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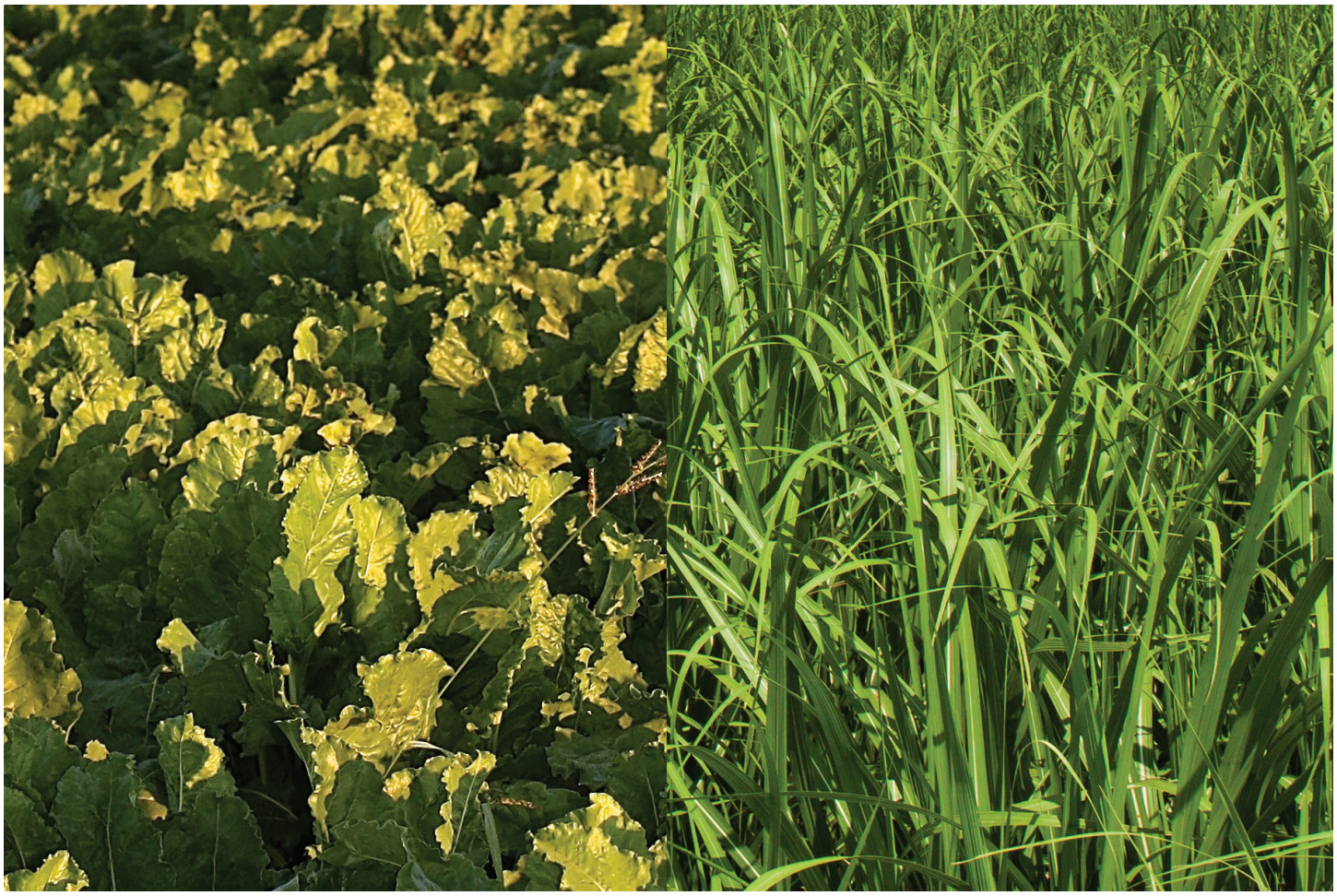
ANALYSIS OF THE COALITION FOR SUGAR REFORM AMENDMENTS TO U.S. SUGAR POLICY: POTENTIAL EFFECT ON POLICY AND INDUSTRY



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Analysis of the Coalition for Sugar Reform Amendments to U.S. Sugar Policy:
Potential Effect on Policy and Industry

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Executive Summary

Sugar is an integral ingredient in the nation's food supply, used as a sweetener, a bulking agent, and a preservative in consumer-packaged goods, baking, canning, beverages, and meat preparations. Sugar also has many non-food industrial uses. As demonstrated during World War II when U.S. sugarbeet and sugarcane farmers were encouraged to increase production in order to help feed American troops, an adequate domestic supply of this essential food ingredient is important to U.S. national security.

Because sugar is such an important part of the nation's food supply, reliable supplies are necessary. This helps explain the long history of U.S. sugar policy and why policymakers, sugar farmers, consumers, and even food manufacturers support maintaining a viable, healthy, and geographically diverse U.S. sugar industry.

The United States today is the world's fifth largest sugar-producing country, the fourth largest sugar-consuming nation, and among the three largest importers in the world. The United States is also the twentieth lowest cost sugar producer among the 95 largest sugar-producing nations, with most of these being developing countries with far lower government-imposed costs for worker, consumer, and environmental protections. U.S. sugarbeet farmers, found mostly in northern-tier states, are the lowest-cost beet farmers in the world.

It is estimated that the U.S. sugar industry generates 142,000 jobs in 22 states and $20 billion in annual economic activity. Employment in the U.S. sugar industry has declined 40% over the last 25 years due largely to increased imports from countries using policy tools that stimulate production and exports. Meanwhile, over the same period, the prices U.S. sugar farmers have received for their sugar have been stagnant, in fact down 40% when adjusted for inflation, even as production costs have significantly increased.

Policymakers in the United States have long recognized that the world sugar market is heavily distorted by foreign subsidies and market manipulations and have provided U.S. sugar farmers with some form of safety net for more than 200 years. Major exporters of sugar do not respond to the signals of the world market but rather to the policies of their governments that enable them to export sugar below their costs of production and their own domestic prices.

The issue, then, has always boiled down to the question of: How does the U.S. provide a meaningful safety net for sugar producers in a distorted global market? One option is through a form of government transfer payments to U.S. sugar farmers while the chosen option is to utilize a no taxpayer cost policy where U.S. sugar farmers are expected to derive their income from the market.

While payments to U.S. sugar farmers have been attempted in a few, brief instances over the span of time in which U.S. sugar policy has been in place, this approach has been a costly failure. For example, from 1891 to 1894, a two-cent per pound annual

payment or "bounty" was made to sugar farmers. In today's terms, this amounts to a payment of 66 cents per pound.

Generally, then, policymakers have sought to achieve a no taxpayer cost approach to U.S. sugar policy. Five of the six most recent Farm Bills have statutorily required U.S. sugar policy to operate at no cost to taxpayers to the maximum extent possible. U.S. sugar policy is designed in such a manner that it effectively responds to foreign subsidies and distorted global markets without the need for taxpayer payments to U.S. sugar farmers.

U.S. sugar policy has operated at no cost to U.S. taxpayers over a period of the last 15 years with the exception of 2013, the year Mexico was found to have illegally dumped below-cost sugar onto the U.S. market. Measured over a longer period of time, U.S. sugar policy has operated at no cost in all but three of the past 29 years, with one of the three years due to Mexican dumping. Subsequent refinements made to U.S. sugar policy have successfully worked to avoid the conditions under which costs were incurred.

U.S. sugar policy is expected to continue to operate at no cost beyond the life of the 2014 Farm Bill, with some forecasts projecting no cost sugar policy to continue for at least the next 10 years assuming that current domestic and trade policies remain in place.

Maintaining no taxpayer cost U.S. sugar policy has depended upon the operation of three core policy tools, including nonrecourse loans and Flexible Marketing Allotments authorized by the Farm Bill, and tariff rate quotas negotiated and provided for under U.S. trade agreements.

In the past, food manufacturers have sought to totally eliminate U.S. sugar policy or, alternatively, to entirely replace the no taxpayer cost U.S. sugar policy with a taxpayer-paid program, the costs of which were once estimated at an unsustainable $1.3 billion per year. However, having failed to gain traction for these changes, the Coalition for Sugar Reform, has proposed what it calls modest reforms to these policies in order to restore balance.

Our analysis indicates that these proposed reforms, while perhaps of some short-term economic advantage to food manufacturers, would result in significant cost to U.S. taxpayers and sugarcane and sugarbeet farmers and processors, with little or no advantage to U.S. consumers. In the long-run, these reforms would undermine the food manufacturers' stated interest in maintaining a viable, healthy, and geographically diverse U.S. sugar industry.

By proposing to weaken the safety net for U.S. sugar farmers to levels that were in place when more than half of American sugar processors closed, the result would be three-fold: (1) further injury to U.S. sugar farmers and processors at those times when they require a safety net and food manufacturers are already benefiting from low market prices for sugar; (2) further depressed prices received by producers, loan forfeitures,

and U.S. taxpayer costs; and (3) ultimately, a substantial loss of U.S. sugar farmers and processors and, consequently, lower domestic sugar supplies and higher prices paid by food manufacturers, which they will pass on to consumers.

Background

Policymakers in the United States have provided sugar farmers with various types of safety net protections since the Louisiana Purchase.[3] Generally, this safety net for sugar farmers has been designed to operate at no cost to U.S. taxpayers.

Although taxpayer-provided subsidies have been substituted for no cost sugar policy for a few brief periods in American history, including 1891-1894 when a two-cent per pound annual payment or "bounty" was made to sugar farmers,[4] these programs proved unsuccessful and costly due to the U.S. being an importer of sugar and the nature of the global sugar market. For some perspective, the two-cent bounty paid in the 1890s would amount to sixty-six cents per pound in today's terms. The last taxpayer-paid program was attempted forty-one years ago and abandoned.

Since then, policymakers have sought to maintain a no cost U.S. sugar policy with no government payments to producers. In five of the last six Farm Bills, U.S. sugar policy has been statutorily required to operate at no cost to taxpayers to the maximum extent practicable.

In recent history, sugar policy has in fact operated at no cost to the taxpayer over a period of fifteen years, with the exception of the year in which Mexico was determined to have illegally dumped subsidized sugar onto the U.S. market at below both Mexico's cost of production and their domestic price in violation of U.S. trade law. Measured over a longer period of time, U.S. sugar policy has operated at no cost in all but three of the past twenty-nine years, with one of the three years due to Mexican dumping. Subsequent refinements made to U.S. sugar policy have successfully worked to avoid the conditions under which costs were incurred.

The Congressional Budget Office (CBO) projects under its March 2016 baseline that U.S. sugar policy will continue to operate at no cost to taxpayers beyond the life of the 2014 Farm Bill, and the U.S. Department of Agriculture (USDA) and the Food and Agricultural Policy Research Institute (FAPRI) extend this no cost projection out over the next ten years assuming that current domestic and trade policies remain in place.[5]

Although U.S. sugar policy dates back to the nation's earliest days, the components of modern U.S. sugar policy began to take fuller shape under the 1934 Jones-Costigan Sugar Act and later under the Sugar Act of 1937.

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[3] U.S. Department of Agriculture. Economic, Statistics, and Cooperative Service, Agricultural Economic Report No. 382, " *A History of Sugar Marketing through 1974,"* March 1978.
[4] Ibid.
[5] Congressional Budget Office, Commodity Credit Corporation Outlays, March 2016 https://www.cbo.gov/publication/51384;
U.S. Dept. of Agriculture, USDA Agricultural Projections to 2021, February 2016 http://www.ers.usda.gov/media/2017463/oce-2016-1.pdf?platform=hootsuite;
Food and Agriculture Policy Research Institute, 2016 U.S. Baseline Briefing Book, March 2016 http://www.fapri.missouri.edu/publication/2016-u-s-baseline-briefing-book/.

During World War II, the U.S. sought to maximize production and ration consumption in order to feed American troops and U.S. allies and to avoid disruptions and shortages of this important food ingredient.[6] This wartime policy also continued for a time after World War II in order to meet the needs of Europe as the continent began to rebuild.[7]

As peacetime conditions began to return, the U.S. also returned to the general contours of pre-war sugar policy, with the passage of the 1948 Sugar Act, an act that was reauthorized by Congress numerous times (1951, 1956, 1962, 1965, and 1971). Further refinements to U.S. sugar policy would later become part of amendments made to the Agricultural Act of 1949, one of two permanent commodity laws, under the sugar provisions of the 1977 Farm Bill and several subsequent Farm Bills (1981, 1985, and 1990).

While avoiding taxpayer cost has long been an objective, changing times have required U.S. sugar policy to adjust. As the U.S. has continued to liberalize trade, U.S. sugar policy has had to adjust in order to honor import commitments while at the same time maintaining some form of a safety net for U.S. sugar farmers continuing to face a distorted global market. The adjustments have not always been smooth, with significant consolidation and third party investor flight taking place in the U.S. sugar industry. The investor flight has required U.S. sugar farmers to take on the expense and risk of ownership of major processing facilities.

Nevertheless, avoiding sugar processor closures has proved challenging for the industry which, in a number of ways, is quite unique from the production and processing of other crops. Sugarbeets and sugarcane are highly perishable, with one being a perishable vegetable plant and the other being a perishable grass, and must be produced locally near the mill that will process them.

Of course, sugar processors have always depended on sugar farmers because they need farmers to maximize throughput in order to remain profitable. The loss of even a relatively small percentage of farmers harms not only the processor but also the remaining farmers who can expect to share in lower receipts while shouldering a greater portion of processing costs. Conversely, sugar farmers have always depended on their processors because without the facilities to extract the crop's sugar, harvested sugarcane and sugarbeets have no economic value.

Moreover, whereas a producer of other commodities may have multiple options in terms of where to sell a crop, a sugar farmer has only one option: the beet or cane processor. By the same token, where a buyer of other commodities may depend on different farmers from year to year in order to meet throughput requirements, sugar processors depend on the same farmers each year. In fact, sugar farmers are contractually obligated to produce sugar each year for a processor, whether in good times or bad. Sugarcane producers are actually required to make a four-year commitment when they plant sugarcane due to the perennial nature of the plant.

[6] U.S. Department of Agriculture. *A History of Sugar Marketing through 1974.*
[7] Ibid.

Sugarbeet farmers also have a legal obligation to the sugarbeet cooperative of which they are owners.

While a producer of other commodities may choose to store a crop on the farm until the price improves, or haul a crop a further distance in order to obtain a better price, neither of these is an option for a sugar farmer. Thus, the economic viability of the processor and the farmer has always been closely tied together. But, today, with sugar processors owned by farmers, that nexus is even greater.

Over time, changes within the industry have also led to adjustments in U.S. sugar policy. Today, statutory authority for the three primary components of U.S. sugar policy resides in three separate laws:

- Nonrecourse loans for sugar are authorized under section 156 of the Federal Agriculture Improvement and Reform Act of 1996 (7 U.S.C. 7272), the 1996 Farm Bill, as amended by the 2002 and 2008 Farm Bills and extended by the 2014 Farm Bill.

- Flexible Marketing Allotments (FMAs) are authorized by the Agricultural Adjustment Act of 1938 (7 U.S.C. 1281, et. seq.), as amended by the 2002 and 2008 Farm Bills and extended by the 2014 Farm Bill.

- Tariff rate quotas (TRQs) are provided for under the Harmonized Tariff Schedule of the United States (19 U.S.C. 1202, et. seq.). Although TRQs are not established in the Farm Bill, but rather the product of presidential proclamations and multilateral and bilateral trade agreements, TRQs are still an essential part of U.S. sugar policy.

While not a programmatic component of U.S. sugar policy, the statutory requirement that nonrecourse loans for sugar be administered by USDA at no cost to the taxpayer, to the maximum extent practicable, is significant. This requirement means that the three primary policy tools have to be carefully coordinated to ensure that U.S. sugar policy, in fact, runs at no cost to taxpayers.

Yet a fourth component of U.S. sugar policy is the authorization of certain cost containment measures that can or must be taken by USDA to minimize any taxpayer cost if statutory no cost requirements cannot be met. One example of this is the Feedstock Flexibility Program (FFP), authorized by the 2008 Farm Bill and extended by the 2014 Farm Bill. The FFP has only been used in 2013, the year in which Mexico was found to have illegally dumped sugar onto the U.S. market. This policy tool was useful in helping to minimize the cost incurred that year while, even more importantly, avoiding any taxpayer costs in succeeding crop years.

A key policy justification for U.S. sugar policy is that U.S. sugar farmers and processors produce an important food ingredient while operating in one of the most distorted, manipulated, and often depressed commodity markets in the world. As observed by

USDA's Economic Research Service, "Intervention in sugar is an almost universal practice among governments around the world."[8]

The world market for sugar is a thinly traded, residual market for subsidized surpluses. Many countries subsidize, over-produce, and dump resulting surpluses onto the world market for whatever price it might bring. In effect, foreign sugar producing countries seek to support their sugar industries with subsidies and higher domestic prices for sugar within their borders, selling into the world market surplus sugar at prices generally below their costs of production and their own domestic prices. This practice effectively shifts other countries' sugar surpluses onto the world market affecting sugar producers in other countries.

As evidence of this practice, we would observe that over the past 25 years the world average cost of producing sugar has averaged 50% more than the world average market price.[9]

As a recent example, the world sugar price dropped by more than half since the 2010/11 marketing year – from more than thirty-two cents per pound to less than eleven cents – and is now barely half of the current estimated world average cost of production. One would expect these dramatically lower prices to significantly dampen world production. Yet, world sugar production has actually risen 7% over the past five years.[10]

It is evident, then, that foreign sugar producers are responding not to the world price of sugar, but rather government programs that subsidize domestic sugar production and maintain domestic support prices well above world price level. Policies in the three largest sugar producers, Brazil, India and Thailand are examples of such government intervention.

An estimated 20% of sugar produced each year is actually exported at prices below their costs of production, traded at the so-called "world price." More than 70% of sugar is consumed in the countries where that sugar is produced[11], at prices considerably higher than the world price and higher than production costs. As a result of foreign surpluses dumped on the world market, rarely in the past few decades has the world price reflected the world's average actual cost of producing sugar – a minimal criterion for a meaningful market price.

In 2015, the International Sugar Organization (ISO) surveyed 78 countries to discover actual wholesale prices – the prices producers in those countries receive for their sugar. The ISO reports that, globally, actual wholesale, refined sugar prices have averaged 46%

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[8] U.S. Department of Agriculture, Economic Research Service. "*Sugar: Background for 1990 Farm Legislation*," Page vi, February 1990. http://www.ers.usda.gov/publications/ages/ages9006.aspx

[9] LMC International, *"Sugar & HFCS Production Costs: Global Benchmarking,"* Oxford, England, July 2014.

[10] U.S. Department of Agriculture, http://apps.fas.usda.gov/psdonline/.

[11] U.S. Department of Agriculture, Economic Research Service. "*Sugar: Background for 1990 Farm Legislation*," Page 28, February 1990. http://www.ers.usda.gov/publications/ages/ages9006.aspx

higher than the world price over the past decade. Prices in developed countries have been nearly double the world dump market price – averaging 94% higher.[12]

In short, governments around the world have put policies in place to protect domestic producers from international competition while subsidizing production such that policy tools to incentivize the export of surplus sugar at below the cost of production are commonplace. For further reading on foreign subsidies see "Review of Sugar Policies in Major Sugar Industries;" [13] "Government Support and the Brazilian Sugar Industry;"[14] and "Thailand's sugar policy: Government drives production and export expansion." [15]

Food manufacturer members of the Coalition for Sugar Reform, such as the Sweetener Users Association, have maintained that "America needs a healthy domestic sugar industry," [16] and claim that the food manufacturers are simply proposing "modest" changes in the policy in order to restore balance in how the policy is administered.

It makes sense that food manufacturers have stated that a viable U.S. sugar industry is needed given the unreliable nature of the world market. Sugar is an essential food ingredient in the nation's food supply, used as a sweetener, a bulking agent, and a preservative in consumer-packaged goods, baking, canning, beverages, and meat preparations. Sugar also has many non-food industrial uses.

Because sugar is such an integral part of the nation's food supply, reliable supplies are necessary. In fact, U.S. food manufacturers have come to expect just in time delivery from U.S. sugarbeet and sugarcane processors, with domestic processors bearing the cost and responsibility of maintaining and storing sugar inventories.

At stake, then, is a significant U.S. industry nearly as old as the nation itself. The United States is the world's fifth largest sugar-producing country, the fourth largest sugar-consuming nation, and among the largest three importers in the world.[17]

The United States is also the twentieth lowest cost producer among the ninety-five largest sugar-producing nations, with most of these being developing countries with far lower government-imposed costs for worker, consumer, and environmental protections. U.S. beet sugar producers, mostly in northern-tier states, are the lowest-cost beet sugar farmers in the world.[18]

Despite the efficiency of U.S. producers, the U.S. industry has experienced significant consolidation of processors and the flight of third party-investors as a result of the pressures of a heavily subsidized world market. The loss of third party investment has increasingly required farmers to take on the expense and risks associated with

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[12] ISO, "*Domestic Sugar Prices – A Survey*," London, England, May 2015.
[13] LMC International, "*Review of Sugar Policies in Major Sugar Industries*," Oxford, England, March 2009.
[14] Patrick Chatenay, "*Government Support and the Brazilian Sugar Industry*," Canterbury, England, April 2013.
[15] Antoine Meriot, "*Thailand's sugar policy: Government drives production and export expansion,*" Bethesda, Maryland, June 2015.
[16] Sweetener Users Association testimony before the International Trade Commission, March 19, 2013.
[17] U.S. Department of Agriculture, Foreign Agricultural Service, PSD database. http://apps.fas.usda.gov/psdonline.
[18] LMC International, "*Sugar & HFCS Production Costs: Global Benchmarking*," Oxford, England, August 2011.

ownership of processing. Moreover, more than half of U.S. processing facilities—56 in all—have closed their doors since 1985 as a result of depressed sugar prices stemming from the pressures of subsidized exports and made worse by rising input costs.[19]

While the safety net for U.S. sugar producers was generally flat from 1985 to 2008, in response to these conditions, some adjustments, including a 4.2% increase in the loan rate phased in over several years, were approved by Congress under the 2008 Farm Bill. Nevertheless, with four domestic processor factory closings since 2008, the economic pressures facing U.S. sugar farmers and processors as a result of the distorted world sugar market persist.

The question then becomes, are the proposals offered by the Coalition for Sugar Reform – mainly although not exclusively aimed at undoing the adjustments made under the 2008 Farm Bill – in fact modest, or would their implementation lead to the loss of sugar farmers and processors in the United States? What also are the impacts of these proposed changes on U.S. taxpayers, consumers, and food manufacturers? The impact of the proposed policy changes on the effectiveness of U.S. sugar policy and the economic viability of U.S. producers is in question.

Purpose

The purpose of this study is to evaluate the changes food manufacturers are proposing in terms of domestic producer viability, domestic processor viability, domestic consumer cost, and U.S. taxpayer cost.

Approach

This report will identify and describe the key elements of U.S. sugar policy and assess how changes food manufacturers have proposed in recent years would affect those elements. This analysis is primarily qualitative, drawing from the authors' combined 70 years of conducting analysis of U.S. farm policy. Because the policy reforms offered by food manufacturers may be readily analyzed using basic principles of economics, a quantitative analysis is unnecessary.

While the principal purpose of TRQs is to honor significant duty free U.S. market access commitments and that of the Flexible Marketing Allotments (FMAs) to protect the taxpayer from U.S. sugar policy costs, the purpose of the nonrecourse loan is to provide sugar farmers with a safety net. Nonrecourse loans provide producers with interim financing to pay production and processing costs in order to meet cash flow needs between production and processing and the actual sale of sugar. But, even more importantly, the nonrecourse loan provides an effective safety net by allowing sugar producers to deliver the sugar they have pledged as collateral under the loan to USDA as full payment of the loan at maturity.

[19] See Appendix A for a complete list of closures since 1985.

Working together, these two core features of today's sugar policy, FMAs and TRQs, are designed to ensure that sugar producers are able to fully repay USDA nonrecourse loans, at principal plus interest, resulting in no cost to the taxpayer. In the same vein, adverse changes to one policy result in adverse effects with respect to the other policies.

This policy objective of providing a nonrecourse loan at no taxpayer cost must be met while fully complying with U.S. trade commitments granting access to the U.S. sugar markets to 41 different nations, including unlimited access for Mexico beginning in 2008, additional access granted in the Dominican Republic-Central American Free Trade Agreement (DR-CAFTA), and in separate free trade agreements with Chile, Colombia, Panama, and Peru. Further access was granted in the just-concluded Trans-Pacific Partnership (TPP) agreement which, if approved by the U.S. Congress, will open the U.S. sugar market still further to Australia, Canada, Vietnam, Malaysia, and Japan.

Agreements suspending anti-dumping and countervailing duties reached between the U.S. and Mexican governments are currently in place to limit Mexican access to the U.S. market. These agreements are in response to the U.S. government's finding of Mexican dumping of subsidized sugar onto the U.S. market at below Mexican cost of production and Mexican domestic market prices. The duration of these suspension agreements is uncertain. For this analysis, therefore, it is assumed the agreements are not in place, and that the U.S. market continues to be exposed to unlimited quantities of Mexican sugar.

Under this scenario, U.S. sugar prices received by producers are significantly depressed, threatening potential loan forfeitures and taxpayer costs. Therefore, to the extent that the policy changes proposed by food manufacturers would lower prices received by producers even further, the already high risk of forfeitures and taxpayer costs and loss of U.S. domestic processors and producers is exacerbated.

Our analysis leads us to conclude that food manufacturers' reforms would undermine the no cost requirement of the law, resulting in taxpayer costs, jeopardizing the viability of U.S. sugar farmers and processors, and leading to higher sugar costs for consumers as domestic suppliers are lost and the volatile world sugar market is increasingly relied upon to meet domestic demand. Meanwhile, food manufacturers may benefit in the short term from depressed domestic sugar prices but, in the long-run, they would suffer from the loss of what they say they need: a viable, healthy, and geographically diverse supply of domestic sugar.

The economic impacts of their proposal would be three-fold: (1) further injury to U.S. sugar farmers and processors at those times when they require a safety net and food manufacturers are already benefiting from low market prices for sugar; (2) further depressed prices received by producers, loan forfeitures, and U.S. taxpayer costs; and (3) ultimately, a substantial loss of U.S. sugar farmers and processors and, consequently, lower domestic sugar supplies and higher prices paid by food manufacturers, which they will pass on to consumers.

Key Elements of U.S. Sugar Nonrecourse Loan Policy

Nonrecourse Loans

Nonrecourse loans provide processors and, in turn, farmers, interim financing to pay production and processing costs in order to meet cash flow needs without having to immediately sell all of their sugar production. Allowing processors to store sugar over the course of the nine month loan facilitates the more orderly marketing of sugar throughout the year.

Sugarbeet and sugarcane farmers are paid on the price their processor receives for the sugar produced from their crop. This price is not fully known until the sugar is sold, which may be almost a year after the crop is delivered to the processor by the farmer. Processors take out USDA nonrecourse loans as they make the sugar to finance early partial payments to farmers as farmers deliver their crops to the processor and repay production costs. The nonrecourse loan permits the processors to make these early partial payments to farmers since the processors know exactly what the loan rate is.

The nonrecourse loan is an advantage for food manufacturers as well as processors, and farmers since food manufacturers ordinarily wish to purchase sugar at the rate that they use it, minimizing inventory expenses. This saves food manufacturers what would otherwise be upfront costs of buying all of their sugar supplies at once and having to store that sugar until they actually use it.

With nonrecourse loans, processors pledge sugar as loan collateral and have the option of satisfying the loan by repaying it, with interest, or by delivering the pledged collateral to USDA's Commodity Credit Corporation (CCC) as full payment for the loan at maturity.

The nonrecourse nature of the sugar loan is not unique. At least 27 commodities today benefit under the Farm Bill from a nonrecourse loan, including wheat, corn, grain sorghum, barley, oats, upland cotton, long grain rice, medium grain rice, soybeans, sunflower seed, rapeseed, canola, safflower, flaxseed, mustard seed, crambe, sesame seed, dry peas, lentils, small chickpeas, large chickpeas, graded wool, non-graded wool, mohair, honey, and peanuts.

In the case of sugar, processors, not farmers, are able to take out nonrecourse loans from USDA at the specified loan rates for either raw cane sugar or refined beet sugar. This is because harvested sugarcane and sugarbeets cannot be pledged as loan collateral as these crops are highly perishable and cannot be stored in their harvested form but must be processed into raw or refined sugar. This is done by processors, most of which are cooperatively owned by producers.

In a like manner, cooperatives and marketing associations handling any of the 27 other commodities eligible for a nonrecourse loan may take out such loans, repay them, and redeem commodities pledged as collateral under the nonrecourse loan on behalf of

farmer members. The nonrecourse loan has been available since the first Farm Bill and use of a recourse loan is rare in U.S. farm policy.[20]

A key distinction, however, is that producers of other commodities (or their cooperatives or marketing associations) may repay their loan and redeem the crop they have pledged as collateral at a rate that is lower than the rate at which they borrowed resulting in taxpayer cost. In contrast, sugar policy is crafted to ensure that processors repay their loans in full at the rate they borrowed, principal plus interest, thus avoiding any taxpayer cost.

This difference in treatment is primarily explained in that sugar is an import commodity while the 27 other commodities are largely export commodities. If sugar policy operated in the same manner as the policy for the 27 other commodities, heavily subsidized foreign imports would depress U.S. sugar prices, making it difficult or impossible for domestic sugar processors to fully repay their loans and resulting in repayment of loans at lower, depressed price levels, thus incurring cost to U.S. taxpayers.

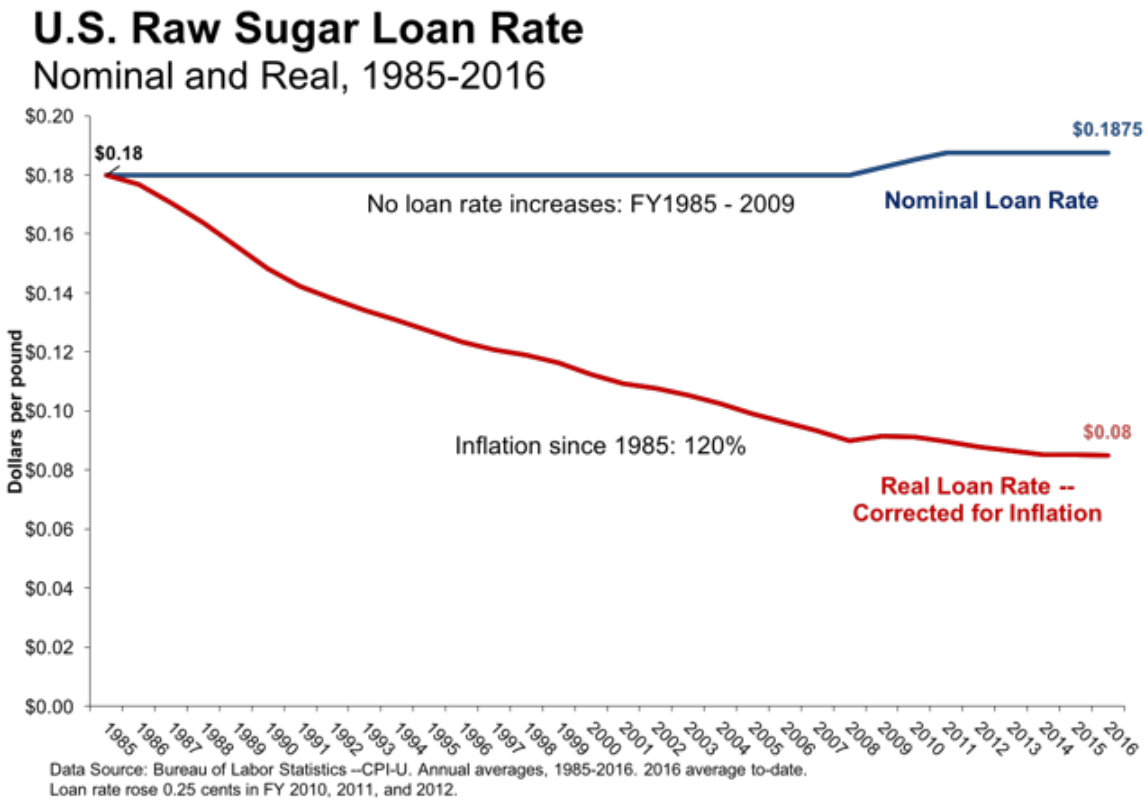
While price and income support for other commodities has been raised since 1985, the loan rate for sugar was static until it was phased up by three-quarters of one cent over a period of several years under the 2008 Farm Bill. Figure 1 illustrates the three quarters of one cent increase in the sugar loan rates over the 1986-2016 period, while also showing the loan rate as adjusted for inflation. In real terms, corrected for inflation, the sugar loan rate has fallen by 55% since 1985. The loss of more than half of all sugar processing facilities since that time illustrates that the safety net has been severely tested in the face of difficult economic conditions resulting from the pressures of subsidized low world market prices.

As previously discussed, the nonrecourse loan for sugar is critically important to processors and, in-turn, to farmers as the loan provides a level of income per pound of sugar marketed and needed cash flow during the loan period. The nonrecourse loan is also of value to food manufacturers because the loan allows them to buy sugar over time rather than all at once which would require them to store large supplies of sugar over long periods of time.

The only way in which USDA incurs costs associated with the nonrecourse sugar loan is if prices are depressed and loans are forfeited. If loans are repaid, USDA receives the amount of the loan plus interest. U.S. sugar policy has operated at no cost to taxpayers over a period of fifteen years, with the exception of the year in which Mexico was found to have illegally dumped sugar onto the U.S. market. In other words, processors have nearly always managed to repay loans, principal plus interest, thus meeting the statutory obligation of USDA to operate the loan at no cost to taxpayers. Over the past twenty-nine years, forfeitures have been in avoided in all but three years.

[20] U.S. Department of Agriculture, Economic Research Service. Agriculture Information Bulletin No. 391, "*A Short History of Agricultural Adjustment, 1933-75,"* March 1976.

Figure 1. Sugar loan rates, 1985-2016



Flexible Marketing Allotments (FMAs)

This is a taxpayer protection provision. Most farmers, including sugar farmers, seek to maximize production in order to improve economies of scale and enhance profitability. However, because trade agreements guarantee minimum access to the U.S. sugar market and because U.S. sugar policy's nonrecourse loans are required to operate at no cost to the U.S. taxpayer, FMAs are established under the Farm Bill in order to limit the amount of sugar that domestic sugarcane and sugarbeet processors may market in a given year. Sugar farmers are free to produce as much sugar as they would like, but sugar produced in excess of amounts that may be marketed for the year must be stored at the expense of the processor.

Thus, FMAs protect taxpayers by preventing U.S. producers from marketing excess sugar that would depress the market and threaten the no cost requirement of the loan. The overall allotment quantity (OAQ) under FMAs is divided between sugarbeet processors and sugarcane processors based upon historical marketings. If either sector is unable to supply enough sugar to fill its allotment, USDA must reassign shortfalls to raw sugar imports, thus helping to ensure that domestic cane refiners have sufficient throughput and U.S. consumers have adequate supplies.

While allotments date back to 1934, the current FMAs were authorized in the 2002

Farm Bill, adjusted by the 2008 Farm Bill, and extended by the 2014 Farm Bill. One adjustment under the 2008 Farm Bill tasks USDA with setting the OAQ at not less than 85% of estimated U.S. human consumption of sugar for food.

While FMAs are designed to limit domestic marketing of sugar to ensure the no taxpayer cost operation of the nonrecourse loan, the 85% requirement ensures that imports above and beyond what U.S. trade commitments require and unrestricted imports from Mexico do not crowd out U.S. production in meeting U.S. domestic demand while also depressing prices received by U.S. farmers and processors and jeopardizing their viability. FMAs are established so imports under U.S. trade commitments along with domestic marketings allow U.S. processors to repay nonrecourse loans at no cost to taxpayers.

Tariff Rate Quotas (TRQs)

The U.S. consumes more sugar than it produces domestically and imports approximately 30% of its needs. Sugar is produced all over the world and has historically been one of the primary commodities that developing nations had to offer the world to generate income from trade. As a result, sugar has been a focal point of trade negotiations, with the United States being asked to provide access to its large domestic market. Access to the U.S. market has been granted to 41 foreign sugar producing nations through commitments made in various trade agreements.[21]

The U.S. is annually among the three largest importers of sugar in the world, making the U.S. sugar market one of the most open markets in the world. Given the nature of the world sugar market where sugar commonly trades well below the world's cost of production, developing countries with TRQ access to the U.S. market significantly benefit from participation in U.S. market.

The United States is required to provide market access for sugar and sugar-containing products based on commitments made under the auspices of the World Trade Organization (WTO), the Dominican Republic-Central American Free Trade Agreement (DR-CAFTA), the North American Free Trade Agreement (NAFTA) and to Chile, Colombia, Panama, and Peru under separate free trade agreements (FTAs).

The United States has a commitment within the WTO alone to allow not less than 1.117 million metric tons of sugar to enter the domestic market from 41 countries. Under the NAFTA agreement, starting in 2008, Mexico could export any amount of sugar it produced to the U.S. duty free.

Moreover, additional access has been granted pursuant to the just-concluded Trans-Pacific Partnership (TPP) agreement which, if approved, will open the U.S. sugar market to additional imports from Australia, Canada, Vietnam, Malaysia, and Japan.

Given these import access commitments made outside the context of the Farm Bill,

[21] See Appendix B for a complete list.

FMAs represent the only means by which USDA is able to protect U.S. taxpayers by ensuring that U.S. processors do not market amounts of sugar that, when added together with imports, result in loan forfeitures and costs to taxpayers.

Feedstock Flexibility Program (FFP)

This is another taxpayer protection provision. Congress provided USDA with this cost-containment tool in the event that dumped imports from Mexico or TRQ increases above U.S. trade commitment levels threaten to depress prices received by producers, causing loan forfeitures and taxpayer cost.

The FFP directs USDA to purchase sugar whenever there is a danger of forfeitures. As previously mentioned, the FFP, along with other tools authorized in law, is a cost-containment feature in the event that USDA is unable to administer the loan at no cost. The FFP not only minimizes costs in any year in which it is implemented but it also helps to avoid any costs in succeeding years. USDA may enter the market and purchase sugar from processors and offer that sugar to biofuels producers, although USDA has also offered already forfeited sugar to biofuels producers to use as a supplemental feedstock.

However, because U.S. sugar policy has successfully operated at no cost to U.S. taxpayers over a period of fifteen years, use of the FFP has proved unnecessary with the exception of the year in which Mexico was found to have illegally dumped below-cost sugar onto the U.S. market. When utilized, the FFP and other cost containment measures have minimized costs to sugar policy by avoiding additional forfeitures while gaining revenues from, for example, the sale of sugar to biofuels facilities.

Food Manufacturer Policy Proposals

During the 2012 to 2015 period, there have been bills introduced in the House of Representatives (H.R. 693 in the 113th Congress and H.R. 1714, 114th Congress) and the Senate (S. 345 in the 113th Congress and S. 475 in the 114th Congress) to change current U.S. sugar policy. In addition, during the lengthy 2014 Farm Bill development process there were amendments offered to the House and Senate versions of the Farm Bill to modify U.S. sugar policy (House of Representatives Amendment 98 to H.R. 1947 and Senate Amendment 2433 to S. 3240 and Senate Amendment 925 to S. 954).

The thrust of these bills and amendments entailed:

- Lowering loan rates to their 1985 established levels;
- Eliminating the goal that 85% of domestic consumption be met by domestic production under FMAs;
- Authorizing the suspension of FMAs if this is in the interest of consumers, workers in the food industry, businesses, and producers, and the relative competitiveness of domestically produced and imported foods with sugar;
- Eliminating the April 1 rule which prohibits the U.S. from increasing imports above and beyond minimum U.S.-import commitments until April 1;

- Making "reasonable prices" and a stocks-to-use ratio of 15.5% objectives of TRQ establishment, avoiding unreasonably high prices and forfeitures of sugar to the government, and consideration of impacts on consumers, workers, businesses, and producers;
- Allowing for the transfer of import quotas among quota holding countries; and
- Repealing the FFP.

Still, other reform proposals have entailed:

- Converting the nonrecourse loan into a recourse loan.
- Limiting the nonrecourse loan to smaller processors as measured by gross income.

Potential Impacts of Policy Proposals

The major elements of the proposals listed above were evaluated individually to determine the impacts of these proposals on U.S. taxpayers, U.S. farmers and processors, and domestic consumers. These results rely on basic economic theory and the authors' extensive background in farm policy analysis.

Loan Rates

Effect of a loan rate reduction

A lower loan rate set at levels established in 1985 means that U.S. processors and, therefore, U.S. farmers will have less support available to them during the period of the loan to pay off expenses relating to the production and processing of sugarbeets and sugarcane.

Lowering the loan rate would put U.S. farmers and processors in a more precarious economic position in times of depressed prices for producers when the safety net is actually needed for the following reasons:

First, for each one cent drop per pound in the price of sugar for an 8.5-million-ton crop, there is a corresponding drop in U.S. producer receipts of approximately $170 million.

Second, the cost of production has changed substantially since 1985 – 31 years ago – when the loan rates food manufacturers wish to revert to were first established. We know that, as costs of production rose between 1985 and the present, the loan rate remained static. By the time the loan rate was phased up by 4.2% under the 2008 Farm Bill, more than half of U.S. sugar processing facilities—54 in all—had closed their doors.

One of the primary roles of USDA's nonrecourse loan is to prevent the loss of productive capacity during periods of extremely depressed prices, which U.S. sugar farmers and processors would likely be facing. The loss of productive capacity that would result from returning to what were evidently unsustainably low loan rates would

ultimately yield supply shortages and higher sugar prices, wiping out any initial benefit of lower prices to food manufacturers resulting from a lowering of the loan rate.

While detailed cost of production studies for all sectors of the sugarbeet and sugarcane industries are needed to determine which processors and producers would be forced out of the industry, it is reasonable to conclude that lowering the loan rate by three quarters of one cent – and the consequent impact on processor receipts – would result in the further attrition of U.S. processors and farmers. In fact, the closure of four facilities since 2008 suggests the current loan rates are inadequate to maintain existing facilities.

With this attrition, of course, lenders and local economies in the affected regions would also be harmed. Moreover, as some farmers try to shift to other crops in hope of generating higher incomes these alternatives generally are lower valued and utilize fewer purchased inputs and less labor. This will result in a loss of income and adversely affect local communities. This would be unfolding in an economic environment that is, today, already very difficult for farmers and ranchers, with net farm income having dropped by 56% from 2013 to 2015, the largest two-year drop since the start of the Great Depression.[22]

Sugar crops are, naturally, subject to disease, drought, frosts, freeze, flooding, hail, excess moisture, high winds, hurricanes, and other natural disasters, making geographical diversity of domestic sugar especially important in reducing risks of market disruptions or shortages.

To this point, food manufacturers have declared that: "It is in sugar users' interest to have a viable, healthy sugar-producing and sugar-processing industry" and have further asserted that, "Because crop failures and other supply disruptions are always possible – as we have painfully been reminded this year – it is also in our interest as users to have a production sector that is geographically diverse."[23] Given the adverse impact lowering the loan rate to 1985 levels would have on U.S. sugar farmers and processors, the food manufacturers' advocacy of a lower loan rate is at odds with their stated objectives.

By proposing to weaken the safety net for U.S. sugar farmers to levels that resulted in the closure of more than half of American sugar processing facilities, the result would be three-fold: (1) further injury to U.S. sugar farmers and processors at those times when they require a safety net and food manufacturers are already benefiting by paying depressed market prices for sugar; (2) further depressed prices received by producers, loan forfeitures, and U.S. taxpayer costs; and (3) ultimately a substantial loss of U.S. sugar farmers and processors and, consequently, lower domestic sugar supplies and higher prices paid by food manufacturers, which they pass on as increased cost to consumers.

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[22] U.S. Department of Agriculture, Economic Research Service, "*Dips in Farm Sector Profitability Expected Into 2016*." http://www.ers.usda.gov/topics/farm-economy/farm-sector-income-finances/highlights-from-the-farm-income-forecast.aspx.

[23] See Sweetener Users Association's press release, February 17, 2006.

Effect of conversion to a recourse loan rather than a nonrecourse loan

Recourse loans provide no safety net. Under a recourse loan, a farmer does not have the option to forfeit the crop pledged as collateral as full repayment of the loan. Instead, the loan would be just like a bank loan where pledged collateral is forfeited if the borrower is unable to repay the loan and the lender may seize all other assets. Lenders would be less inclined to extend credit to processor and farmers operating in a market where the commodity's cash market price is below or even near the loan rate and the borrower only has access to a recourse loan. In the case of sugar where the processor takes out the loan, the processor's assets would be put at risk. With only a recourse loan available, landlords would be less likely to lease land for sugar production. Regardless of whether the lease is a cash rent or crop share arrangement, because in either case there would be considerable risk the landlord may not be paid.

This helps explain why nonrecourse loans are not unique to sugar. As previously noted, producers of 27 other commodities also have nonrecourse loans available to them, including producers of wheat, corn, grain sorghum, barley, oats, upland cotton, long grain rice, medium grain rice, soybeans, sunflower seed, rapeseed, canola, safflower, flaxseed, mustard seed, crambe, sesame seed, dry peas, lentils, small chickpeas, large chickpeas, graded wool, non-graded wool, mohair, honey, and peanuts. The nonrecourse loan is an essential part of the safety net for producers of these commodities.

Any conversion to recourse loans, therefore, would be a rare and dramatic departure from longstanding farm policy that has provided for nonrecourse loans since the first Farm Bill was enacted into law. This would have serious consequences for all of America's farmers, lenders, and landlords. But it would be particularly serious for sugar farmers and processors and their lenders and landlords because the nonrecourse loan is the only safety net that sugar farmers and processors have in the event of depressed prices. Even with respect to crop insurance, where producers of many commodities have access to revenue insurance policies that offer price swings within a crop year, sugar producers are ineligible for these policies due to the unique nature of the sugar market.

Because a conversion of the loan from nonrecourse to recourse would effectively eliminate the safety net for sugar farmers and processors, such a change in policy would work against the objective of food manufacturers to ensure a viable, healthy, and geographically diverse domestic sugar industry, but in a far more pronounced way than by lowering the loan rate.

Effect of restricting eligibility only to the smallest processors

Restricting participation in the nonrecourse loan to exclude "larger" processors (e.g., processors with proceeds from sugar sales in excess of $300 million in the previous crop year) would mean that these processors – comprised of large, medium, and small sized farmers – would still be bound by FMAs and subject to competition from imports

but would be denied the safety net currently provided by the nonrecourse loan.

The loss of the nonrecourse loan would mean that processors and farmers of all sizes – large, medium, and small – would experience significant cash flow difficulties between the time that they harvest and process sugar and the time they are able to market and sell that sugar. Processors and farmers would have bills coming due for the costs of production and processing without nonrecourse loans available to help them repay these costs.

The processor could attempt to market and sell the sugar immediately upon completing processing. However, this would result in the selling of sugar at harvest time, glutting the market, further driving down prices received by producers, and threatening forfeitures by processors that are still eligible for the loan and, ultimately, resulting in costs to the taxpayer. This may enable food manufacturers to buy at lower prices at this point in time, but it would also mean they would have to purchase supplies earlier than they need to, thus incurring the cost of having to store sugar. As previously discussed, food manufacturers are accustomed to just in time delivery of sugar, with sugar processors responsible for the cost of storage and maintenance of inventory which, among other things, require careful control of temperatures and humidity.

These larger processors could also attempt to obtain private financing as a bridge between harvest and processing and the sale of sugar. However, private lenders may not be inclined to extend credit to processors and farmers who have no safety net in the form of the nonrecourse loan, especially in times of depressed prices for producers. Lenders would recognize that these processors and farmers would have no safety net and producers are prohibited from increasing marketings in an attempt to improve economies of scale.

In a depressed price market, U.S. sugar processors would be forced to sell sugar at the depressed levels, perhaps at the forfeiture range or even lower. Under this scenario, the smaller processors that remain eligible for the loan would lose market share as they are undercut by lower prices. They would likely be forced to rely more heavily on the nonrecourse loan than on actual sugar sales in such a market where prices are forced lower and lower. In the final analysis, these smaller processors are more likely to simply forfeit sugar they have pledged as collateral under the loan, thus resulting in taxpayer cost. An alternative may be for small processors to repay their loans and sell their sugar onto the market at a loss. However, selling sugar at a loss rather than capturing the value of the nonrecourse loan through forfeitures would likely be a violation of the processors' fiduciary duty to farmers.

The net effect, then, of restricting eligibility for the loan is to eliminate the effectiveness of U.S. sugar policy for all processors and farmers, irrespective of size, and to increase the risk of forfeitures and costs to the U.S. taxpayer.

It is easy to overlook that "larger" processors are comprised of small, medium, and large-size farmers. Thus, even if a larger processor could somehow survive without the

benefit of the nonrecourse loan, smaller and medium size farmers of which that processor is comprised would not likely survive as the processor passes on lower receipts from sugar sales. This, in turn, would result in additional costs being borne by remaining farmer members of the processor even as they receive lower receipts for their sugar, ultimately driving the processor out of business.

In addition, a processor's sales from a preceding year do not reflect that processor's sales for the current year. In fact, the sales could be starkly different. Under the food manufacturers' proposal, a processor with sales over $300 million in the current year could still access nonrecourse loans if the same processor had sales of less than $300 million in the previous year. Moreover, a processor with sales below $300 million in the current year could be denied access to the nonrecourse loan if in the prior year that processors' sales exceeded $300 million. And, of course, the proceeds from sugar sales do not translate into profits. A processor may have had sales of $300 million or more and still reported a loss. There is a tremendous difference between gross and net income that this proposal by food manufacturers does not consider.

For these reasons, once again, this policy proposal is at odds with the food manufacturers' objective of a viable, healthy, and geographically diverse domestic sugar industry. In the near term, food manufacturers might benefit from depressed sugar prices for producers. However, these depressed prices are likely to result in forfeitures and taxpayer costs.

Ultimately, as the effectiveness of the safety net withers, U.S. sugar farmers and processors would certainly be lost. Smaller processors and the small and medium size farmers of both large and small processors would generally be the most vulnerable. But, all U.S. sugar processors and farmers would be in economic jeopardy under this scenario. As domestic industry is lost and supplies are diminished, food manufacturers will pay more for sugar and pass that higher cost on to consumers.

Flexible Marketing Allotments

Effect of suspending FMAs

Under certain market conditions, suspending FMAs could result in increased domestic production and marketing, suppressing prices received by producers, leading to forfeitures, and resulting in taxpayer cost. The effect of relaxing marketing allotments based on some subjective standards (e.g., to obtain "reasonable" prices) could be the same as the effect of an outright suspension of marketing allotments and also result in forfeitures and cost to the U.S. taxpayer. Even in an environment where allotments are not being filled, keeping this feature of U.S. sugar policy on the books is important in protecting U.S. taxpayers because circumstances, such as lower domestic demand, may change.

Moreover, as has been previously discussed, significant price-suppression may be attractive to food manufacturers in the short-term but over the long-term it would

jeopardize the viable, healthy, and geographically diverse domestic industry that they state they need. As we have previously discussed, this also has adverse ramifications for U.S. consumers as well as food manufacturers.

Effect of eliminating the provision establishing overall allotment quantity (OAQ) with goal of U.S. producers meeting 85% of domestic consumption

Minimum import levels are essentially fixed under U.S. trade commitments. Thus, foreign processors and producers have a guaranteed, minimum share of the U.S. market. This guaranteed minimum can only increase and it may never be decreased, even in the event of lower domestic demand.

Conversely, the 85% rule is the only provision in law that helps to ensure that domestic farmers and processors have a share of their own market. Without the 85% provision, there is no limit on how much import levels might be raised. Meanwhile, U.S. farmers and processors, who would enjoy no such minimum, could see their share of their own domestic market further constricted under tightening allotments in order to make room for additional imports. The result would be the continued loss of U.S. farmers and processors.

In an environment of depressed prices and lost market share, U.S. processors and farmers would first struggle financially due to the lower prices they receive and lost sales, resulting in forfeitures and taxpayer costs. Over time, however, the unlevel playing field, along with depressed prices, would result in the attrition of U.S. processors and farmers, with the adverse consequences for consumers and food manufacturers that we have previously discussed.

TRQ Administration

Effect of eliminating or modifying the April 1 provision

USDA must establish TRQs at the minimum level under U.S. trade commitments until April 1, halfway through the October-September marketing year, unless an emergency requires an increase prior to April 1. This ensures that imports and domestic overall allotment quantities, taken together, will not result in price-depressing market surpluses that would result in forfeitures and cost to the U.S. taxpayer. Typically, by April 1, 84% of domestic sugar production has occurred, and much more is known about the pace of U.S. consumption and imports.[24]

In the past, USDA has established import levels above the minimum levels required before a marketing year has even begun, speculating that the market would need the additional supplies. In doing so, USDA has attempted to estimate supplies before the sugar crop in the U.S. has been harvested, stored, and processed, each stage of which has an impact upon actual sugar supplies. Then, when U.S. production or imports from

[24] U.S. Department of Agriculture, Economic Research Service, Table 18. http://www.ers.usda.gov/data-products/sugar-and-sweeteners-yearbook-tables.aspx.

Mexico later proved to be greater than expected, or domestic consumption proved to be less than expected, the unneeded additional imports depressed the market and threatened forfeitures and taxpayer costs. The April 1 provision, added by the 2008 Farm Bill, protects taxpayers from USDA unnecessarily increasing imports early in the marketing year, resulting in forfeitures, and taxpayer cost.

After April 1, much speculation is removed. USDA has greater certainty with respect to domestic and Mexican production, imports, and consumption levels—although since Mexican imports are unlimited a considerable element of uncertainty still remains. USDA may increase imports above and beyond U.S. commitments in order to meet any unmet domestic demand.

In addition to protecting taxpayers, the April 1 rule benefits U.S. producers, as well as foreign quota holders. By eliminating or modifying the April 1 rule, the risk of speculative, unnecessary import increases rises, as does the risk of depressed prices for producers, forfeitures, and costs to U.S. taxpayers.

In a similar way, subjective rules and higher than traditional stocks-to-use ratios proposed by food manufacturers relative to TRQ establishment would invite further risk of depressed prices, forfeitures, and taxpayer cost.

Effect of allowing transfer of quotas among quota holders

U.S. market access commitments relative to sugar imports are very substantial. As previously mentioned, the U.S. is consistently among the three largest importers of sugar in the world today. U.S. commitments were made to individual countries, granting these countries' sugar minimum access to the U.S. domestic sugar market. If any quota holder is unable to fill its minimum and there is unmet demand in the U.S. market, the U.S. government routinely and equitably reassigns those import-quota shortfalls to the governments of quota-holder countries that have the additional sugar to sell.

The commercial transfer of quotas among quota holders would jeopardize the equitable treatment of quota holders and is, therefore, opposed by many developing countries. The potential for fraud and the transfer of quota rents to commercial rather than quota-holder interests would also be far greater. Moreover, the U.S. government would lose some level of control over TRQs, thus increasing chances for forfeitures and taxpayer cost because in some years, the market simply may not need all TRQs to be filled. The resulting low U.S. prices would harm quota holders as well.

Feedstock Flexibility Program

Effect of eliminating the FFP

This is another provision that reduces the risk of taxpayer costs. The FFP requires USDA to purchase sugar and sell that sugar into the biofuels market in any year where forfeitures are threatened. The volume of sugar removed by USDA to biofuels plants

reduces the risk of cost to the taxpayer from sugar loan forfeitures. If the FFP were eliminated, the cost to the taxpayer increases in that year when the FFP would have been in effect and risks further taxpayer costs in succeeding years.

USDA has also used the FFP to sell already forfeited sugar into the biofuels market. Therefore, if the FFP were eliminated the sugar in USDA Commodity Credit Corporation (CCC) inventory would depress sugar prices in subsequent years. As long as the CCC holds an inventory of sugar, the market supply and use tables will show the stocks as a fixed component of supply. The market knows the CCC inventory will re-enter the market when the market price exceeds the loan rate were the FFP to be eliminated. The result is that the CCC inventory maintains constant downward pressure on prices to stay at or below the loan rate and CCC stocks accumulate year after year.

The situation described here was observed during the 1960s and 1970s for wheat and corn so it is very likely the same effects would be observed for sugar if the FFP were removed. The FFP is a safety valve to avoid continued accumulation of CCC sugar stocks and depressed prices that result in forfeitures and taxpayer cost.

Building CCC stocks of sugar also leads to storage and interest costs for the CCC. The only way to reduce these costs is to remove the sugar from the domestic food market for immediate disposal for other purposes, as the FFP does. While there are other cost containment tools available to USDA, the FFP is most effective because its objective is to avoid forfeitures in the first place, while the other mechanisms mainly address removal of CCC inventories that have already accrued from forfeitures. In this sense, the FFP is the most effective cost containment option for both minimizing costs in a given year and avoiding costs in subsequent years.
The CCC cannot subsidize sales of sugar onto the world market because this would violate World Trade Organization rules against export subsidies. Given the distorted, dump nature of the world sugar market, the CCC would almost certainly have to export the sugar at prices below the prevailing domestic price and most likely at lower than domestic costs of production.

Impact of Food Manufacturer Proposals on U.S. Consumers

While these policies that would further depress the price of sugar that producers receive in the U.S. may be of some economic advantage to food manufacturers in the short term, given the small cost of sugar's share of the food manufacturers' overall costs of doing business, the impact on consumers would be negligible at first but very likely would ultimately be negative.

For example, sugar's share in the value of a chocolate bar was estimated at two cents in 1983 and remains two cents today, although the price consumers pay for that chocolate bar has increased from thirty-five cents to $1.49.[25]

[25] Sugar prices: USDA, wholesale refined sugar, Midwest markets, 1983 = calendar average; 2016 = January-March average. Hershey bar prices: Hershey Bar index: www.foodtimeline.orf/foodfaq5.html and Safeway price, April 2016.

And, based upon historical fluctuations of sugar prices and their impacts upon the prices consumers pay for sugar, there is little evidence to suggest that U.S. consumers would stand to benefit from the food manufacturers' proposals. For instance, while wholesale sugar prices fell by 48% from 2010 to 2015, retail sugar and sweetened product prices actually increased over the same period.[26]

In fact, according to SIS International Research,[27] the developed-country-average retail sugar price is 29% higher than in the U.S. and the global all-country average is 20% higher. This research sheds considerable doubt upon claims by food manufacturers that U.S. consumers would see cheaper sugar or sugar containing products at the grocery store if U.S. producer prices for sugar were to fall.

But, perhaps, more importantly, as U.S. farmers and processors are lost and domestic supplies tighten, prices over the long haul are likely to be higher and more volatile.

It is noteworthy that on the two occasions when U.S. sugar policy was not in effect (i.e. 1975-1976; 1980-1981[28]) world sugar prices reached record levels, resulting in food manufacturers paying significantly more for the sugar they purchased. This contradicts the belief among some critics of U.S. sugar policy that eliminating this policy would translate into lower prices. In fact, a stronger case may be made that by eliminating U.S. sugar policy, not only are U.S. processors and producers seriously threatened, but countries with substantial market access to the U.S. market are also threatened, resulting in sharply reduced supplies from both and also in higher prices. The effect of significantly weakening U.S. sugar policy would have similar though not as pronounced effects as elimination. The added cost to food manufacturers would be passed on to consumers.

Summary and Conclusions

The United States has provided a safety net for U.S. sugar producers for more than 200 years in response to a heavily subsidized and distorted world sugar market.

While policymakers have on a few brief occasions opted to provide subsidies to sugar producers, a subsidy approach has proved costly and ineffective. For example, from 1891 to 1894, a two-cent per pound annual payment or "bounty" was made to sugar farmers. In today's terms, this amounts to a sixty-six cents per pound payment. Given the unique structure of the industry, the nature of the world market, and the U.S. as an importer of sugar, traditional income supports common to export commodities are not cost-effective or sustainable.

[26] Wholesale sugar-USDA. Retail products-Bureau of Labor Statistics. Monthly average prices through February 2016.
[27] SIS International Research, "*Global Retail Sugar Prices*," New York, July 2015.
[28] U.S. Department of Agriculture, Economic Research Service. "*Sugar: Background for 1990 Farm Legislation*," Page VI, February 1990. http://www.ers.usda.gov/publications/ages/ages9006.aspx

As such, policymakers have generally settled on a no cost to taxpayer approach to U.S. sugar policy and, in fact, the 1985 Farm Bill and four subsequent Farm Bills have required no taxpayer cost.

U.S. sugar policy has operated at no cost to U.S. taxpayers over a period of the last fifteen years with the exception of 2013, the year Mexico was found to have illegally dumped below-cost sugar onto the U.S. market. Measured over a longer period of time, U.S. sugar policy has operated at no cost in all but three of the past twenty-nine years.

Current sugar policy has three key components: (1) nonrecourse loans provided under the Farm Bill; (2) FMAs, also provided under the Farm Bill; and (3) TRQs or import market access commitments provided under U.S. trade agreements.

Cost-containment features authorized by the Farm Bill, including the Feedstock Flexibility Program, are also vitally important.

The no cost requirement of U.S. sugar policy is significant and means that the policy tools authorized have to be coordinated to ensure the policy, in fact, runs at no cost to taxpayers. Cost containment features enter in where the no cost requirement cannot be met by USDA, minimizing costs in the year the features are utilized and avoiding taxpayer costs in succeeding years.

This no cost requirement is difficult to attain as U.S. sugar farmers and processors operate in one of the most manipulated and distorted commodity markets in the world. Governments around the world have put policies in place to protect domestic producers from international competition while subsidizing production and dumping exports onto the world market at below their cost of production and below their domestic prices.

Given the world market environment for sugar, the policy tools that are the key components of U.S. sugar policy must also be coordinated so producers and processors are provided with an effective safety net.

Food manufacturers claim they want U.S. sugar processors and producers to stay in business, and they are only proposing modest changes in the policy to restore balance in how it is administered.

The results of this analysis, however, suggest that the changes proposed by food manufacturers are all geared to advantage these users, at least in the short term, by further depressing the price they pay for sugar at the significant expense of U.S. taxpayers and sugarcane and sugarbeet producers and processors. However, in the long term, the food manufacturers' proposals would work against their own stated position that it is important for them to maintain a viable, healthy, and geographically diverse U.S. sugar industry. The impact on consumers would be negligible at first but, ultimately, negative.

By proposing to weaken the safety net for U.S. sugar farmers to levels that have already resulted in the closure of more than half of American sugar processors since 1985, the result would be three-fold: (1) further injury to U.S. sugar farmers and processors at those times when they require a safety net and food manufacturers are already benefiting from low market prices for sugar; (2) further depressed prices received by producers, loan forfeitures, and U.S. taxpayer costs; and (3) ultimately, a substantial loss of U.S. sugar farmers and processors and, consequently, lower domestic sugar supplies and higher prices paid by food manufacturers, which the users will pass on to consumers.

Appendix A:

U.S. RAW CANE SUGAR MILLS, REFINERIES, AND SUGARBEET PROCESSING PLANT CLOSINGS:

56 CLOSURES SINCE 1985; 48 OPERATIONS REMAIN IN 2016

FARM BILL	CLOSED		COMPANY	CITY	STATE
2014 Farm Bill					
(1 beet; 1 cane)	2016*	Beet	Western Sugar	Torrington	Wyoming
	2016*	Cane	HC&S	Maui	Hawaii
2008 Farm Bill					
(1 beet; 1 cane)	2009	Cane	Gay and Robinson	Kauai	Hawaii
	2008	Beet	Spreckels Sugar	Mendota	California
2002 Farm Bill					
(5 beet; 9 cane)	2007	Cane	S. Louisiana Sugar	St. James	Louisiana
		Cane	U.S. Sugar	Bryant	Florida
	2005	Beet	Michigan Sugar	Carorollton	Michigan
		Beet	Amalgamated	Nyssa	Oregon
		Cane	Jeanerette	Jeanerette	Louisiana
		Cane	Cinclare Central	Brusly	Louisiana
		Cane	Atlantic	Belle Glade	Florida
		Cane	New Iberia Cooperative	New Iberia	Louisiana
	2004	*Cane Ref*	*Domino*	*Brooklyn*	*New York*
	2003	Beet	Western Sugar	Greeley	Colorado
		Beet	Pacific Northwest	Moses Lake	Washington
		Cane Ref	*Imperial*	*Sugar Land*	*Texas*
		Cane	Glenwood	Napoleonville	Louisiana
	2002	Beet	Western Sugar	Bayard	Nebraska
1996 Farm Bill					
(7 beet; 13 cane)	2001	Cane	Evan Hall Cooperative	Donaldsonville	Louisiana
		Cane	Caldwell Sugar Cooperative	Thibodaux	Louisiana
	2000	Beet	Holly Sugar	Woodland	California
		Beet	Holly Sugar	Tracy	California
		Cane	HC&S	Maui	Hawaii
		Cane	Lihue Plantation	Kauai	Hawaii
		Cane	Kekaha Sugar	Kauai	Hawaii
	1999	Cane	Pioneer	Maui	Hawaii
		Cane	Talisman	South Bay	Florida
		Cane Ref	*Imperial*	*Everglades*	*Florida*
	1998	Beet	Holly Sugar	Hereford	Texas
		Cane	Breaux Bridge	Breaux Bridge	Louisiana
	1996	Beet	Spreckels Sugar	Manteca	California
		Beet	Holly Sugar	Hamilton City	California
		Beet	Western Sugar	Mitchell	Nebraska
		Beet	Great Lakes Sugar	Fremont	Ohio
		Cane Ref	*C&H*	*Oahu*	*Hawaii*
		Cane	Ka'u Agribusiness	Big Island	Hawaii
		Cane	Waialua Sugar	Oahu	Hawaii
		Cane	McBryde Sugar	Kauai	Hawaii
1990 Farm Bill					
(2 beet; 5 cane)	1995	*Cane Ref*	*Supreme*	*Supreme*	*Louisiana*
	1994	Cane	Oahu Sugar	Oahu	Hawaii
		Cane	Hamakua Sugar	Island of Hawaii	Hawaii
		Cane	Hilo Sugar	Island of Hawaii	Hawaii
		Cane	Columbia	Edgard	Louisiana
	1993	Beet	Delta Sugar	Clarksburg	California
		Beet	Holly Sugar	Betteravia	California

1985 Farm Bill					
(5 beet; 8 cane)	1989	Cane	Oaklawn Sugars	Franklin	Louisiana
	1988	Cane	Wailuku Agribusiness	Maui	Hawaii
		Cane Ref	*Amstar (Domino)*	*Boston*	*Massachusetts*
	1987	*Cane Ref*	*Colonial*	*St. Louis*	*Missouri*
	1986	*Cane Ref*	*Florida Sugar*	*Belle Glade*	*Florida*
	1985	Beet	Western Sugar	Loveland	*Colorado*
		Beet	Western Sugar	Ovid	*Colorado*
		Beet	Western Sugar	Sterling	*Colorado*
		Beet	Western Sugar	Goodland	Kansas
		Beet	Western Sugar	Gering	Nebraska
		Cane Ref	*Godchaux-Henderson*	*Reserve*	*Louisiana*
		Cane Ref	*Louisiana Sugar Cane*	*Mathews*	*Louisiana*
		Cane Ref	*Revere*	*Brooklyn*	*New York*

* At the end of 2016, a sugarbeet factory in Wyoming and the last of the sugarcane mills in Hawaii will close.

Appendix B:

U.S. Trade-Agreement Sugar-Import Concessions, by Country:
Actual for 2015/16, Negotiated under TPP[1]
-- Metric tons, raw value --

Country	WTO		NAFTA[2]	CAFTA	Bilateral FTAs	TPP	TOTAL	Comment
	Raw	Refined						
Argentina	45,281						45,281	
Australia	87,402				0	65,000	152,402	60,500 mt raw; remainder raw, refined, or SCP. Also 23% of additional TRQ needs.
Barbados	7,371						7,371	
Belize	11,584						11,584	
Bolivia	8,424						8,424	
Brazil	152,691						152,691	
Canada		10,300	0			9,600	19,900	Also 9,600 mt of sugar in SCPs and 20% of additional refined needs.
Colombia	25,273				53,000		78,273	Grows by 750 mt/yr, forever.
Congo	7,266						7,266	
Costa Rica	15,796			13,200			28,996	Grows by 120 mt/yr, forever.
Cote d'Ivoire	7,266						7,266	
Dominican Republic	185,335			12,000			197,335	
Ecuador	11,584						11,584	
El Salvador	27,379			32,860			60,239	Grows by 860 mt/yr, forever.
Fiji	9,477						9,477	
Gabon	7,266						7,266	
Guatemala	50,546			44,520			95,066	Grows by 940 mt/yr, forever.
Guyana	12,636						12,636	
Haiti	7,266						7,266	
Honduras	10,530			9,600			20,130	Grows by 160 mt/yr, forever.
India	8,424						8,424	
Jamaica	11,584						11,584	
Japan						100	100	
Madagascar	7,266						7,266	
Malawi	10,530						10,530	
Mauritius	12,636						12,636	
Malaysia						500	500	
Mexico[3]	7,258		1,397,000				1,397,000	Does not fill WTO quota. 100% of US import needs above trade-agreement minimums.
Mozambique	13,690						13,690	
Nicaragua	22,114			26,400			48,514	Grows by 440 mt/yr, forever.
Panama	30,538				6,800		37,338	6,060 mt raw; remainder raw, refined, or SCP. Grows by 60 mt/yr, until 2022.
Papua New Guinea	7,266						7,266	
Paraguay	7,258						7,258	
Peru[4]	43,175				2,000		45,175	Specialty sugar. Basic quota grows by 160 mt/yr, forever.
Philippines	142,160						142,160	
South Africa	24,220						24,220	
St. Kitts & Nevis	7,266						7,266	
Swaziland	16,849						16,849	
Taiwan	12,636						12,636	
Thailand	14,743						14,743	
Trinidad-Tobago	7,371						7,371	
Uruguay	7,266						7,266	
Vietnam						1,500	1,500	
Zimbabwe	12,636						12,636	
Global (Specialty)		133,746					133,746	
Total	**1,117,186**	**144,046**	**1,397,000**	**138,580**	**61,800**	**76,700**	**2,928,083**	Total CAFTA access grows by 2,640 mt/yr, forever
Source: USDA.							**1,531,083**	**Total less Mexico**

[1] TPP negotiated, not yet passed. CAFTA and bilateral FTA access on calendar year basis and access contingent on net-exporter status. Raw or refined, unless specified. Quotas of the twelve countries that tend not to fill (~79,000 mt total) are generally re-allocated to countries that have sugar available to ship.

[2] Canada did not participate in the sugar provisions of the NAFTA.

[3] Access granted in Suspension Agreements, December 2014; calculated each year based on U.S. needs.

[4] Initial Peru access 11,000 mt/yr., but not granted because not net exporter. Specialty sugar not subject to net exporter status.