80%	4.71%	3.75%	3.23%	2.72%	2.10%	1.54%	3.91%
Consumption												
Baseline	1,470	1,472	1,487	1,509	1,526	1,547	1,569	1,589	1,610	1,631	1,652	1,559.19
Scenario 3	1,470	1,371	1,434	1,445	1,472	1,498	1,521	1,544	1,568	1,592	1,616	1,506.06
Change	0.0	-101.6	-53.4	-63.9	-53.9	-49.2	-47.9	-45.2	-41.5	-38.7	-35.9	-53.13
% chg	0.00%	-6.90%	-3.59%	-4.23%	-3.53%	-3.18%	-3.06%	-2.85%	-2.58%	-2.37%	-2.17%	-3.45%
Australia												
Production												
Baseline	4,662	5,035	5,437	5,862	5,978	6,093	6,210	6,327	6,445	6,564	6,684	6,063.38
Scenario 3	4,662	5,035	6,010	6,530	6,721	6,859	6,966	7,057	7,148	7,235	7,327	6,688.85
Change	0.0	0.0	573.9	667.3	743.3	765.9	756.7	730.6	702.9	671.0	643.0	625.47
% chg	0.00%	0.00%	10.56%	11.38%	12.43%	12.57%	12.19%	11.55%	10.91%	10.22%	9.62%	10.14%
Consumption												
Baseline	1,020	1,031	1,041	1,053	1,059	1,069	1,081	1,090	1,099	1,108	1,117	1,074.69
Scenario 3	1,020	969	987	997	1,005	1,016	1,027	1,037	1,047	1,056	1,065	1,020.50
Change	0.0	-62.2	-53.6	-55.9	-53.8	-53.2	-53.4	-53.0	-52.6	-52.3	-51.9	-54.19
% chg	0.00%	-6.03%	-5.15%	-5.31%	-5.08%	-4.98%	-4.94%	-4.87%	-4.78%	-4.72%	-4.65%	-5.05%
Brazil												
Production												
Baseline	18,500	20,624	21,077	21,442	21,591	21,893	22,118	22,251	22,415	22,577	22,729	21,871.81
Scenario 3	18,500	20,607	24,379	25,292	25,960	26,369	26,538	26,597	26,667	26,699	26,713	25,582.09
Change	0.0	-16.6	3,301.4	3,849.4	4,368.5	4,475.1	4,420.0	4,345.3	4,252.7	4,122.3	3,984.5	3,710.28
% chg	0.00%	-0.08%	15.66%	17.95%	20.23%	20.44%	19.98%	19.53%	18.97%	18.26%	17.53%	16.85%
Consumption												
Baseline	9,450	9,706	9,936	10,154	10,355	10,549	10,723	10,879	11,014	11,125	11,211	10,565.25
Scenario 3	9,450	8,704	9,102	9,257	9,484	9,673	9,826	9,971	10,096	10,193	10,265	9,657.02
Change	0.0	-1,002.2	-833.7	-897.0	-871.2	-876.3	-896.7	-908.3	-918.2	-932.7	-946.1	-908.23
% chg	0.00%	-10.33%	-8.39%	-8.83%	-8.41%	-8.31%	-8.36%	-8.35%	-8.34%	-8.38%	-8.44%	-8.61%
Canada												
Production												
Baseline	115	116	116	116	116	116	116	116	116	116	117	116.21
Scenario 3	115	116	121	120	120	120	119	119	119	119	119	119.15
Change	0.0	0.0	4.7	3.7	3.7	3.4	3.1	2.9	2.8	2.6	2.4	2.94
% chg	0.00%	0.00%	4.03%	3.21%	3.19%	2.89%	2.68%	2.52%	2.42%	2.25%	2.09%	2.53%
Consumption												
Baseline	1,240	1,252	1,259	1,273	1,280	1,295	1,311	1,327	1,345	1,365	1,386	1,309.39
Scenario 3	1,240	1,175	1,199	1,210	1,222	1,239	1,255	1,272	1,292	1,313	1,335	1,251.14
Change	0.0	-77.5	-59.4	-63.2	-58.6	-56.8	-56.3	-54.9	-53.3	-52.0	-50.6	-58.25
% chg	0.00%	-6.19%	-4.72%	-4.97%	-4.58%	-4.38%	-4.29%	-4.14%	-3.96%	-3.81%	-3.65%	-4.47%

Table D2: (continued)

	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	Average ^[1]
China												
Production	(Thousand Metric Tons)											
Baseline	7,623	7,735	7,824	8,026	8,180	8,359	8,494	8,593	8,713	8,846	8,980	8,375.08
Scenario 3	7,623	7,640	9,485	9,455	9,672	9,704	9,675	9,650	9,664	9,693	9,737	9,437.40
Change	0.0	-94.9	1,660.8	1,428.5	1,491.2	1,344.9	1,181.7	1,057.1	950.5	846.5	756.9	1,062.32
% chg	0.00%	-1.23%	21.23%	17.80%	18.23%	16.09%	13.91%	12.30%	10.91%	9.57%	8.43%	12.72%
Consumption												
Baseline	8,800	8,903	9,046	9,203	9,396	9,582	9,802	10,075	10,412	10,782	11,149	9,834.95
Scenario 3	8,800	6,241	7,622	7,594	8,035	8,397	8,727	9,097	9,531	9,978	10,418	8,563.96
Change	0.0	-2,662.7	-1,424.0	-1,608.9	-1,361.0	-1,184.3	-1,074.3	-978.4	-881.6	-803.7	-731.0	-1,270.98
% chg	0.00%	-29.91%	-15.74%	-17.48%	-14.48%	-12.36%	-10.96%	-9.71%	-8.47%	-7.45%	-6.56%	-13.31%
Colombia												
Production												
Baseline	2,265	2,290	2,309	2,350	2,382	2,429	2,472	2,511	2,555	2,600	2,646	2,454.63
Scenario 3	2,265	2,290	2,429	2,433	2,462	2,488	2,508	2,528	2,554	2,579	2,605	2,487.66
Change	0.0	0.0	120.0	83.1	80.0	59.2	35.5	16.9	-1.2	-21.6	-41.7	33.03
% chg	0.00%	0.00%	5.20%	3.54%	3.36%	2.44%	1.44%	0.67%	-0.05%	-0.83%	-1.58%	1.42%
Consumption												
Baseline	1,350	1,378	1,398	1,425	1,447	1,472	1,499	1,524	1,549	1,573	1,597	1,486.29
Scenario 3	1,350	1,310	1,377	1,395	1,425	1,456	1,484	1,512	1,540	1,568	1,594	1,466.06
Change	0.0	-67.3	-21.1	-30.9	-21.6	-16.8	-15.2	-12.5	-8.6	-5.6	-2.7	-20.23
% chg	0.00%	-4.89%	-1.51%	-2.16%	-1.49%	-1.14%	-1.01%	-0.82%	-0.56%	-0.36%	-0.17%	-1.41%
Cuba												
Production												
Baseline	3,200	3,329	3,463	3,608	3,758	3,918	4,083	4,253	4,428	4,610	4,798	4,024.91
Scenario 3	3,200	3,296	3,697	3,981	4,286	4,593	4,885	5,171	5,450	5,721	5,987	4,706.75
Change	0.0	-32.9	233.8	372.4	527.9	675.2	802.0	918.0	1,021.9	1,111.2	1,189.0	681.85
% chg	0.00%	-0.99%	6.75%	10.32%	14.05%	17.23%	19.64%	21.59%	23.08%	24.10%	24.78%	16.06%
Consumption												
Baseline	700	718	728	744	754	769	784	798	812	826	839	777.13
Scenario 3	700	297	417	411	429	451	468	481	498	513	526	448.99
Change	0.0	-421.0	-311.2	-333.0	-325.3	-318.1	-316.4	-316.8	-313.8	-312.4	-313.2	-328.14
% chg	0.00%	-58.65%	-42.76%	-44.76%	-43.13%	-41.38%	-40.35%	-39.71%	-38.66%	-37.83%	-37.33%	-42.46%
Eastern Europe												
Production												
Baseline	3,188	3,363	3,326	3,303	3,285	3,269	3,253	3,238	3,222	3,207	3,191	3,265.61
Scenario 3	3,188	3,363	3,219	3,095	3,048	3,017	2,995	2,979	2,965	2,950	2,935	3,056.39
Change	0.0	0.0	-107.3	-208.4	-237.3	-251.6	-258.0	-258.7	-257.7	-257.0	-256.1	-209.22
% chg	0.00%	0.00%	-3.23%	-6.31%	-7.22%	-7.70%	-7.93%	-7.99%	-8.00%	-8.02%	-8.03%	-6.44%
Consumption												
Baseline	4,217	4,263	4,295	4,326	4,347	4,364	4,377	4,381	4,379	4,371	4,356	4,346.01
Scenario 3	4,217	4,303	4,365	4,391	4,414	4,434	4,447	4,451	4,451	4,443	4,428	4,412.67
Change	0.0	40.0	70.5	64.9	67.2	69.3	70.0	71.1	71.1	71.7	71.6	66.65
% chg	0.00%	0.94%	1.64%	1.50%	1.55%	1.59%	1.60%	1.60%	1.62%	1.64%	1.64%	1.53%
Egypt												
Production												
Baseline	1,375	1,410	1,437	1,462	1,487	1,512	1,537	1,563	1,589	1,615	1,642	1,525.31
Scenario 3	1,375	1,276	1,393	1,403	1,439	1,482	1,526	1,577	1,635	1,698	1,766	1,519.58
Change	0.0	-133.5	-43.5	-59.0	-47.5	-30.3	-11.0	13.6	46.4	83.1	124.4	-5.73
% chg	0.00%	-9.47%	-3.03%	-4.04%	-3.19%	-2.00%	-0.72%	0.87%	2.92%	5.14%	7.58%	-0.59%
Consumption												
Baseline	2,080	2,137	2,177	2,233	2,277	2,331	2,389	2,441	2,496	2,552	2,608	2,364.13
Scenario 3	2,080	1,412	1,694	1,711	1,791	1,867	1,933	1,997	2,068	2,138	2,205	1,881.57
Change	0.0	-725.7	-482.9	-522.0	-486.2	-464.1	-455.5	-444.3	-427.6	-414.6	-402.7	-482.56
% chg	0.00%	-33.95%	-22.18%	-23.38%	-21.36%	-19.91%	-19.07%	-18.20%	-17.13%	-16.24%	-15.44%	-20.69%
European Union												
Production												
Baseline	16,178	17,835	18,013	18,141	18,318	18,522	18,746	18,982	19,229	19,486	19,752	18,702.35
Scenario 3	16,178	9,248	7,727	6,510	6,240	6,309	6,512	6,804	7,168	7,552	7,956	7,202.49
Change	0.0	-8,586.1	-10,286.0	-11,631.0	-12,077.3	-12,213.4	-12,234.2	-12,178.4	-12,061.1	-11,934.7	-11,796.4	-11,499.86
% chg	0.00%	-48.14%	-57.10%	-64.11%	-65.93%	-65.94%	-65.26%	-64.16%	-62.72%	-61.25%	-59.72%	-61.43%
Consumption												
Baseline	14,700	14,768	14,815	14,851	14,888	14,921	14,950	14,982	15,015	15,050	15,088	14,932.70
Scenario 3	14,700	15,011	15,359	15,345	15,374	15,413	15,436	15,454	15,481	15,506	15,527	15,390.47
Change	0.0	243.1	544.1	493.3	486.5	491.4	486.9	471.9	465.3	455.9	439.3	457.76
% chg	0.00%	1.65%	3.67%	3.32%	3.27%	3.29%	3.26%	3.15%	3.10%	3.03%	2.91%	3.06%

Table D2: (continued)

	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	Average ^[1]
Former Soviet Union												
Production	(Thousand Metric Tons)											
Baseline	4,111	4,250	4,327	4,412	4,462	4,529	4,580	4,614	4,650	4,686	4,719	4,523.13
Scenario 3	4,111	4,250	4,909	4,894	4,951	4,957	4,926	4,887	4,855	4,817	4,781	4,822.71
Change	0.0	0.0	581.7	481.8	488.2	428.0	345.8	273.0	204.8	131.3	61.1	299.58
% chg	0.00%	0.00%	13.44%	10.92%	10.94%	9.45%	7.55%	5.92%	4.40%	2.80%	1.29%	6.67%
Consumption												
Baseline	11,649	11,819	11,846	11,985	12,013	12,124	12,256	12,348	12,453	12,565	12,654	12,206.35
Scenario 3	11,649	11,560	11,816	11,921	11,978	12,107	12,245	12,344	12,460	12,579	12,674	12,168.36
Change	0.0	-258.9	-29.7	-63.8	-35.0	-17.7	-11.5	-4.3	6.4	14.2	20.4	-37.99
% chg	0.00%	-2.19%	-0.25%	-0.53%	-0.29%	-0.15%	-0.09%	-0.03%	0.05%	0.11%	0.16%	-0.32%
India												
Production												
Baseline	18,350	18,801	19,206	19,641	20,070	20,507	20,940	21,371	21,804	22,237	22,670	20,724.70
Scenario 3	18,350	17,735	18,299	18,467	18,964	19,472	19,975	20,495	21,029	21,551	22,070	19,805.72
Change	0.0	-1,066.5	-906.8	-1,174.0	-1,105.7	-1,034.1	-964.8	-876.0	-775.0	-686.3	-600.5	-918.98
% chg	0.00%	-5.67%	-4.72%	-5.98%	-5.51%	-5.04%	-4.61%	-4.10%	-3.55%	-3.09%	-2.65%	-4.49%
Consumption												
Baseline	18,000	18,426	18,795	19,234	19,633	20,065	20,511	20,947	21,392	21,842	22,291	20,313.63
Scenario 3	18,000	17,474	18,620	18,902	19,488	20,006	20,482	20,982	21,505	22,020	22,538	20,201.73
Change	0.0	-952.6	-175.6	-331.8	-144.5	-58.7	-28.7	35.0	113.2	177.5	247.3	-111.91
% chg	0.00%	-5.17%	-0.93%	-1.73%	-0.74%	-0.29%	-0.14%	0.17%	0.53%	0.81%	1.11%	-0.64%
Indonesia												
Production												
Baseline	1,700	1,619	1,593	1,593	1,617	1,652	1,694	1,739	1,788	1,838	1,889	1,702.10
Scenario 3	1,700	1,564	2,134	2,243	2,410	2,559	2,686	2,814	2,958	3,100	3,246	2,571.33
Change	0.0	-54.2	540.8	649.9	793.3	906.7	991.7	1,074.7	1,170.1	1,261.9	1,357.6	869.22
% chg	0.00%	-3.35%	33.95%	40.80%	49.07%	54.88%	58.53%	61.79%	65.45%	68.66%	71.88%	50.17%
Consumption												
Baseline	3,400	3,481	3,569	3,676	3,788	3,905	4,031	4,155	4,288	4,431	4,585	3,990.96
Scenario 3	3,400	3,262	3,390	3,468	3,565	3,669	3,779	3,886	4,003	4,130	4,264	3,741.63
Change	0.0	-218.8	-179.6	-208.7	-223.3	-235.6	-251.2	-268.9	-284.4	-301.4	-321.3	-249.33
% chg	0.00%	-6.29%	-5.03%	-5.68%	-5.90%	-6.03%	-6.23%	-6.47%	-6.63%	-6.80%	-7.01%	-6.21%
Iran												
Production												
Baseline	775	742	749	759	768	779	789	799	809	819	825	783.70
Scenario 3	775	742	789	801	813	823	830	838	846	853	856	819.12
Change	0.0	0.0	40.6	41.9	45.3	43.7	41.1	38.9	36.7	34.2	31.7	35.42
% chg	0.00%	0.00%	5.42%	5.52%	5.89%	5.62%	5.21%	4.87%	4.54%	4.18%	3.85%	4.51%
Consumption												
Baseline	2,000	2,057	2,118	2,187	2,256	2,329	2,404	2,480	2,558	2,638	2,720	2,374.63
Scenario 3	2,000	1,945	2,038	2,100	2,176	2,251	2,327	2,405	2,485	2,567	2,651	2,294.52
Change	0.0	-112.3	-79.6	-87.4	-79.9	-77.2	-77.0	-75.2	-72.7	-70.9	-68.8	-68.8
% chg	0.00%	-5.46%	-3.76%	-4.00%	-3.54%	-3.31%	-3.20%	-3.03%	-2.84%	-2.69%	-2.53%	-3.44%
Japan												
Production												
Baseline	795	803	814	827	840	852	863	873	882	891	898	854.26
Scenario 3	795	803	723	635	567	506	454	411	376	346	321	514.23
Change	0.0	0.0	-91.1	-192.1	-273.1	-346.1	-409.0	-461.4	-506.2	-544.4	-576.9	-340.03
% chg	0.00%	0.00%	-11.18%	-23.21%	-32.53%	-40.63%	-47.39%	-52.86%	-57.38%	-61.14%	-64.25%	-39.06%
Consumption												
Baseline	2,350	2,341	2,344	2,354	2,364	2,376	2,388	2,400	2,411	2,423	2,433	2,383.36
Scenario 3	2,350	2,383	2,409	2,414	2,422	2,432	2,442	2,449	2,457	2,463	2,467	2,433.79
Change	0.0	41.6	64.9	59.4	58.3	56.9	53.9	49.5	45.2	40.1	34.3	50.43
% chg	0.00%	1.78%	2.77%	2.52%	2.47%	2.40%	2.26%	2.06%	1.87%	1.66%	1.41%	2.12%
Malaysia												
Production												
Baseline	112	116	121	125	129	132	136	140	144	149	153	134.52
Scenario 3	112	133	170	177	187	195	199	203	206	210	213	189.28
Change	0.0	16.3	49.5	52.1	58.8	62.4	63.0	62.3	61.9	61.1	60.1	54.75
% chg	0.00%	13.95%	41.06%	41.80%	45.72%	47.09%	46.18%	44.40%	42.89%	41.13%	39.39%	40.36%
Consumption												
Baseline	1,100	1,145	1,185	1,227	1,267	1,313	1,363	1,412	1,463	1,515	1,567	1,345.74
Scenario 3	1,100	1,066	1,116	1,150	1,187	1,232	1,279	1,325	1,373	1,422	1,471	1,262.16
Change	0.0	-78.5	-69.0	-76.9	-79.7	-81.5	-83.9	-87.2	-89.9	-92.8	-96.5	-83.59
% chg	0.00%	-6.85%	-5.82%	-6.27%	-6.29%	-6.21%	-6.16%	-6.18%	-6.14%	-6.13%	-6.16%	-6.22%

Table D2: (continued)

	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	Average ^[1]
Mexico												
Production	(Thousand Metric Tons)											
Baseline	5,092	5,277	5,423	5,560	5,690	5,817	6,037	6,248	6,467	6,688	6,850	6,005.68
Scenario 3	5,092	5,277	5,442	4,978	5,047	5,180	5,390	5,611	5,880	6,141	6,345	5,528.99
Change	0.0	0.0	18.9	-581.7	-642.7	-636.8	-646.9	-637.7	-587.2	-547.8	-504.9	-476.68
% chg	0.00%	0.00%	0.35%	-10.46%	-11.30%	-10.95%	-10.72%	-10.21%	-9.08%	-8.19%	-7.37%	-7.79%
Consumption												
Baseline	4,543	4,574	4,607	4,655	4,705	4,747	4,810	4,870	4,931	4,990	5,047	4,793.55
Scenario 3	4,543	4,600	4,662	4,705	4,760	4,805	4,870	4,933	4,996	5,057	5,116	4,850.27
Change	0.0	26.3	54.9	50.2	54.5	58.2	60.4	62.2	64.9	67.0	68.5	56.71
% chg	0.00%	0.57%	1.19%	1.08%	1.16%	1.23%	1.26%	1.28%	1.32%	1.34%	1.36%	1.18%
Morocco												
Production												
Baseline	545	537	545	553	563	572	582	592	603	613	623	578.34
Scenario 3	545	522	561	565	574	584	593	602	613	623	634	587.12
Change	0.0	-14.8	16.3	11.4	11.9	11.7	10.7	10.1	10.2	10.1	10.1	8.78
% chg	0.00%	-2.76%	2.99%	2.05%	2.12%	2.04%	1.84%	1.71%	1.70%	1.66%	1.62%	1.50%
Consumption												
Baseline	1,000	1,028	1,049	1,074	1,095	1,120	1,145	1,168	1,192	1,217	1,241	1,132.94
Scenario 3	1,000	906	931	951	966	988	1,010	1,034	1,059	1,084	1,109	1,003.79
Change	0.0	-122.4	-118.3	-122.7	-129.1	-132.1	-134.9	-133.9	-133.2	-133.0	-131.9	-129.15
% chg	0.00%	-11.90%	-11.28%	-11.42%	-11.78%	-11.80%	-11.78%	-11.46%	-11.17%	-10.93%	-10.63%	-11.42%
Pakistan												
Production												
Baseline	3,006	2,994	3,012	3,051	3,107	3,174	3,247	3,326	3,408	3,492	3,579	3,238.97
Scenario 3	3,006	2,994	3,348	3,408	3,505	3,566	3,618	3,677	3,735	3,792	3,851	3,549.49
Change	0.0	0.0	336.8	356.8	398.3	392.0	370.8	350.7	327.6	299.9	272.4	310.52
% chg	0.00%	0.00%	11.18%	11.69%	12.82%	12.35%	11.42%	10.54%	9.61%	8.59%	7.61%	9.58%
Consumption												
Baseline	3,450	3,478	3,502	3,539	3,577	3,625	3,682	3,745	3,817	3,898	3,988	3,685.28
Scenario 3	3,450	3,133	3,267	3,276	3,340	3,397	3,454	3,523	3,602	3,688	3,784	3,446.52
Change	0.0	-345.0	-235.0	-262.7	-236.8	-228.2	-228.3	-222.7	-215.3	-210.0	-203.6	-238.76
% chg	0.00%	-9.92%	-6.71%	-7.42%	-6.62%	-6.29%	-6.20%	-5.95%	-5.64%	-5.39%	-5.11%	-6.52%
Peru												
Production												
Baseline	810	840	875	907	935	964	991	1,018	1,045	1,072	1,100	974.77
Scenario 3	810	840	921	941	969	992	1,013	1,034	1,056	1,077	1,099	994.12
Change	0.0	0.0	45.4	33.4	33.8	27.9	21.1	16.0	11.1	5.3	-0.5	19.35
% chg	0.00%	0.00%	5.19%	3.69%	3.61%	2.90%	2.13%	1.57%	1.06%	0.49%	-0.05%	2.06%
Consumption												
Baseline	880	897	910	929	945	966	989	1,012	1,038	1,065	1,095	984.67
Scenario 3	880	849	893	905	927	951	975	1,000	1,028	1,058	1,089	967.43
Change	0.0	-47.7	-17.9	-24.3	-18.2	-15.1	-14.0	-12.2	-9.6	-7.7	-5.8	-17.24
% chg	0.00%	-5.32%	-1.96%	-2.61%	-1.93%	-1.56%	-1.41%	-1.20%	-0.93%	-0.72%	-0.53%	-1.82%
Philippines												
Production												
Baseline	1,800	1,789	1,794	1,818	1,845	1,874	1,902	1,929	1,955	1,982	2,008	1,889.67
Scenario 3	1,800	1,789	1,971	1,956	1,982	1,974	1,958	1,947	1,934	1,917	1,901	1,932.71
Change	0.0	0.0	176.8	138.1	136.3	99.8	56.2	18.1	-21.9	-65.1	-107.8	43.04
% chg	0.00%	0.00%	9.85%	7.60%	7.39%	5.32%	2.96%	0.94%	-1.12%	-3.29%	-5.37%	2.43%
Consumption												
Baseline	1,950	1,984	2,010	2,042	2,067	2,096	2,129	2,159	2,191	2,222	2,250	2,115.09
Scenario 3	1,950	1,872	1,981	1,996	2,041	2,080	2,115	2,153	2,194	2,231	2,268	2,093.11
Change	0.0	-111.5	-29.4	-46.3	-25.7	-16.5	-13.3	-6.2	2.3	9.4	17.3	-21.98
% chg	0.00%	-5.62%	-1.46%	-2.27%	-1.24%	-0.79%	-0.62%	-0.29%	0.11%	0.42%	0.77%	-1.10%
South Africa												
Production												
Baseline	2,690	2,940	3,076	3,167	3,235	3,291	3,342	3,389	3,435	3,480	3,524	3,288.02
Scenario 3	2,690	2,940	3,229	3,329	3,426	3,493	3,547	3,599	3,646	3,687	3,725	3,462.06
Change	0.0	0.0	152.7	161.7	191.1	201.9	205.4	209.4	210.5	206.7	200.9	174.04
% chg	0.00%	0.00%	4.96%	5.11%	5.91%	6.13%	6.15%	6.18%	6.13%	5.94%	5.70%	5.22%
Consumption												
Baseline	1,665	1,685	1,700	1,718	1,732	1,732	1,738	1,745	1,745	1,746	1,748	1,728.80
Scenario 3	1,665	1,673	1,693	1,709	1,725	1,725	1,730	1,737	1,738	1,739	1,741	1,720.98
Change	0.0	-11.6	-7.0	-8.4	-7.8	-7.6	-7.6	-7.4	-7.1	-6.9	-6.7	-7.82
% chg	0.00%	-0.69%	-0.41%	-0.49%	-0.45%	-0.44%	-0.44%	-0.43%	-0.41%	-0.40%	-0.38%	-0.45%

Table D2: (continued)

	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	Average ^[1]
South Korea												
Production	(Thousand Metric Tons)											
Baseline	0	0	0	0	0	0	0	0	0	0	0	0.00
Scenario 3	0	0	0	0	0	0	0	0	0	0	0	0.00
Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
% chg	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Consumption												
Baseline	1,230	1,293	1,342	1,396	1,437	1,483	1,530	1,570	1,608	1,644	1,675	1,497.67
Scenario 3	1,230	1,307	1,393	1,441	1,494	1,547	1,597	1,643	1,687	1,728	1,765	1,560.21
Change	0.0	13.4	51.1	45.7	57.2	63.7	67.5	72.9	79.1	84.6	90.2	62.54
% chg	0.00%	1.04%	3.81%	3.27%	3.98%	4.30%	4.41%	4.65%	4.92%	5.14%	5.38%	4.09%
Thailand												
Production												
Baseline	5,225	5,505	5,697	5,866	6,032	6,199	6,369	6,541	6,717	6,895	7,012	6,283.39
Scenario 3	5,225	5,505	5,806	5,936	6,094	6,236	6,381	6,535	6,694	6,855	6,956	6,299.81
Change	0.0	0.0	109.0	70.0	62.5	36.8	11.8	-6.2	-23.3	-40.4	-56.2	16.42
% chg	0.00%	0.00%	1.91%	1.19%	1.04%	0.59%	0.19%	-0.09%	-0.35%	-0.59%	-0.80%	0.31%
Consumption												
Baseline	1,750	1,807	1,862	1,922	1,982	2,047	2,114	2,183	2,254	2,327	2,401	2,090.00
Scenario 3	1,750	1,679	1,831	1,871	1,958	2,034	2,107	2,185	2,268	2,350	2,435	2,071.65
Change	0.0	-128.0	-31.5	-51.0	-24.5	-12.3	-7.7	1.8	13.2	22.9	33.4	-18.35
% chg	0.00%	-7.08%	-1.69%	-2.65%	-1.24%	-0.60%	-0.36%	0.08%	0.59%	0.98%	1.39%	-1.06%
Turkey												
Production												
Baseline	1,900	1,964	1,956	1,975	2,002	2,038	2,075	2,112	2,150	2,190	2,212	2,067.43
Scenario 3	1,900	1,134	1,838	2,159	2,529	2,843	3,086	3,287	3,470	3,617	3,719	2,768.22
Change	0.0	-829.4	-118.0	183.9	526.3	804.1	1,010.9	1,175.9	1,319.7	1,427.1	1,507.3	700.79
% chg	0.00%	-42.23%	-6.03%	9.31%	26.29%	39.45%	48.72%	55.69%	61.37%	65.17%	68.14%	32.59%
Consumption												
Baseline	2,000	2,041	2,077	2,117	2,154	2,194	2,234	2,274	2,314	2,355	2,395	2,215.55
Scenario 3	2,000	2,047	2,104	2,141	2,183	2,226	2,268	2,310	2,353	2,396	2,439	2,246.65
Change	0.0	6.4	26.7	23.5	29.1	32.1	33.6	36.0	38.7	41.1	43.6	31.10
% chg	0.00%	0.32%	1.29%	1.11%	1.35%	1.46%	1.50%	1.58%	1.67%	1.75%	1.82%	1.39%
United States												
Production												
Baseline	7,189	7,924	8,065	8,034	7,983	7,942	7,906	7,917	7,940	7,958	7,983	7,965.40
Scenario 3	7,189	7,924	7,781	7,181	7,197	7,264	7,316	7,354	7,431	7,508	7,585	7,454.10
Change	0.0	0.0	-284.7	-852.8	-786.4	-678.2	-590.6	-563.0	-508.6	-450.2	-398.4	-511.29
% chg	0.00%	0.00%	-3.53%	-10.61%	-9.85%	-8.54%	-7.47%	-7.11%	-6.41%	-5.66%	-4.99%	-6.42%
Consumption												
Baseline	9,335	9,469	9,669	9,853	10,026	10,203	10,362	10,517	10,676	10,834	10,976	10,258.58
Scenario 3	9,335	9,510	9,777	9,925	10,085	10,254	10,412	10,560	10,713	10,862	10,995	10,309.33
Change	0.0	40.7	107.6	71.7	58.9	50.9	50.0	43.4	37.1	27.5	19.7	50.75
% chg	0.00%	0.43%	1.11%	0.73%	0.59%	0.50%	0.48%	0.41%	0.35%	0.25%	0.18%	0.50%
Venezuela												
Production												
Baseline	710	711	721	731	740	748	756	763	770	776	782	749.92
Scenario 3	710	711	747	759	773	783	790	796	801	804	806	776.77
Change	0.0	0.0	25.7	27.7	32.9	34.3	33.7	32.5	30.5	27.4	23.6	26.85
% chg	0.00%	0.00%	3.57%	3.80%	4.45%	4.59%	4.46%	4.26%	3.96%	3.53%	3.02%	3.56%
Consumption												
Baseline	850	856	861	868	873	879	885	889	892	896	898	879.56
Scenario 3	850	807	839	840	850	858	865	871	876	881	885	857.12
Change	0.0	-48.6	-21.8	-28.0	-22.8	-20.3	-19.6	-18.3	-16.4	-14.9	-13.6	-22.43
% chg	0.00%	-5.68%	-2.54%	-3.22%	-2.62%	-2.31%	-2.22%	-2.06%	-1.83%	-1.67%	-1.51%	-2.57%

[1] Average is the average for the period 2002/03 to 2011/12.

Scenario 3 = Full Market Liberalization Reform

Table E1: Sensitivity Results for Scenario 1 with Elasticities Doubled

	Baseline	Original Scenario 1 (S10)	Scenario 1 with doubled elasticities (S1D)	Difference between S10 and S1D
Major Exporters		(Thousand Metric Tons)		(Percent)
Production				
Brazil	21,871.81	23,617.86	25,345.03	7.19
Australia	6,063.38	6,364.24	6,661.67	4.55
EU	18,702.35	18,702.35	18,702.35	0.00
Thailand	6,283.39	6,157.79	6,030.63	-2.01
Cuba	4,024.91	4,269.67	4,508.22	5.19
Consumption				
Brazil	10,565.25	10,201.03	9,856.16	-3.39
Australia	1,074.69	1,052.37	1,031.39	-2.00
EU	14,932.70	15,597.65	16,263.92	4.27
Thailand	2,090.00	2,188.66	2,292.16	4.67
Cuba	777.13	744.48	712.06	-4.40
Trade				
Brazil	11,311.48	13,434.52	15,519.60	15.30
Australia	4,989.95	5,318.02	5,641.39	5.95
EU	3,734.87	3,032.31	2,328.57	-25.02
Thailand	4,179.72	3,952.38	3,718.99	-5.82
Cuba	3,245.84	3,523.86	3,795.47	7.23
Major Importers				
Production				
FSU	4,523.13	3,904.78	3,274.99	-16.52
Indonesia	1,702.10	1,723.01	1,743.53	1.19
Japan	854.26	736.93	591.30	-20.41
Korea	0.00	0.00	0.00	0.00
US	7,965.40	7,688.57	7,527.15	-2.13
Consumption				
FSU	12,206.35	12,325.21	12,445.05	0.97
Indonesia	3,990.96	3,863.72	3,742.46	-3.07
Japan	2,383.36	2,453.02	2,522.82	2.85
Korea	1,497.67	1,581.43	1,665.69	5.29
US	10,258.58	10,394.51	10,537.84	1.40
Trade				
FSU	7,613.89	8,371.37	9,140.94	9.04
Indonesia	2,202.74	2,049.34	1,902.12	-7.06
Japan	1,531.41	1,719.17	1,935.37	12.46
Korea	1,499.67	1,587.57	1,675.96	5.55
US	2,423.20	3,043.80	3,533.40	16.38
World				
Production	144,819.93	146,019.94	147,240.83	0.83
Consumption	145,232.56	146,075.05	146,964.72	0.60
Trade	32,015.18	32,825.41	34,475.62	4.90
World Price		(U.S. Dollars per Metric Ton)		
Caribbean raw sugar	214.61	282.31	282.14	-0.06

Note 1: Numbers represent the average for 2002/03 to 2011/12.

Note 2: Trade represents net exports for exporters, net imports for importers and total world exports (sum of positive exports and negative imports).
Scenario 1 = Trade Liberalization

Table E2: Sensitivity Results for Scenario 2 with Elasticities Doubled

	Baseline	Original Scenario 2 (S2O)	Scenario 2 with doubled elasticities (S2D)	Difference between S2O and S2D
		(Thousand Metric Tons)		(Percent)
Major Exporters				
Production				
Brazil	21,871.81	25,651.73	28,118.92	9.40
Australia	6,063.38	6,700.27	7,121.64	6.13
EU	18,702.35	7,230.69	4,575.37	-36.86
Thailand	6,283.39	6,304.78	6,232.07	-1.09
Cuba	4,024.91	4,722.58	5,118.33	7.71
Consumption				
Brazil	10,565.25	9,633.87	9,047.02	-6.11
Australia	1,074.69	1,019.19	983.57	-3.50
EU	14,932.70	15,382.79	15,972.53	3.83
Thailand	2,090.00	2,065.81	2,126.32	2.76
Cuba	777.13	693.96	643.78	-7.45
Trade				
Brazil	11,311.48	16,045.25	19,112.90	18.77
Australia	4,989.95	5,691.56	6,154.76	7.98
EU	3,734.87	-8,214.96	-11,494.77	40.86
Thailand	4,179.72	4,223.20	4,087.51	-3.10
Cuba	3,245.84	4,028.13	4,474.93	10.40
Major Importers				
Production				
FSU	4,523.13	4,854.56	4,580.63	-5.59
Indonesia	1,702.10	2,585.88	3,198.28	21.91
Japan	854.26	385.92	169.45	-74.25
Korea	0.00	0.00	0.00	0.00
US	7,965.40	7,482.78	6,801.23	-9.21
Consumption				
FSU	12,206.35	12,162.57	12,224.45	0.50
Indonesia	3,990.96	3,736.33	3,568.65	-4.44
Japan	2,383.36	2,433.09	2,495.73	2.58
Korea	1,497.67	1,558.92	1,643.17	5.32
US	10,258.58	10,306.18	10,411.24	1.03
Trade				
FSU	7,613.89	7,239.65	7,589.89	4.71
Indonesia	2,202.74	1,057.30	271.35	-76.04
Japan	1,531.41	2,050.05	2,329.88	13.68
Korea	1,499.67	1,564.06	1,652.06	5.57
US	2,423.20	2,941.35	3,734.52	26.92
World				
Production	144,819.93	140,759.31	140,065.47	-0.55
Consumption	145,232.56	141,211.35	140,415.47	-0.60
Trade	32,015.18	35,762.52	40,848.44	14.13
World Price				
Caribbean raw sugar	214.61	(U.S. Dollars per Metric Ton)		
		353.93	330.56	-6.55

Note 1: Numbers represent the average for 2002/03 to 2011/12.

Note 2: Trade represents net exports for exporters, net imports for importers and total world exports (sum of positive exports and negative imports).
Scenario 2 = Trade Liberalization and Domestic Production Subsidy Reforms

Table E3: Sensitivity Results for Scenario 3 with Elasticities Doubled

	Baseline	Original Scenario 3 (S3O)	Scenario 3 with doubled elasticities (S3D)	Difference between S3O and S3D
		(Thousand Metric Tons)		(Percent)
Major Exporters				
Production				
Brazil	21,871.81	25,582.09	27,995.27	9.22
Australia	6,063.38	6,688.85	7,101.30	6.01
EU	18,702.35	7,202.49	4,562.16	-36.78
Thailand	6,283.39	6,299.81	6,223.17	-1.16
Cuba	4,024.91	4,706.75	5,089.50	7.48
Consumption				
Brazil	10,565.25	9,657.02	9,090.39	-5.89
Australia	1,074.69	1,020.50	986.04	-3.38
EU	14,932.70	15,390.47	15,985.81	3.87
Thailand	2,090.00	2,071.65	2,136.91	2.99
Cuba	777.13	448.99	187.62	-60.06
Trade				
Brazil	11,311.48	15,952.01	18,945.87	18.43
Australia	4,989.95	5,678.64	6,131.67	7.82
EU	3,734.87	-8,251.26	-11,521.90	40.60
Thailand	4,179.72	4,212.42	4,068.10	-3.32
Cuba	3,245.84	4,240.52	4,870.55	14.29
Major Importers				
Production				
FSU	4,523.13	4,822.71	4,523.03	-6.17
Indonesia	1,702.10	2,571.33	3,173.06	21.64
Japan	854.26	514.23	248.90	-60.86
Korea	0.00	0.00	0.00	0.00
US	7,965.40	7,454.10	6,762.04	-9.39
Consumption				
FSU	12,206.35	12,168.36	12,234.48	0.54
Indonesia	3,990.96	3,741.63	3,578.00	-4.33
Japan	2,383.36	2,433.79	2,496.95	2.60
Korea	1,497.67	1,560.21	1,645.03	5.36
US	10,258.58	10,309.33	10,416.69	1.06
Trade				
FSU	7,613.89	7,278.16	7,658.83	5.11
Indonesia	2,202.74	1,077.23	306.03	-73.05
Japan	1,531.41	1,922.46	2,251.67	16.83
Korea	1,499.67	1,565.39	1,653.99	5.60
US	2,423.20	2,974.49	3,780.07	27.05
World				
Production	144,819.93	140,515.80	139,554.13	-0.73
Consumption	145,232.56	140,938.67	139,853.68	-0.81
Trade	32,015.18	35,699.10	40,799.77	14.20
World Price				
Caribbean raw sugar	214.61	351.36	328.35	-6.50

Note 1: Numbers represent the average for 2002/03 to 2011/12.

Note 2: Trade represents net exports for exporters, net imports for importers and total world exports (sum of positive exports and negative imports).
Scenario 3 = Full Market Liberalization

Table E4: Sensitivity Results for Scenario 1 with Elasticities Halved

	Baseline	Original Scenario 1 (S1O)	Scenario 1 with halved elasticities (S1H)	Difference between S1O and S1H
Major Exporters				
Production		(Thousand Metric Tons)		(Percent)
Brazil	21,871.81	23,617.86	22,744.31	-3.64
Australia	6,063.38	6,364.24	6,213.73	-2.31
EU	18,702.35	18,702.35	18,702.35	0.00
Thailand	6,283.39	6,157.79	6,220.56	0.99
Cuba	4,024.91	4,269.67	4,147.22	-2.67
Consumption				
Brazil	10,565.25	10,201.03	10,382.98	1.79
Australia	1,074.69	1,052.37	1,063.53	1.06
EU	14,932.70	15,597.65	15,265.25	-2.13
Thailand	2,090.00	2,188.66	2,138.64	-2.25
Cuba	777.13	744.48	760.83	2.22
Trade				
Brazil	11,311.48	13,434.52	12,372.62	-7.80
Australia	4,989.95	5,318.02	5,153.91	-3.02
EU	3,734.87	3,032.31	3,383.50	12.47
Thailand	4,179.72	3,952.38	4,066.65	2.85
Cuba	3,245.84	3,523.86	3,384.77	-3.72
Major Importers				
Production				
FSU	4,523.13	3,904.78	4,213.80	8.12
Indonesia	1,702.10	1,723.01	1,712.53	-0.61
Japan	854.26	736.93	798.97	8.70
Korea	0.00	0.00	0.00	0.00
US	7,965.40	7,688.57	7,828.14	1.85
Consumption				
FSU	12,206.35	12,325.21	12,265.84	-0.48
Indonesia	3,990.96	3,863.72	3,926.88	1.60
Japan	2,383.36	2,453.02	2,418.20	-1.42
Korea	1,497.67	1,581.43	1,539.27	-2.65
U.S	10,258.58	10,394.51	10,326.58	-0.66
Trade				
FSU	7,613.89	8,371.37	7,992.87	-4.44
Indonesia	2,202.74	2,049.34	2,125.62	3.67
Japan	1,531.41	1,719.17	1,621.91	-5.61
Korea	1,499.67	1,587.57	1,543.34	-2.78
US	2,423.20	3,043.80	2,735.88	-10.48
World				
Production	144,819.93	146,019.94	145,422.81	-0.41
Consumption	145,232.56	146,075.05	145,652.85	-0.28
Trade	32,015.18	32,825.41	32,271.69	-1.58
World Price		(U.S. Dollars per Metric Ton)		
Caribbean raw sugar	214.61	282.31	282.24	-0.02

Note 1: Numbers represent the average for 2002/03 to 2011/12.

Note 2: Trade represents net exports for exporters, net imports for importers and total world exports (sum of positive exports and negative imports).
Scenario 1 = Trade Liberalization

Table E5: Sensitivity Results for Scenario 2 with Elasticities Halved

	Baseline	Original Scenario 2 (S2O)	Scenario 2 with halved elasticities (S2H)	Difference between S2O and S2H
Major Exporters				
Production				
(Thousand Metric Tons)				
Brazil	21,871.81	25,651.73	24,301.73	-5.14
Australia	6,063.38	6,700.27	6,470.57	-3.34
EU	18,702.35	7,230.69	8,798.17	22.09
Thailand	6,283.39	6,304.78	6,332.82	0.42
Cuba	4,024.91	4,722.58	4,498.25	-4.37
Consumption				
Brazil	10,565.25	9,633.87	9,937.26	3.16
Australia	1,074.69	1,019.19	1,037.62	1.81
EU	14,932.70	15,382.79	15,099.79	-1.84
Thailand	2,090.00	2,065.81	2,039.80	-1.17
Cuba	777.13	693.96	721.86	4.14
Trade				
Brazil	11,311.48	16,045.25	14,383.61	-10.17
Australia	4,989.95	5,691.56	5,440.09	-4.33
EU	3,734.87	-8,214.96	-6,347.56	-22.98
Thailand	4,179.72	4,223.20	4,278.37	1.25
Cuba	3,245.84	4,028.13	3,775.43	-5.87
Major Importers				
Production				
FSU	4,523.13	4,854.56	4,938.36	1.72
Indonesia	1,702.10	2,585.88	2,255.34	-11.85
Japan	854.26	385.92	637.06	110.56
Korea	0.00	0.00	0.00	0.00
US	7,965.40	7,482.78	7,946.71	6.27
Consumption				
FSU	12,206.35	12,162.57	12,140.62	-0.18
Indonesia	3,990.96	3,736.33	3,825.10	2.35
Japan	2,383.36	2,433.09	2,402.87	-1.24
Korea	1,497.67	1,558.92	1,518.98	-2.52
US	10,258.58	10,306.18	10,258.55	-0.47
Trade				
FSU	7,613.89	7,239.65	7,127.65	-1.49
Indonesia	2,202.74	1,057.30	1,479.64	40.84
Japan	1,531.41	2,050.05	1,768.34	-13.17
Korea	1,499.67	1,564.06	1,522.29	-2.64
US	2,423.20	2,941.35	2,420.75	-18.21
World				
Production	144,819.93	140,759.31	141,303.67	0.42
Consumption	145,232.56	141,211.35	141,801.78	0.44
Trade	32,015.18	35,762.52	33,781.71	-5.52
World Price				
(U.S. Dollars per Metric Ton)				
Caribbean raw sugar	214.61	353.93	392.69	10.84

Note 1: Numbers represent the average for 2002/03 to 2011/12.

Note 2: Trade represents net exports for exporters, net imports for importers and total world exports (sum of positive exports and negative imports).
Scenario 2 = Trade Liberalization and Domestic Production Subsidy Reforms

Table E6: Sensitivity Results for Scenario 3 with Elasticities Halved

	Baseline	Original Scenario 3 (S3O)	Scenario 3 with halved elasticities (S3H)	Difference between S3O and S3H
(Thousand Metric Tons)				
Major Exporters				
Production				
Brazil	21,871.81	25,582.09	24,266.42	-5.03
Australia	6,063.38	6,688.85	6,464.77	-3.26
EU	18,702.35	7,202.49	8,783.87	22.38
Thailand	6,283.39	6,299.81	6,330.30	0.46
Cuba	4,024.91	4,706.75	4,490.20	-4.23
Consumption				
Brazil	10,565.25	9,657.02	9,950.10	3.05
Australia	1,074.69	1,020.50	1,038.34	1.75
EU	14,932.70	15,390.47	15,103.67	-1.86
Thailand	2,090.00	2,071.65	2,043.03	-1.29
Cuba	777.13	448.99	585.72	31.53
Trade				
Brazil	11,311.48	15,952.01	14,335.24	-9.96
Australia	4,989.95	5,678.64	5,433.48	-4.23
EU	3,734.87	-8,251.26	-6,365.95	-23.10
Thailand	4,179.72	4,212.42	4,272.64	1.38
Cuba	3,245.84	4,240.52	3,894.36	-7.84
Major Importers				
Production				
FSU	4,523.13	4,822.71	4,922.17	2.05
Indonesia	1,702.10	2,571.33	2,247.98	-11.65
Japan	854.26	514.23	699.15	45.18
Korea	0.00	0.00	0.00	0.00
US	7,965.40	7,454.10	7,932.17	6.49
Consumption				
FSU	12,206.35	12,168.36	12,143.55	-0.20
Indonesia	3,990.96	3,741.63	3,828.09	2.29
Japan	2,383.36	2,433.79	2,403.22	-1.26
Korea	1,497.67	1,560.21	1,519.75	-2.55
US	10,258.58	10,309.33	10,260.14	-0.48
Trade				
FSU	7,613.89	7,278.16	7,147.20	-1.74
Indonesia	2,202.74	1,077.23	1,490.02	39.07
Japan	1,531.41	1,922.46	1,706.61	-10.85
Korea	1,499.67	1,565.39	1,523.08	-2.67
US	2,423.20	2,974.49	2,437.53	-18.56
World				
Production	144,819.93	140,515.80	141,177.21	0.50
Consumption	145,232.56	140,938.67	141,660.09	0.53
Trade	32,015.18	35,699.10	33,732.24	-5.48
World Price				
(U.S. Dollars per Metric Ton)				
Caribbean raw sugar	214.61	351.36	390.09	10.92

Note 1: Numbers represent the average for 2002/03 to 2011/12.

Note 2: Trade represents net exports for exporters, net imports for importers and total world exports (sum of positive exports and negative imports).

Scenario 3 = Full Market Liberalization