
February 1997

COMMODITY PROGRAMS

Impact of Support Provisions on Selected Commodity Prices





United States
General Accounting Office
Washington, D.C. 20548

Resources, Community, and
Economic Development Division

B-275856

February 21, 1997

The Honorable John R. Kasich
Chairman, Committee on the Budget
House of Representatives

Dear Mr. Chairman:

The momentum for change in U.S. agricultural policy began with the passage of the 1985 farm act, when efforts were made to make federal farm programs more market-oriented and to reduce the amount of support that the government guarantees producers for their commodities. The 1990 and 1996 farm acts continued to build on these efforts and introduced additional changes.

However, the Congress retained a number of income- and price-support provisions as a safety net for producers. In particular, nonrecourse loans with marketing loan provisions continue to be available for a number of commodities, including upland cotton (hereafter referred to as cotton),¹ rice, wheat, feedgrains, and oilseeds. Through nonrecourse loans, producers pledge their commodities as collateral and upon forfeiture receive guaranteed minimum returns based on prices known as loan rates. The marketing loan provisions, which allow producers to repay their loans at alternative repayment rates that are lower than the loan rates, were added to nonrecourse loans, in part to prevent the loan rates from serving as price floors while protecting producers' income from the effects of low market prices. In addition, for cotton, peanuts, and sugar, other mechanisms are in place to help support producers and related industries. Under the cotton program, domestic mills and cotton exporters receive a payment—known as the step 2 payment—to help defray the higher cost of U.S. cotton and make it more competitive in world markets. Similarly, the peanut and sugar programs have price-support features. For example, the peanut program has domestic marketing restrictions and the sugar program has a tariff-rate import quota.²

Concerned about how these remaining support provisions affect U.S. commodity prices in comparison with world prices, you asked the following questions: (1) Do marketing loan provisions prevent loan rates

¹Two major types of cotton are produced in the world: upland and extra-long staple. About 98 percent of the cotton grown in the United States is upland cotton.

²The tariff-rate import quota permits a limited level of imports at a low tariff rate, set at 0.625 cent per pound. Any additional imports beyond that level are assessed a higher tariff rate that makes imports prohibitively expensive.

from acting as price floors and do they allow U.S. prices to fall to levels that are closer to world prices? (2) What effect would lower loan rates have on the relationship between U.S. and world prices? (3) How would a lower loan rate affect step 2 payments for cotton exports and what impact have recent changes in the timing of payments had on the program's effectiveness? (4) What steps could be taken to make the peanut and sugar programs more market-oriented?

Background

Nonrecourse loans have long been the government's major price-support instrument and provide operating capital to producers of commodities, including cotton, rice, wheat, feedgrains, and oilseeds. Producers store their commodities under loan until later in the marketing year, when prices are usually higher than they are at harvest. Producers have the option either to repay their loans with interest at any time or, at the end of the loan period, to forfeit their commodities to the government and have their interest payments forgiven. The government has "no recourse" but to accept the commodities as payment. In the past, when market conditions would have led to U.S. prices falling below the loan rates, the loan rates supported U.S. prices.³ This happened because producers preferred to forfeit their commodities to the government rather than sell them at lower market prices that would have given them less than the face value of the loans. Under these market conditions, U.S. prices were supported and the government accumulated large and costly stocks.⁴

For cotton, rice, wheat, feedgrains, and oilseeds, the Congress added marketing loan provisions to nonrecourse loans⁵ to eliminate the price floors created by the loan rates while protecting producers' income from the effects of low market prices. The intent was to minimize loan forfeitures and the accumulation of government stocks and to lower U.S. prices to levels closer to world prices. The marketing loan provisions allow producers to pay back nonrecourse loans at alternative repayment rates when these rates are lower than the loan rates.

³For this review, when we refer to U.S. prices, we mean the prices that producers receive when selling their commodities in local cash markets.

⁴Before the 1996 farm act, once commodities were forfeited to the government, they typically remained off the market for a long time, thereby supporting prices. The government was not allowed to sell the commodities it had acquired unless U.S. prices rose to statutorily established release prices. The 1996 farm act eliminated the release-price restrictions on the sale of government-held commodities, which could have the effect of limiting the price-supporting ability of nonrecourse loans.

⁵Marketing loan provisions have been available for rice and cotton since 1986, for oilseeds since 1991, and for wheat and feedgrains since 1993.

To establish alternative repayment rates, the U.S. Department of Agriculture (USDA) first determines a proxy for the world price for each commodity. These proxies for world prices are based on price data obtained from international markets for cotton and rice and from major U.S. terminal markets for wheat, feedgrains, and oilseeds. Next, USDA adjusts the proxies for world prices (these proxies are hereafter referred to as world prices) for quality differences and for transportation costs⁶ to arrive at the relevant alternative repayment rates. For cotton and rice loans, the alternative repayment rates are set weekly and are known as adjusted world prices. For wheat, feedgrain, and soybean loans, the alternative repayment rates are set daily and are known as posted county prices. For minor oilseeds, (such as flaxseed, sunflower seed, and canola) these rates are set weekly and are known as regionally calculated prices.

When alternative repayment rates are below the loan rates, producers can repay their nonrecourse loans at these lower rates. Because producers keep the difference between the loan rate and the alternative repayment rate, which is known as a “marketing loan gain,” they should be able to sell their commodities at market prices and receive a total return—market price plus marketing loan gain—that is at least equal to the loan rate.⁷ Alternatively, producers who do not take out loans may still receive government payments equal to marketing loan gains. These amounts are called loan deficiency payments. (See app. I for more information on how program benefits are calculated.)

For some commodities, certain program factors have kept U.S. prices higher than world prices. These factors vary by commodity program, and we have reported on them for cotton, peanuts, and sugar.⁸ For example, several features of the cotton program, such as import restrictions and the availability of government-paid storage when the adjusted world price is below the loan rate, reduced producers’ incentives to sell cotton to the market and thereby kept U.S. prices above world prices. High U.S. cotton prices, coupled with import restrictions, adversely affected cotton

⁶For cotton, world prices are adjusted for transportation costs from a designated central location in the United States to Northern Europe. For rice, world prices are adjusted for transportation costs from the United States to selected Asian markets. For wheat, feedgrains, and oilseeds, world prices are adjusted for transportation costs from the county where the commodity is grown to the terminal market.

⁷Producers’ total return will be less than the loan rate only if they sell at a market price that is below the alternative repayment rate.

⁸Cotton Program: Costly and Complex Government Program Needs to Be Reassessed (GAO/RCED-95-107, June 20, 1995). Peanut Program: Changes Are Needed to Make the Program Responsive to Market Forces (GAO/RCED-93-18, Feb. 8, 1993). Sugar Program: Changing Domestic and International Conditions Require Program Changes (GAO/RCED-93-84, Apr. 16, 1993).

exporters and domestic mills that had to purchase higher-priced U.S. cotton. Consequently, the 1990 farm act included a provision for step 2 payments to be made to exporters and domestic mills to offset higher U.S. prices. These payments were continued in the 1996 farm act. USDA recently changed its procedures for making step 2 payments. Under the new procedures, exporters will receive the step 2 payment rate that is in effect during the week the cotton is shipped instead of the week in which cotton sales were contracted. For peanuts and sugar, the programs' price-support features, such as domestic marketing restrictions for peanuts and the tariff-rate import quota for sugar, have continued to keep U.S. prices high. The Congress changed these programs in the 1996 farm act to help lower U.S. peanut and sugar prices, decrease the government's costs, and reduce production and consumption inefficiencies created by the programs' past features.

Results in Brief

When alternative repayment rates, which are derived from USDA's proxies for world prices, are near or below the loan rates, the marketing loan provisions may prevent the loan rates from serving as price floors. For example, during the last 10 years, when marketing loan provisions were in effect for rice, the price data suggest that when the adjusted world price was substantially lower than the loan rate, the marketing loan provisions prevented the loan rate from serving as a price floor, and the U.S. price fell below the loan rate. For cotton, the price data are inconclusive, and, therefore, it is less certain whether the marketing loan provisions have prevented the loan rates from acting as a price floor. For wheat, feedgrains, and most oilseeds, since marketing loan provisions went into effect, U.S. prices have generally been higher than the loan rates. As a result, the price data needed to assess the effectiveness of the marketing loan provisions are limited, which makes it difficult to test whether the marketing loan provisions are preventing the loan rates from serving as price floors. However, even if the marketing loan provisions allow U.S. prices to fall below the loan rates, U.S. prices will remain higher than adjusted world prices for some commodities, such as cotton and rice. This is because the marketing loan provisions cannot overcome the effects of other program features and market factors that have kept U.S. prices higher than adjusted world prices. In contrast, when U.S. and adjusted world prices are above the loan rates, as they have been in recent years, producers would not use marketing loan provisions, and these provisions therefore would have no effect on U.S. prices. According to USDA's 1996 forecast, these market conditions could continue for some commodities over the 7-year duration of the 1996 farm act.

Lowering the loan rates has little if any effect on U.S. prices when alternative repayment rates are above the loan rates. However, when alternative repayment rates are near or below the loan rates, the effect on U.S. prices of lowering the loan rates differs by commodity. For cotton and rice, the availability of nonrecourse loans, in combination with other program and market factors, keeps U.S. prices significantly higher than adjusted world prices. Therefore, lowering the loan rates is likely to allow U.S. prices to fall to levels that are closer to adjusted world prices. For wheat, feedgrains, and oilseeds, most experts assert that the marketing loan provisions will work as intended to overcome the price-supporting effects of the nonrecourse loans. For these crops, lowering the loan rates would have little if any impact on U.S. prices. On the other hand, a few experts assert that the marketing loan provisions may not work as intended and U.S. prices will continue to be supported by the loan rates. In this case, lowering the loan rates may have some downward effect on U.S. prices.

To the extent that a lower loan rate results in lower U.S. cotton prices, step 2 payments would be reduced but not eliminated. Step 2 payments would continue to be made because the marketing loan provisions have not been able to overcome the cotton program's other features—such as government-paid storage—that help keep U.S. cotton prices higher than adjusted world prices. However, because of recent changes in how USDA makes step 2 payments to exporters, these payments may no longer directly offset higher U.S. prices and therefore may be less effective in enhancing exports.

Further changes can be made to make the peanut and sugar programs more market-oriented. While the 1996 farm act changed the peanut and sugar programs to help make them more market-oriented, U.S. prices will continue to be higher than world prices because some income- and price-support features remain. Additional reductions in the quota support price for peanuts will lower U.S. prices and increase economic efficiency. An increase in the tariff-rate import quota for sugar (allowing more sugar to be imported at the lower tariff rate), or its elimination entirely (no import restrictions), would result in lower U.S. prices. Once prices fall to the level of the loan rate, reductions in the loan rate would be necessary to reduce prices further.

Marketing Loan Provisions May Eliminate Price Floors, but U.S. Cotton and Rice Prices Will Remain Higher Than Adjusted World Prices

When alternative repayment rates are near or below the loan rates, the marketing loan provisions may prevent the loan rates from serving as price floors. In the past, these market conditions have occurred for some commodities, and producers received marketing loan gains or loan deficiency payments. Although the historical price data⁹ were inconclusive or limited for cotton, wheat, feedgrains, and oilseeds, the data for rice suggest that the marketing loan provisions have prevented the loan rate from serving as a price floor when the adjusted world price was substantially lower than the loan rate. (See app. II for our detailed analyses of the impact of the marketing loan provisions on U.S. prices for each of these commodities.)

For rice, during the last 10 years, when the marketing loan provisions were in effect, the adjusted world price was below the loan rate in 81 months.¹⁰ During 21 of these 81 months, when the adjusted world price was particularly low, the U.S. price was also below the loan rate. This suggests that the provisions worked as intended, and the loan rate did not act as a price floor for rice. While USDA officials generally agreed that the historical price data support this view, they stated that it is hard to separate out the effects of other changes made to the rice program during this period (such as the acreage reduction program) that may also have had an impact on lowering U.S. prices.

For cotton, the price data are inconclusive on the effectiveness of the marketing loan provisions in preventing the loan rate from serving as a price floor because the adjusted world price has not fallen significantly below the loan rate since the marketing loan provisions went into effect. Until market conditions cause the adjusted world price to drop significantly below the loan rate—low enough to overcome the effects of other program features and market factors that keep the U.S. price above the adjusted world price—it cannot be conclusively determined whether the loan rate will still act as a price floor for cotton under the marketing loan provisions.

In commenting on a draft of this report, USDA officials told us that there is substantial evidence that the loan rate for cotton has not served as a price

⁹We recognize that one limitation of using historical data is that some programs (such as the farmer-owned reserve and acreage reduction programs) that affected U.S. prices in the past have been eliminated by the 1996 farm act.

¹⁰We did not include as part of our analysis the period from January 1986 through October 1987 because over this period the government was releasing excess rice stocks that it had accumulated in previous years. This excess supply drove U.S. prices below the loan rate. The 81 months occurred from November 1987 through July 1996.

floor since the marketing loan provisions went into effect. They base their view on a comparison of loan forfeitures and the accumulation of government stocks both before and after the marketing loan provisions went into effect, for those times when the U.S. price was only a few cents per pound above the loan rate. We agree that the data on forfeitures and stock accumulation merit consideration in determining whether the loan rate is serving as a price floor, but we found that forfeitures have continued to occur in some years, although the quantity forfeited is lower, since the marketing loan provisions went into effect. Therefore, we believe that it is necessary to observe what happens to U.S. prices during a period when the adjusted world price falls significantly below the loan rate in order to confirm that the marketing loan provisions prevent the loan rate for cotton from serving as a price floor, despite the effects of other program features and market factors that keep the U.S. price above the adjusted world price.

For wheat, feedgrains, and oilseeds, the historical data are limited because during the short time that these provisions have been in effect, U.S. prices and alternative repayment rates have generally been above the loan rates. Even if additional data were available, they might be inconclusive because of the way in which the alternative repayment rates are set. (This issue is discussed in more detail in app. II.) Nevertheless, many USDA officials, including agricultural economists, and other agricultural economists we spoke to expect that the marketing loan provisions for wheat, feedgrains, and oilseeds will prevent the loan rates from serving as price floors when alternative repayment rates fall below the loan rates. They base this position on both theoretical expectations of producers' profit-maximizing behavior and experience with the generic commodity certificate program in the past,¹¹ which was similar in concept to the marketing loan provisions. However, a few agricultural economists and commodity analysts offered several reasons why the loan rates may at times provide some price support for these commodities despite the marketing loan provisions. (See app. II for additional details on these views.)

Even if the marketing loan provisions allow U.S. prices to fall below the loan rates, some program features and market factors will keep U.S. prices higher than adjusted world prices for some commodities, such as cotton and rice. The program features include (1) import restrictions that reduce foreign competition in the United States, (2) the availability of the

¹¹The 1985 farm act authorized USDA to issue generic commodity certificates to make in-kind payments to producers participating in government commodity programs. Producers receiving certificates could exchange them at the posted county prices for commodities placed under loan, exchange them for government-owned commodities, or sell them for cash.

nonrecourse loan, and (3) for cotton, government-paid storage that makes it easier for producers to hold cotton off the market while waiting for prices to rise. The market factors include quality, reliability, and transportation advantages that allow U.S. producers to receive higher prices than some foreign producers. To the extent that higher U.S. prices are due to market factors that reflect the desirability of U.S. cotton and rice, then higher U.S. prices do not necessarily impede the marketability of these commodities. Therefore, adjusted world prices will typically be less than U.S. prices because (1) the marketing loan provisions cannot overcome the effect of all program features that support prices and (2) in setting the adjusted world prices, USDA does not fully account for all the market factors that result in higher U.S. prices. (See app. II for a detailed discussion of these factors.)

According to USDA's 1996 forecast, U.S. and world prices are expected to remain above the loan rates for some commodities, as they are now, for the 7-year duration of the 1996 farm act. This forecast suggests that for these commodities the marketing loan provisions will have no effect on U.S. prices or how they compare with world prices. Under these conditions, producers would not use the marketing loan provisions to repay their loans at the higher alternative repayment rates. Instead, they would repay their loans at the loan rates. However, some agricultural economists have suggested that over the next several years U.S. and world prices might be below those in USDA's 1996 forecast. If market conditions change and alternative repayment rates fall below the loan rates, producers may use the marketing loan provisions when redeeming their loans.

The Effect of Lower Loan Rates on U.S. Prices Will Vary by Commodity

For all commodities, when U.S. prices and alternative repayment rates are above the loan rates, lower loan rates will have little if any effect on U.S. prices because producers can earn more by selling their commodities on the market than by forfeiting them to the government.¹² However, when alternative repayment rates are below the loan rates, the effect of lowering the loan rates on U.S. prices will vary by commodity.

For cotton and rice, when adjusted world prices are below the loan rates, lower loan rates are likely to have some downward effect on U.S. prices. This is because producers who use nonrecourse loans with marketing loan provisions have the option to hold their commodities under loan while

¹²In the long run, lower loan rates may increase producers' risks and decrease their expected returns, which could lead to reduced production and higher domestic commodity prices.

waiting for prices to rise. This option has a value, known as the option value of the loan, which varies among producers at any given point in time and varies for any individual producer over time. Unless producers are offered a premium price that compensates them for giving up their option to keep their commodity under loan, they have little incentive to take the commodity out of loan. The option value is one of several factors that cause U.S. cotton and rice prices to be higher than adjusted world prices.¹³

To the extent that a lower loan rate reduces the option value of the loan because it reduces producers' guaranteed minimum returns upon forfeiture, a lower loan rate will have some downward effect on U.S. prices, thereby bringing them closer to adjusted world prices. However, a lower loan rate will not by itself eliminate the price premium paid for U.S. cotton and rice, and U.S. prices will continue to remain higher than adjusted world prices because of other program features and market factors. For example, for cotton, a lower loan rate, combined with the elimination of government-paid storage, would result in a larger downward effect on U.S. cotton prices.

For wheat, feedgrains, and oilseeds, USDA officials, including agricultural economists, and many other agricultural economists told us that lower loan rates will have little if any impact on U.S. prices when alternative repayment rates are below the loan rates. According to these USDA officials and economists, when producers use the marketing loan provisions and sell their commodities earlier in the marketing year, they generally benefit by saving on storage costs. The potential savings from avoiding storage costs are relatively greater than the option value of the loan. Consequently, these officials told us that lowering the loan rates will have little if any effect on U.S. prices because marketing loan provisions will keep the loan rates from supporting prices.

In contrast, a few other agricultural economists and commodity analysts told us that the option value of the loan may be a significant factor in producers' marketing decisions and that this and other market factors may cause the loan rates to continue providing price support despite the marketing loan provisions. According to these experts, if the loan rates are supporting prices, lowering the loan rates may have some downward effect on U.S. prices. The degree to which prices will drop depends on

¹³The 1996 farm act reduced the maximum time that producers could keep their cotton under loan, thereby reducing the option value of the loan in the future. (See app. II for additional discussion.)

how the option value of the loan compares with the potential value of avoiding storage costs while receiving marketing loan benefits.¹⁴

In commenting on a draft of this report, USDA officials disagreed that lower loan rates would reduce U.S. prices. Their detailed comments and our response are presented at the end of this letter.

Lower Loan Rate Would Not Eliminate the Use of Step 2 Payments, and Recent Changes to the Timing of Step 2 Payments May Diminish Their Effect on Exports

U.S. cotton prices have historically been higher than world prices, in part because of import restrictions and other program features that the marketing loan provisions have been unable to overcome. Higher U.S. prices made U.S. cotton less competitive on the world market, to which the United States exported its cotton as a residual supplier when world supplies were low. To help keep U.S. cotton competitively priced in world markets, the 1990 farm act added a subsidy in the form of step 2 payments to exporters and domestic mills. Exporters use the step 2 payment to reduce the price of U.S. cotton offered to foreign buyers, and domestic mills use the step 2 payments to offset the cost of purchasing higher-priced U.S. cotton. Step 2 payments are made when two conditions are met for 4 consecutive weeks: the (1) adjusted world price is less than or equal to 130 percent of the loan rate and (2) U.S. price in Northern Europe exceeds the average price in Northern Europe by more than \$0.0125 per pound. The payment per pound is equal to the difference between the U.S. price in Northern Europe and the sum of the price in Northern Europe (average across five countries) and \$0.0125. Figure 1 shows a hypothetical example of how the step 2 payment is calculated.

¹⁴Transaction costs associated with using the marketing loan provisions may also influence a producer's marketing decision.

Figure 1: Calculation of the Step 2 Payment

Condition 1:

Loan rate	\$0.50/pound
Adjusted world price	\$0.55/pound
130 percent of the loan rate	$\$0.50 \times 1.30 = \0.65

In this example, the adjusted world price (\$0.55) is less than 130 percent of the loan rate (\$0.65). This condition must be met for 4 consecutive weeks.

Condition 2:

U.S. price in Northern Europe	\$0.63/pound
Average price in Northern Europe	\$0.60/pound
The difference between the U.S. price in Northern Europe and the average price in Northern Europe	$\$0.63 - \$0.60 = \$0.03$

In this example, the difference (\$0.03) is greater than \$0.0125. This condition must also be met for 4 consecutive weeks.

Step 2 payments to be made in the 5th week:

$$\$0.63 - (\$0.60 + \$0.0125) = \$0.0175/\text{pound}$$

Note: Step 2 payments are not made during those times when special import quotas are in effect.

USDA made a total of \$701 million (in 1995 dollars) in step 2 payments from fiscal years 1992 through 1996. Currently, the adjusted world price is sufficiently above the loan rate to preclude the use of step 2 payments. If the adjusted world price drops to within 130 percent of the loan rate in the future, step 2 payments may be used again. As discussed previously, when the adjusted world price is below the loan rate, a lower loan rate is most likely to have some downward effect on U.S. prices. To the extent that U.S.

prices decrease because of a lower loan rate, step 2 payments will be used less often and the payment rate will also be reduced. However, since other program features (such as government paid-storage and import restrictions) and market factors contribute to making U.S. prices higher than world cotton prices, lowering the loan rate alone will not eliminate the use of step 2 payments.¹⁵

Recent changes in the timing of USDA's step 2 payments to exporters may diminish this tool's effectiveness in enhancing exports. In the past, exporters received the step 2 payment rate that was in effect during the week they contracted for cotton sales.¹⁶ As a result, exporters could use step 2 payments to reduce the price of U.S. cotton offered to foreign buyers. An unintended consequence of the step 2 provision was that many contracts for future sales were made during weeks with high payment rates. This practice was known as "bunching," and many of these sales represented internal transactions between U.S. firms and their foreign affiliates. Bunching increased the cost of the step 2 provision to the government and placed domestic mills and exporters without foreign affiliates at a price disadvantage. To prevent bunching, USDA changed step 2 procedures so that exporters receive the step 2 payment rate that applies during the week the cotton is shipped instead of the week in which the sales are contracted. Consequently, when exporters agree to a sale, they do not know what step 2 payment rate, if any, will be in effect during the week the cotton is shipped. Step 2 payments have not been made since USDA changed its procedures. This change should reduce the occurrence of bunching but could also make it more difficult for exporters to reduce the higher price of U.S. cotton when it is offered for sale to foreign buyers.

Peanut and Sugar Prices Will Remain Above World Prices Despite Recent Program Changes

As we have reported in the past,¹⁷ the peanut and sugar programs have not been market-oriented because they have kept U.S. prices higher than world prices and resulted in production and consumption inefficiencies. As a result, these programs have cost users of peanuts and sugar and the government hundreds of millions of dollars annually. The Congress made a number of changes to both programs through the 1996 farm act to reduce U.S. prices and some of the economic inefficiencies in order to make the

¹⁵This conclusion assumes that the loan rate is not lowered so far that the adjusted world price exceeds 130 percent of the loan rate.

¹⁶Domestic mills receive the step 2 payment rate in effect during the week they open the bales of cotton.

¹⁷Peanut Program: Changes Are Needed to Make the Program Responsive to Market Forces (GAO/RCED-93-18, Feb. 8, 1993). Sugar Program: Changing Domestic and International Conditions Require Program Changes (GAO/RCED-93-84, Apr. 16, 1993).

programs more market-oriented. However, these changes did not eliminate the difference between U.S. prices and lower world prices because the domestic marketing quota for peanuts and the tariff-rate import quota for sugar continue to restrict supply. As we recommended in the past, greater market orientation could be achieved through (1) further reductions in the support price for peanuts and (2) a reduction in the loan rate for sugar and an increase in the tariff-rate import quota. These changes would help lower U.S. prices and increase economic efficiency, but one tradeoff would be a potential reduction in producers' revenue.

Peanuts

The peanut program controls the domestic supply and protects producers' income by (1) setting a national poundage quota that determines the amount of peanuts that can be sold domestically and (2) restricting imports. The national poundage quota is set at a level based on the estimated quantity of edible peanuts used in the United States at the support price. Prior to the 1996 farm act, the quota could not fall below 1.35 million tons.¹⁸ Generally, only producers holding a portion of the assigned quota may sell these "quota peanuts" domestically. Quota holders who choose not to grow peanuts can sell or lease their quota within the county it was assigned or return it to USDA for redistribution to other producers. Producers without assigned quota and those who exceed their quota cannot sell these peanuts in the domestic edible market except under certain conditions,¹⁹ but they may export them as "additional peanuts."

The program protects producers' incomes through a two-tiered system that sets minimum support prices for both quota and additional peanuts. The support price for quota peanuts guarantees producers a price in U.S. markets that is higher than world prices. Prior to the 1996 farm act, the quota support price was adjusted upward annually when the cost of production rose but was left unchanged when the cost of production fell. (This adjustment was known as the "escalator clause.") The support price for additional peanuts is generally set lower than the world price and plays a limited role in domestic peanut marketing.

¹⁸In this report, tons refers to "short" tons. A short ton equals 2,000 pounds.

¹⁹Under a provision known as "buy-back," additional peanuts, which are usually exported or crushed for oil and meal at prices lower than the quota support price, can be purchased for use in the domestic market if U.S. prices start to rise significantly. However, buyers of these additional peanuts must, at a minimum, pay the higher quota support price plus other mandated fees.

Higher U.S. prices result in increased costs to consumers. The world price for peanuts in 1995 averaged \$415 per ton,²⁰ while the support price for quota peanuts was \$678 per ton. Therefore, U.S. consumers paid more for items containing peanuts than they would have if U.S. processors had purchased peanuts at the lower world price. In addition, higher U.S. prices could create a consumption inefficiency because the quantity of peanuts purchased at the higher U.S. price is less than what would have been purchased at the lower world price—the price that would have occurred if there were no program.

The government also incurs costs when producers cannot sell their peanuts at a price greater than or equal to the support price and instead forfeit them to the government at the support price. The government pays to have these peanuts crushed and sells them at a price lower than the support price. To prevent forfeitures, USDA strives to set the annual quota at a level that does not exceed the expected quantity that would be demanded at the support price. If USDA sets the quota too high, the government will incur costs from forfeitures. For example, in fiscal years 1995 and 1996, the government incurred costs of \$124.7 million and \$127.4 million, respectively, because the legislatively set minimum quota of 1.35 million tons was greater than the quantity of peanuts demanded at the support price in those years. On the other hand, if USDA sets the quota too low, forfeitures will not occur, but U.S. prices will rise because the supply marketed under the quota is not adequate to meet the quantity demanded at the support price. In order to share program costs with the government, producers and buyers of peanuts pay a fee to the government, known as a marketing assessment, per ton of peanuts sold.²¹

The government also incurs indirect costs when it purchases higher-priced peanuts and peanut-containing products for its food assistance programs. In 1993, we reported that USDA paid the quota support price, instead of the lower world price, for peanuts and peanut-containing products that it purchased, leading it to incur greater costs than without the peanut program.

The 1996 farm act made several changes to the peanut program to reduce its costs and make the U.S. peanut industry more market-oriented. One change in particular will help make U.S. peanut prices somewhat closer to

²⁰The world price is derived from the price quoted for U.S. peanuts in Rotterdam, adjusted for the cost of shelling and transportation back to the United States.

²¹The 1996 farm act set the marketing assessments for peanuts at 1.15 percent of the loan rate for the 1996 crop and 1.2 percent of the loan rate for the 1997-2002 crops.

world prices—a lower quota support price. Under the 1996 farm act, the peanut quota support price was reduced from \$678 to \$610 per ton and fixed through the year 2002—the remainder of the life of the farm act. As a result of this change, the quota support price is no longer linked to the cost of producing peanuts and will not increase with inflation because the escalator clause has been eliminated.

In addition to reducing the quota support price, the 1996 farm act made other changes to the peanut program to increase economic efficiency. These changes included eliminating the minimum level to which the national poundage quota could fall, authorizing marketing assessment increases, eliminating provisions allowing the carryover of unfilled quota from year to year (undermarketings), redefining the peanut quota to exclude seed peanuts, limiting disaster transfers requested by quota holders whose commodity is damaged, and adding marketing requirements to maintain program eligibility. These changes should enable USDA to better control the quantity of peanuts marketed at the quota support price, thus reducing government costs associated with the program. Moreover, people who live outside of the state in which the quota is allocated or who are not peanut producers, as well as government entities, can no longer hold quota; and the annual sale, lease, and transfer of quota is now permitted across county lines within a state, up to specified amounts of quota. These changes will improve the equity and economic efficiency of the peanut program. (See app. III for additional details on these changes.)

Although the lower quota support price of \$610 will help reduce U.S. peanut prices, it is still substantially above the average U.S. cost of producing peanuts and world prices. In 1995, the average cost of producing peanuts in the United States was \$369 per ton and the world price was \$415 per ton,²² while the support price was \$678 per ton. In 1993, we recommended that the quota support price be reduced so that over time U.S. prices would more closely parallel the cost of producing peanuts and world prices. Lowering and fixing the quota support price at \$610 per ton was a good first step. This price could be reduced further, which would result in lower U.S. prices that would be closer to world prices and would also result in reductions in government costs. While USDA officials agreed that a lower quota support price will lower U.S. prices and government costs, they pointed out that it will also reduce producers' revenues.

²²This estimate of the cost of production was derived from a USDA estimate of variable production costs per acre. This estimate however, does not include fixed costs of production, such as the cost of land.

Sugar

The sugar program guarantees producers (growers and processors) a minimum price for domestic sugar through the nonrecourse loan program and controls the domestic supply of sugar through the use of a tariff-rate import quota. The nonrecourse loan program sets a guaranteed minimum price for domestic sugar through the loan rate. However, the 1996 farm act restricts the availability of nonrecourse loans to times when the tariff-rate import quota is at or above 1.5 million tons. USDA adjusts the tariff-rate import quota on the basis of the (1) estimated domestic production and demand and (2) level of supply needed to maintain domestic prices at levels high enough to discourage forfeitures.²³ Prior to the 1996 farm act, under certain market conditions, USDA could also limit the domestic marketing of sugar by assigning marketing allotments to processors to maintain the support price.²⁴ USDA assigned marketing allotments twice, in fiscal years 1993 and 1995.

The 1996 farm act made the following changes to the sugar program to reduce U.S. sugar prices and some economic inefficiencies of the program:

- Loans are to be recourse under certain circumstances. When the tariff-rate import quota is established below 1.5 million tons on the basis of estimated domestic production and demand, loans are issued as recourse rather than nonrecourse to eliminate potential forfeitures. If loans are recourse, then there is effectively no price support and U.S. prices could fall below the loan rate.
- The loan rates were fixed. The loan rates were fixed for refined beet sugar at the 1995 level of 22.9 cents per pound and for raw cane sugar at 18 cents per pound. USDA has maintained the loan rate for raw cane sugar at 18 cents per pound since 1981, although in the past it had the authority to raise the rate. A fixed rate means that over time the real value of the loan rate, and therefore the real value of government support, will fall because of inflation.²⁵ If prices fall near the loan rates, inflation-adjusted market prices may be lower.

²³In the past, the sugar program was designed to operate at no net cost to the government, which, according to USDA, meant no forfeitures of sugar to the government. USDA adjusted the tariff-rate import quota to prevent loan forfeitures. However, the no-net-cost provision only applied to the direct costs of operating the sugar program, not to other indirect costs incurred by the government when it bought food products for its food assistance programs.

²⁴Under the 1990 farm act, foreign sugar producers and domestic cane refiners were ensured that estimated imports of lower-priced sugar would not fall below 1.25 million tons. If estimated imports were less than 1.25 million tons for the fiscal year, USDA was required to activate marketing allotments, which limit the domestic marketing of sugar.

²⁵To the extent that over time there are productivity gains in sugar production, the real cost of producing sugar will also decline.

- The no-net-cost requirement was discontinued. In the past, the sugar program was designed to operate at no net cost to the government. The 1996 farm act did not renew the no-net-cost provision of the program, and therefore this provision is no longer operative. Without the no-net-cost provision, USDA could in the future choose to set the tariff-rate import quota at a higher level to allow greater imports, which would result in lower U.S. sugar prices. However, it is not yet clear whether USDA will choose to increase the tariff-rate import quota and increase the chance of forfeitures under the nonrecourse loan program.
- Marketing allotments were eliminated. The 1996 farm act eliminated USDA's authority to use marketing allotments, which may result in a more efficient allocation of resources in the sugar industry. More efficient producers will no longer have to limit their level of production and marketings in favor of less efficient and higher-cost producers. Any reductions in the costs of production because of increased efficiency may be passed on to users in the form of lower sugar prices.
- Penalties were imposed on forfeitures. The 1996 farm act required that sugar processors be assessed a 1-cent penalty on every pound of raw cane sugar and a 1.07-cent penalty on every pound of refined beet sugar forfeited to the government. This penalty will reduce the effective guaranteed price that processors receive from the government. Because of this penalty, USDA can now support the price of sugar at a level that is 1 cent lower than under the prior farm act without causing processors to forfeit.

The 1996 farm act did not eliminate the tariff-rate import quota, which continues to be the key mechanism by which total domestic supply is restricted and U.S. sugar prices are supported. As long as USDA continues to use the tariff-rate import quota as it has in the past to restrict imports and support U.S. prices above the level necessary to prevent forfeitures, the 1996 farm act's changes (such as limits on the availability of nonrecourse loans) will have little if any impact on U.S. prices. However, these changes could result in lower U.S. prices if there are significant increases in domestic supply (or similarly large decreases in domestic consumption) that prevent USDA from maintaining a tariff-rate import quota of 1.5 million tons while supporting prices at their current level. In commenting on a draft of this report, USDA officials pointed out that such an increase in beet sugar production occurred in fiscal year 1995. If a similar increase in domestic supply occurred under the 1996 farm act, USDA could either (1) keep the tariff-rate import quota at or above 1.5 million tons, which would result in lower sugar prices because of increased supply, or (2) set the tariff-rate import quota below 1.5 million tons, which

would result in producers not being eligible for nonrecourse loans, and which could result in lower U.S. sugar prices.

If USDA's implementation of the sugar program continues to insulate the U.S. sugar market from the world market, U.S. prices are likely to remain higher than world prices.²⁶ For fiscal years 1991 through 1995, the average annual world price of raw cane sugar ranged from 9.22 to 13.86 cents per pound, and the average annual U.S. price ranged from 21.39 to 22.76 cents per pound. In addition, according to some sugar analysts who are familiar with trends in world sugar prices, world prices are expected to decline in the short run and, because of the sugar program, U.S. sugar users will continue to pay premium prices. Finally, by supporting the price of U.S. sugar, the sugar program also indirectly supports the prices of other sweeteners, such as high-fructose corn syrup.

There is considerable controversy about the size of the premium paid for U.S. sugar and, therefore, the total cost of the sugar program to domestic sweetener users. The size of the premium is controversial because it is not a simple difference between current U.S. and world sugar prices. Instead, the size of the premium depends in part on assumptions about how much the world price would rise if the United States did not have a sugar program. The premium could also be based on an estimate of what the world price would be if all countries eliminated programs that support their sugar industries. Nevertheless, as we and others have shown, higher U.S. sugar prices result in increased costs of hundreds of millions of dollars per year to U.S. sweetener users.²⁷ USDA has not officially determined the size of the premium that users pay for U.S. sugar. However, in a 1995 report,²⁸ USDA stated that for every 1-cent-per-pound premium paid for U.S. sugar, the cost to consumers is \$178 million (in 1995 dollars).

Higher U.S. sugar prices also result in a production inefficiency—the cost of shifting resources from other economic sectors to pay for more

²⁶In this report, the world price for sugar refers to the Number 11 contract price as traded on the New York Coffee, Sugar, and Cocoa Exchange, (f.o.b. Caribbean) for raw cane sugar.

²⁷While we recognize that the cost of the program varies from year to year, we estimated in our 1993 report that the sugar program cost domestic sweetener users an average of about \$1.4 billion per year (in 1991 dollars) between 1989 and 1991. This estimate was based on an estimated long-run, free-market world price of 15 cents per pound for raw cane sugar. Although USDA officials disagreed with our methodology and assumptions, they told us that they used an approximation of our methodology and estimated that the costs to sweetener users averaged about \$900 million annually (in 1991 dollars) for 1992-94. In addition, other studies using different assumptions and methodologies have estimated that the sugar program results in substantial costs to U.S. sugar or sweetener users.

²⁸Lord, Ron. Sugar: Background for 1995 Farm Legislation (USDA/ERS, Washington, D.C., Apr. 1995).

expensive domestic production instead of importing lower-cost sugar. A consumption inefficiency also arises when the quantity of sugar purchased at the higher U.S. price is less than the quantity that would have been purchased at the lower world price.

The government incurs indirect costs of millions of dollars a year as a result of the sugar program when it purchases higher-priced sugar and sweetener-containing products for its food assistance programs. On the other hand, the government receives marketing assessments from sugar processors on each pound of sugar that they market.²⁹

In order to reduce U.S. sugar prices, we recommended in our 1993 report that the loan rate be reduced gradually and the tariff-rate import quota be adjusted accordingly. Changes made in the 1996 farm act should help reduce U.S. prices if there are significant increases in domestic supply or similar decreases in domestic consumption. However, if domestic market conditions do not change, reductions in U.S. prices could be achieved only by increasing the tariff-rate import quota or eliminating it (no import restrictions). Once increases in the tariff-rate import quota result in U.S. prices dropping to the loan rate, reductions in the loan rate would be necessary to reduce prices further. However, one tradeoff of an increase in the tariff-rate import quota and a lower loan rate would be a reduction in U.S. producers' revenues. Moreover, according to an official of the American Sugar Alliance, making these changes would adversely affect the long-term viability of the U.S. sugar industry because U.S. sugar production would be replaced by lower-priced imports, most of which receive some form of government support, such as export subsidies. Other sugar industry officials told us that further reductions in domestic sugar production will result in the deterioration of the specialized infrastructure—processing mills, machinery, seeds, and chemicals—necessary to support a domestic sugar industry.

Agency Comments

We provided copies of a draft of this report to USDA for review and comment. We met with officials of the Department, including USDA's Deputy Chief Economist; the Farm Service Agency's Assistant Deputy Administrator, Economic Policy Analysis Staff, and 10 other officials representing various commodity divisions within this agency; and an official representing the Commercial Agriculture Division of the Economic

²⁹The 1996 farm act increased marketing assessments on processed raw cane sugar from 1.1 to 1.375 percent of the raw cane sugar loan rate, and for refined beet sugar from 1.1794 to 1.47425 percent of the raw cane sugar loan rate.

Research Service. These officials expressed concern with our findings in the following five areas:

- USDA officials told us that in their opinion the marketing loan provisions have prevented the loan rates from acting as price floors in the past and will be similarly effective in the future if market conditions warrant their use. They base this position on (1) the strong theory behind the concept of the marketing loan provisions; (2) USDA's past experience with the generic certificate program, which they said was similar in concept to the marketing loan provisions; and (3) the data that are available for sunflower seeds and cotton. We disagree with USDA that a conclusion about the effectiveness of the marketing loan provisions for all commodities is warranted. While we agree that the marketing loan provisions appear to have prevented the rice loan rate from serving as a price floor, we believe that the evidence is insufficient to reach similar conclusions for the other commodities. For cotton, we disagree that the data on forfeitures and stock accumulations, along with theoretical expectations, are sufficient to reach a conclusion. For wheat, feedgrains, and soybeans, the provisions remain largely untested because U.S. prices and alternative repayment rates have generally been higher than the loan rates; and for minor oilseeds, the data necessary to analyze the provisions' effectiveness are unavailable or, as USDA acknowledges, "anecdotal." For cotton, wheat, feedgrains, and oilseeds, we believe that more price data are needed to confirm that the marketing loan provisions prevent the loan rates from serving as price floors.
- USDA officials were also concerned about our reliance on historical data in analyzing the effectiveness of the marketing loan provisions and projecting to the future, particularly when major program changes were made in the 1996 farm act to increase the market orientation of U.S. commodity programs. They stated that in the future there will be a different combination of domestic government commodity programs and a different mix of international trade policies. Therefore, if the effectiveness of the marketing loan provisions are analyzed using historical data, these results should not be projected to the future. In our report, we have added language to recognize that one limitation of using historical data is that some programs that affected U.S. prices in the past have been eliminated by the 1996 farm act. In addition, our report recognizes that marketing loan provisions may prevent the loan rates from serving as price floors in the future, only under certain market conditions.
- USDA officials were concerned that our draft report implied that higher U.S. prices always meant that U.S. commodities were not competitive on world markets. They said that price premiums are justifiable if they reflect the

desirability of U.S. commodities over foreign commodities in world markets; they acknowledged that price premiums deriving from program provisions that keep U.S. prices artificially high and pose an impediment to free trade are undesirable. We agree that some price premiums resulting from market factors may be justifiable and do not indicate a lack of competitiveness. Throughout the report, where appropriate, we have changed any reference to “making U.S. prices more competitive” to “lowering U.S. prices to levels that are closer to” alternative repayment rates or world prices.

- USDA officials disagreed that lower loan rates would reduce U.S. prices. They stated that lowering the loan rates would have little if any effect on reducing U.S. prices when the marketing loan provisions are available. While they did not disagree that loans have an option value, they told us that if prices fall to levels significantly below the loan rates, the option value of the loans will have at best a marginal impact on U.S. prices. The option value will only influence the seasonal variation of prices, with no significant effect on annual average prices. Furthermore, they told us that if producers obtained commercial loans instead of government loans, producers would still be able to keep their commodities off the market for some period of time. Specifically, for cotton, officials told us that the option value of the loan will be less of a factor in the future because the 1996 farm act eliminated the 8-month loan extension, which in the past allowed the loan to span 2 crop years. For rice, officials stated that the level of the loan rate is irrelevant to producers’ decisions to plant; instead, the main factor is the high cost of rice production. Because of this, USDA officials stated that lowering the loan rate for rice will have little if any impact on U.S. prices. For wheat, feedgrains, and oilseeds, USDA officials hold the view that marketing loan provisions will prevent the loan rates from serving as price floors and therefore lower loan rates will have little if any impact on U.S. prices.

Despite USDA’s disagreement, we continue to believe that for cotton and rice, when adjusted world prices are below the loan rates, lower loan rates will likely have some downward effect on U.S. prices. This is because the option value of the loan may be a significant factor affecting U.S. cotton and rice prices. For cotton, while we agree that eliminating the 8-month extension reduces the option value of the loan, we believe that the availability of government-paid storage and import restrictions continue to play a role in affecting the option value of the loan and keeping U.S. cotton prices higher than adjusted world prices. To the extent that lowering the loan rate for cotton reduces the loan’s option value, there will be some downward effect on U.S. prices. For rice, although the price data suggest

that the marketing loan provisions have prevented the loan rate from serving as a price floor, U.S. rice prices have remained higher than adjusted world prices. To the extent that these higher prices are caused by the availability of nonrecourse loans, we believe that lowering the loan rate for rice will reduce the loan's option value and will have some downward effect on U.S. prices.

For wheat, feedgrains, and oilseeds, we do not take a position on the likely effect of lowering the loan rates on U.S. prices. The report recognizes that most experts expect the marketing loan provisions to work as intended and prevent loan rates from serving as price floors. In this case, lower loan rates will have little if any impact on U.S. prices. However, if marketing loan provisions do not prevent the loan rates from supporting prices, as some others have suggested, then lowering the loan rates may have some downward effect on U.S. prices.

- USDA officials expressed their strong disagreement with our estimates of the cost of the sugar program to domestic sugar users as reported in 1993 and cited in this report. This is in contrast to USDA's official comments on our 1993 report, in which USDA stated that our report was reasonable and had no major data problems. At that time, USDA stated that the costs and benefits derived using assumptions of hypothetical policy alternatives were well within the range of most research. However, in commenting on a draft of our current report, USDA officials told us that since our 1993 report was issued, they have changed their position and now strongly disagree with our 1993 estimate of the average annual cost to users of \$1.4 billion. They stated that the 1993 report did not adequately consider the complexities and dynamics of the U.S. and global sugar markets. They said that the report overestimated the cost of the sugar program to U.S. users, some data were used incorrectly, and important sugar market issues were not considered. Furthermore, they said that using our methodology, different welfare cost impacts could be obtained by selecting prices in different time periods. We continue to believe that our 1993 report provided a reasonable estimate of the cost of the sugar program to U.S. sugar users for the period analyzed. More importantly, we believe that while the precise level of price premium is subject to debate, the program and policy problems that we identified in 1993 are still relevant.

USDA officials also suggested a number of technical revisions to our draft. Where appropriate, we have incorporated these revisions into the report.

In conducting our review, we interviewed USDA officials from the Commodity Credit Corporation, Economic Research Service, Farm Service Agency, Foreign Agricultural Service, National Agriculture Statistical Service, Office of the Chief Economist, and county offices. We also spoke to officials of the World Bank, academic experts, industry and trade representatives, and agricultural commodity consultants. We also obtained data from USDA, and we reviewed various economic and international trade studies conducted by universities, management consulting groups, USDA, and international agencies. We did not independently verify the data used in this report. We conducted our review from July 1996 through January 1997 in accordance with generally accepted government auditing standards. A detailed discussion of our overall scope and methodology is provided in appendix IV.

We are sending copies of this report to the Senate Committee on Agriculture, Nutrition, and Forestry; the House Committee on Agriculture; other interested congressional committees; the Secretary of Agriculture; and other interested parties. We will also make copies available to others on request.

If you or your staff have any questions about this report, please contact me on (202) 512-5138. Major contributors to this report are listed in appendix V.

Sincerely yours,



Robert A. Robinson
Director, Food
and Agriculture Issues

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Abbreviations

ERS	Economic Research Agency
GAO	General Accounting Office
USDA	U.S. Department of Agriculture

Calculating the Benefits From Using the Marketing Loan Provisions

This appendix provides an (1) explanation of how to calculate the net amount that producers receive from the government when they use nonrecourse loans without marketing loan provisions, (2) analysis of how the marketing loan provisions are intended to operate and prevent the loan rates from acting as price floors,¹ and (3) illustration of the differences in marketing loan benefits under various market conditions and the relationship between the alternative repayment rates and U.S. prices.

Throughout this appendix, we use prices and the loan rate for corn in our examples to show how calculations are made. The specific calculations for cotton, rice, wheat, feedgrains, and oilseeds may vary to some extent. For example, for cotton and rice, the adjusted world price would be used as the alternative repayment rate and not the posted county price, and for cotton, storage costs would not be included because the government pays storage costs when the adjusted world price is below the loan rate. However, the overall process is the same.

Calculation of Net Amount Received From Nonrecourse Loans Without Marketing Loan Provisions

Under the nonrecourse loan without marketing loan provisions, producers who kept their commodity under loan for the full 9 months would, upon forfeiture, receive the loan rate (less a service fee) minus the storage costs they incurred. Producers were not required to pay interest when they forfeited their commodities to the government. However, if they repaid the loan, they had to pay interest charges. The hypothetical example in table I.1 shows that when the loan rate for corn was \$1.89 per bushel, the net amount producers received from the nonrecourse loan upon forfeiture at maturity was \$1.70 per bushel.

¹This analysis focuses on how the marketing loan provisions are intended to operate. Therefore, it does not take into account several reasons presented in appendix II on why the loan rate may at times provide some price support despite the marketing loan provisions. These reasons include the option value of the loan, which may be large relative to the potential savings from storage costs by using the marketing loan provisions.

Appendix I
Calculating the Benefits From Using the
Marketing Loan Provisions

Table I.1: Calculation of Net Amount Received From the Nonrecourse Loan When Forfeited at Maturity Without Marketing Loan Provisions

Factors in calculating amount	Benefits and charges per bushel of corn
Loan rate for corn	\$1.89
Less service fee	0.01 ^a
Effective loan rate	1.88
Less storage costs of 2 cents/month for 9 months ^b	0.18
Total amount received	\$1.70

^aThe loan processing fee charged for taking out a loan may vary from county to county. This fee is not an interest charge.

^bThe relative value of storage costs may be higher if the opportunity cost (in the form of interest foregone) is also included.

Marketing Loan Provisions Were Intended to Eliminate Price Floors

Before the marketing loan provisions were available, the loan rate determined the effective level of price support, which increased during the marketing year to reflect storage and interest costs that producers incurred while holding the corn under loan. The forfeiture option always allowed them to net \$1.70 at the end of 9 months. To be better off selling at any time during the 9-month loan period, producers needed to receive an amount that made them at least as well off as forfeiting at the end of the loan period. Producers had to receive an amount that allowed them to repay the loan amount of \$1.89 plus accrued interest, minus the amount of refunded prepaid storage costs. (Producers who choose to keep their commodities under loan are responsible for paying storage costs in advance for the full term of the loan.) For example, after 3 months, producers would have had to receive at least \$1.80 (\$1.89 plus 3 cents for interest minus 12 cents for refunded storage costs) to be better off selling rather than leaving the commodity under loan for another 6 months and then forfeiting it to the government. At 9 months, producers would have had to receive at least \$1.98 (\$1.89 plus 9 cents in interest, without any refund for storage) to be better off selling rather than forfeiting the commodity to the government. In this example, when prices fell below \$1.98 at the end of the loan period, producers forfeited their commodities and government stocks rose.

The marketing loan provisions were added in part to eliminate the price floors created by the loan rates. When the alternative repayment rate is below the loan rate at the time of harvest, the marketing loan provisions provide a producer who holds a nonrecourse loan with two options: (1) redeem the loan at any time at the alternative repayment rate (for corn,

this is the posted county price) and sell the commodity at the market price or (2) forfeit the commodity after 9 months at the loan rate. Under the first option, the difference between the loan rate and the alternative repayment rate represents a marketing loan gain to the producer. In addition, producers who repay their loans at the alternative repayment rate do not have to pay accrued interest on the loan. (Those producers who choose to forego loans can receive government payments equal to the marketing loan gains. These amounts are known as loan deficiency payments.)

When the alternative repayment rate is below the loan rate, producers are better off by choosing the first option because they can obtain the full value of the loan rate without incurring the full 9 months of storage costs associated with forfeitures and are relieved of the interest costs on the loan. For example, if the alternative repayment rate at the time of harvest is \$1.60 per bushel, producers are eligible for marketing loan benefits of 29 cents per bushel (the difference between the loan rate of \$1.89 and the posted county price of \$1.60). The producer sells the corn at \$1.60 (this example assumes that the posted county price remains unchanged and equals the market price) and receives a total return of \$1.89 (market price of \$1.60 plus the marketing loan benefit of 29 cents), which is the full value of the loan. Because producers can receive the full value of their loans even when marketing their commodities at prices below the loan rates, the marketing loan provisions can prevent the loan rates from serving as price floors. The longer producers hold their commodities under loan, the more their benefit is reduced by storage costs. Producers have an incentive to use the marketing loan provisions early in the marketing year to avoid the greatest amount of storage costs.

Benefits Can Differ, Depending on Market Conditions

The analysis in the previous section assumes that the posted county price and the price offered to the producer (hereafter known as market price) are the same. However, because the posted county price is based on the previous day's terminal prices and lags behind the market, it could be lower or higher than the market price. The total benefit that a producer receives depends on the relationship between the posted county price and the market price. As shown in table I.2, producers benefit more when the posted county price is lower than or equal to the market price than they do when the posted county price is above the market price. According to USDA officials, marketing loan gains are most likely to be made to producers when the posted county price is lower than or equal to the market price. When the posted county price is above the market price, producers would generally be expected to wait until the U.S. price rose or the posted county

Appendix I
Calculating the Benefits From Using the
Marketing Loan Provisions

price fell before they redeemed their loans. However, the amount of time producers are willing to wait for higher prices will depend on the tradeoff between their expected price gains, additional storage costs, and their expectations about future market prices.

Table I.2: Total Returns That Producers Receive at Harvesttime Depend on the Relationship Between the Market Price and the Posted County Price

Factors in calculating the benefit	Posted county price is equal to the market price	Posted county price is lower than the market price	Posted county price is higher than the market price
Loan rate for corn	\$1.89	\$1.89	\$1.89
Posted county price for corn	1.60	1.60	1.60
Market price for corn	1.60	1.65	1.55
Producer redeems the loan at the posted county price and receives a marketing loan gain of	0.29 = (1.89 - 1.60)	0.29 = (1.89 - 1.60)	0.29 = (1.89 - 1.60)
Producer then sells the commodity at the market price and receives	1.60	1.65	1.55
Total returns (marketing loan gain plus market price)	\$1.89 = (0.29 + 1.60)	\$1.94 = (0.29 + 1.65)	\$1.84 = (0.29 + 1.55)

Detailed Analyses of the Impact of the Marketing Loan Provisions on U.S. Prices for Cotton, Rice, Wheat, Feedgrains, and Oilseeds

This appendix provides our detailed analyses of the effects of the marketing loan provisions on U.S. prices for cotton, rice, wheat, feedgrains, and oilseeds.

Cotton

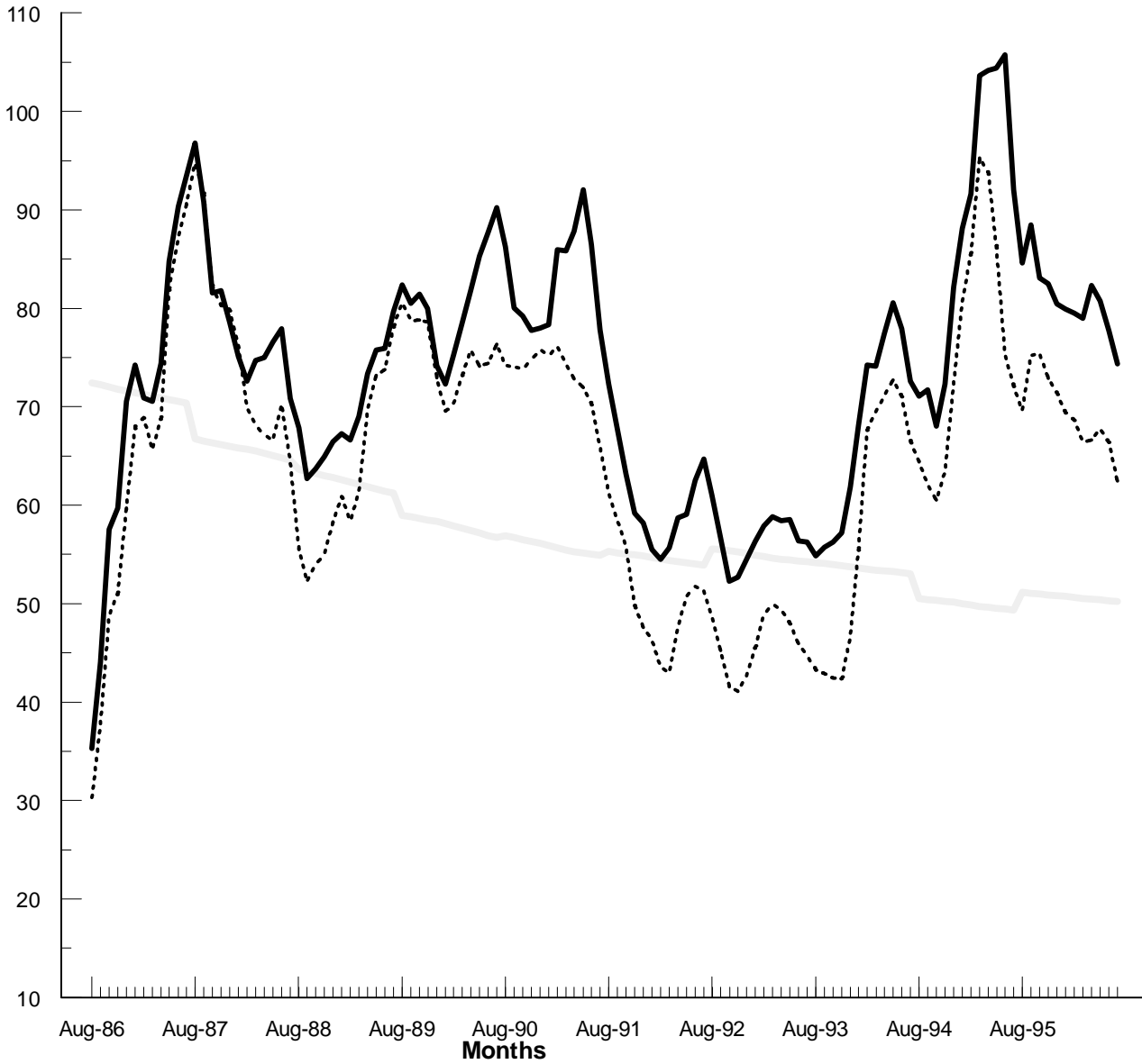
Over the last 10 years, when the marketing loan provisions were in effect, U.S. and world cotton prices were above the loan rate for all but 35 months,¹ and producers did not use the marketing loan provisions to redeem their loans. During the 35 months when the adjusted world price was below the loan rate, producers received about \$2.6 billion in marketing loan gains and loan deficiency payments. Figure II.1 shows the relationship between the adjusted world price, the U.S. price, and the loan rate for this period.

¹We did not include marketing year 1986 as part of our analysis because during that period the government was releasing excess cotton that it had accumulated in previous years. This excess supply drove U.S. prices below the loan rate.

Appendix II
Detailed Analyses of the Impact of the
Marketing Loan Provisions on U.S. Prices
for Cotton, Rice, Wheat, Feedgrains, and
Oilseeds

Figure II.1: Relationship Between the Adjusted World Price, U.S. Price, and Loan Rate for Cotton, 1986-95

Cents/lb.



— Loan rate
 — U.S. spot price for cotton
 - - - Adjusted world price

(Figure notes on next page)

Appendix II
Detailed Analyses of the Impact of the
Marketing Loan Provisions on U.S. Prices
for Cotton, Rice, Wheat, Feedgrains, and
Oilseeds

In 1995 cents per pound

Source: GAO's analysis of USDA's data.

As shown in figure II.1, U.S. prices fell below the loan rate for only 5 of the 35 months that world cotton prices were below the loan rate, and in only 2 of the 5 months was the U.S. price below the loan rate by more than 1 cent per pound. These price data might suggest that the marketing loan provisions were not working and that the loan rate was creating a floor for U.S. prices. However, this conclusion may be premature because during the last 10 years, several other program features, some of which no longer exist, and market factors contributed to keeping U.S. prices higher than adjusted world prices and the loan rate. These program features include the option value of the loan resulting from the availability of the loan at a particular loan rate, the availability of government-paid storage, quotas on imports, and, in the past, the availability of a loan extension and restrictions on production. These features have allowed producers to store their cotton under loan until either price conditions become more favorable or they can forfeit the cotton to the government. To overcome the disincentives created by the program features and to get cotton out of storage and to the market, cotton buyers (domestic textile mills and exporters) have had to pay premium prices. These premiums have kept U.S. prices higher than the adjusted world prices. In addition, U.S. cotton producers receive premium prices because of a number of market factors, such as confidence that the terms of the contract will be fulfilled (known as contract sanctity/reliability), high-quality standards, and transportation advantages. These program features and market factors are discussed below.

- Option value of the loan. The option to hold cotton under a nonrecourse loan has a value known as the option value of the loan. The loan rate guarantees producers a minimum price and makes it easier for them to keep cotton off the market while waiting for prices to rise. Therefore, unless producers are offered a premium price that compensates them for giving up their option to continue to keep cotton under loan, they have little incentive to take cotton out of loan. Buyers are willing to pay a premium price because when they acquire cotton, they can continue to keep the cotton they acquire under loan, retaining some of the option value.² The option value of the loan increases at higher loan rates (or

²Buyers retain less than the full option value of the loan because they have to pay producers a premium to acquire the cotton that is under loan.

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decreases at lower rates) because the level of the loan rate determines the degree of price protection.

- Government-paid storage. For cotton alone, the government pays storage costs when the adjusted world price nears or drops below the loan rate. As a result, producers can keep cotton off the market at no cost to them. This government-paid storage increases the option value of the loan and therefore increases the price that buyers will pay for cotton. In the past, the government also paid storage costs for up to 60 days prior to the time the cotton was placed under loan. However, beginning with the 1996 crop year, the U.S. Department of Agriculture (USDA) has changed its regulations so that government-paid storage costs will be limited to the period of time when the cotton is actually under loan. Producers will be responsible for all storage charges that accrue prior to that time.
- Import quotas and transportation costs. Import quotas and high transportation costs largely inhibit domestic textile mills from importing cotton. Therefore, except under certain conditions when the U.S. price is significantly higher than the adjusted world price, U.S. producers have a captive domestic market and do not have to compete against foreign producers who are selling cotton at lower world prices. For example, the step 3 provision allows specified amounts of cotton imports when the U.S. price is substantially above the adjusted world price for a significant period of time.
- Contract sanctity/reliability. USDA officials told us that foreign buyers of U.S. cotton are willing to pay a premium price because less risk is associated with this purchase. Buyers can expect the terms of the contract to be fulfilled and the product, as specified, to be delivered as promised.
- High-quality standards. USDA officials told us that the reliable quality of U.S. cotton is one of the market factors that results in a premium price for U.S. cotton. High-quality standards and strict grading procedures applied to U.S. cotton reduce the buyer's risk that is frequently associated with purchasing cotton in a foreign market.
- Loan extension. The 1996 farm act eliminated the provision that had allowed producers to extend their loans for an additional 8 months, which had provided a total loan period of 18 months. The elimination of the extension will reduce the option value of the loan in the future because producers will have less time to keep their cotton under loan while waiting for prices to rise. USDA officials told us that the elimination of the extension is particularly important because the loan will no longer span 2 crop years.

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- Production restrictions. Prior to the 1996 farm act, production restrictions—acreage set-asides and the 50/85/92 program³—reduced supply to some extent, and prices were higher because less cotton was available on the market. The 1996 farm act eliminated these production restrictions. This change should have a downward effect on U.S. cotton prices in the future.

Furthermore, U.S. cotton prices are higher than the adjusted world price because the adjusted world price is based on the cost of transporting U.S. cotton to Northern Europe. USDA estimates the world price for cotton from average prices quoted in Northern Europe, adjusts the world price for U.S. quality differences, and subtracts the cost of transporting cotton from the United States to Europe—about 12 cents per pound—to arrive at an adjusted world price. Domestic buyers incur only a 5-cents-per-pound cost of transporting cotton to domestic mills. As a result, domestic buyers gain a price advantage of 7 cents per pound on the value of the cotton they purchase. This price advantage contributes to the price premium that buyers offer to cotton producers to persuade them to take cotton out of storage and sell it rather than hold it and eventually forfeit it to the government.

In addition, because USDA sets the adjusted world price weekly and U.S. prices change daily, buyers and producers can take advantage of the fluctuating differences between the two prices and further increase their returns from the program. Finally, because the adjusted world price is a price based on a formula rather than a market-determined price, cotton industry officials we spoke to stated that it may not accurately reflect actual world cotton prices and therefore may not be a good measure of U.S. competitiveness.

Because all the factors mentioned above result in premium prices for U.S. cotton, it cannot be determined whether the loan rate will still act as a price floor under the marketing loan provisions until market conditions cause the adjusted world price to drop far enough below the loan rate to overcome the price premium. During the last 10 years, for 33 of the 35 months when the adjusted world price was below the loan rate by at least 1 cent, the adjusted world price would probably have had to fall even further below the loan rate to counter the effect of the premium and cause U.S. prices to fall below the loan rate. It is not possible to predict whether

³Under the 50/85/92 program, producers who planted at least 50 percent of the acres enrolled in the program (less acreage reduction program and other program requirements) and devoted the rest to conservation practices were allowed to receive payments on either 85 or 92 percent of their eligible acres.

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market conditions during the life of the 1996 farm act will result in the use of the marketing loan provisions and whether the adjusted world price will fall low enough to fully counter the premium and allow the U.S. price to fall below the loan rate.⁴

Rice

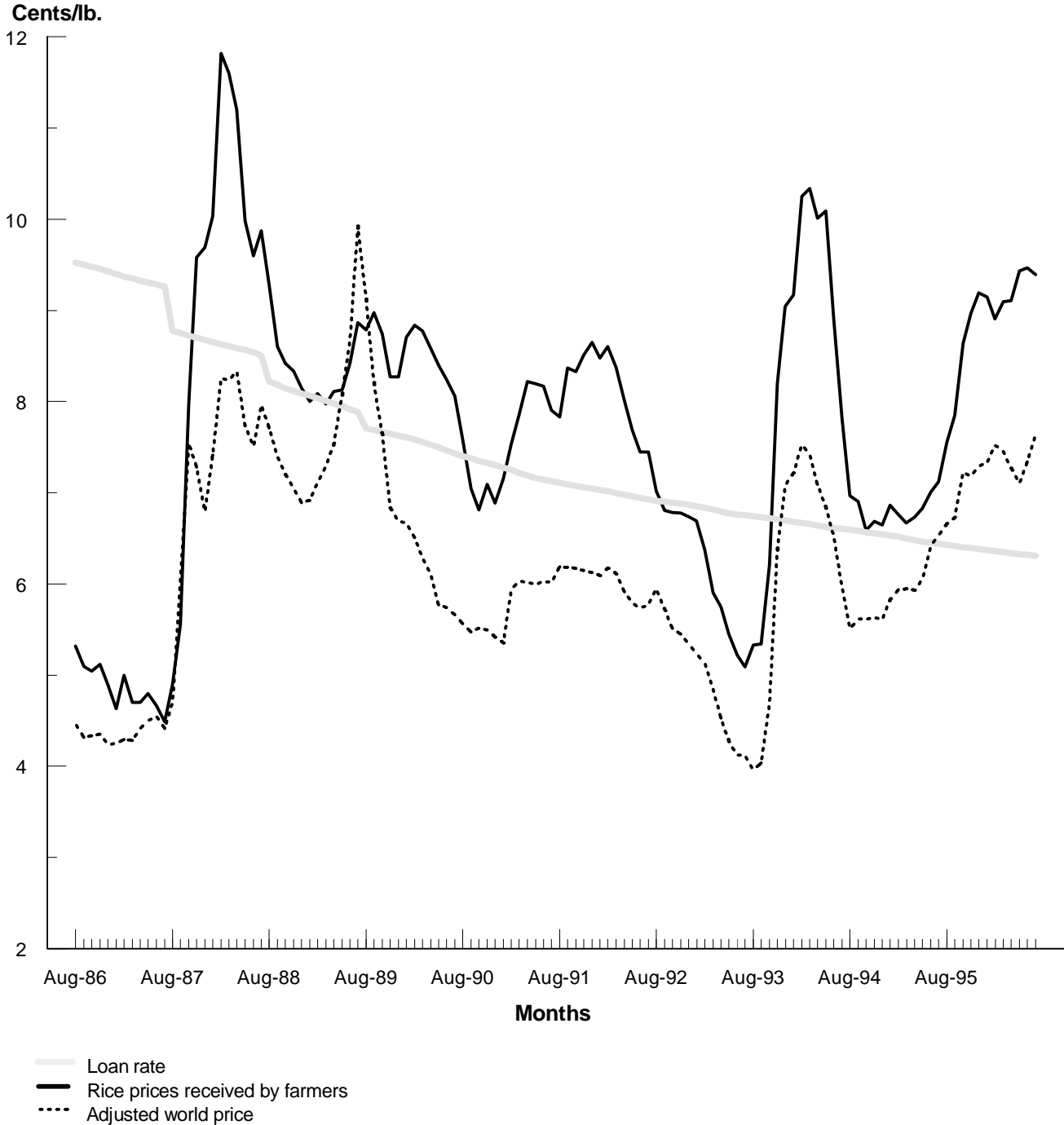
During the last 10 years, when the marketing loan provisions were in effect for rice, the adjusted world price was below the loan rate in 81 months.⁵ During 21 of these 81 months, when the adjusted world price was particularly low, the U.S. price fell below the loan rate. Unlike the inconclusive cotton data, the data for rice suggest that when market conditions result in an adjusted world price that is substantially lower than the loan rate, the marketing loan provisions prevent the loan rate from serving as a price floor. Figure II.2 shows the relationship between the adjusted world price, U.S. price, and loan rate for rice for August 1986 through August 1996.

⁴USDA does not publish forecast prices for cotton.

⁵We did not include as part of our analysis the period from January 1986 through October 1987 because over this period the government was releasing excess rice stocks that it had accumulated in previous years. This excess supply drove U.S. prices below the loan rate. The 81 months occurred from November 1987 through July 1996.

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Figure II.2: Relationship Between the Adjusted World Price, U.S. Price, and Loan Rate for Rice, August 1986 Through August 1996



(Figure notes on next page)

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In 1995 cents per pound

Source: GAO's analysis of USDA's data.

Regardless of the availability of the marketing loan provisions, the U.S. price will generally remain higher than the adjusted world price because of several factors that cause buyers to pay a premium for U.S. rice. In addition to the option value resulting from the availability of the loan at a particular loan rate, other factors that result in a premium price include contract sanctity/reliability, high-quality standards, and significant tariffs and transportation costs that limit imports. Moreover, the method used to calculate the adjusted world price may contribute to keeping the U.S. price higher than the adjusted world price. Each of these factors is discussed below.

- Option value of the loan. As in the case of cotton, the option to hold rice under loan has a value because the loan rate guarantees producers a minimum price, making it easier to keep rice off the market. In addition, under the marketing loan provisions, interest that has accrued on the loan is forgiven when the loan is repaid at the adjusted world price. According to one rice industry official, because the adjusted world price for rice has been below the loan rate for long periods of time, the loan has essentially become interest-free. Domestic rice millers and exporters recognize the value of this “interest-free loan” and are willing to pay premium prices to producers.
- Contract sanctity/reliability. USDA officials and industry representatives agree that U.S. rice buyers are willing to pay a premium price for U.S. rice because less risk is associated with this purchase. Buyers can expect the terms of the contract to be fulfilled and the product, as specified, to be delivered as promised. Sellers from other countries are generally not able to back their products with the same level of contract sanctity and reliability.
- High-quality standards. High-quality standards and strict grading procedures applied to U.S. rice reduce the buyer’s risk that is frequently associated with purchasing rice in a foreign market. Industry officials told us that the quality of U.S. rice is consistently better than the same type of rice produced by any other country. This quality advantage is reflected in a higher price for U.S. rice.
- Import tariffs and transportation costs. Even though rice does not have an import quota like cotton, it does have an import tariff of up to 35 percent,

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depending on the country and/or quality of rice. In addition, according to industry officials, significant transportation costs are incurred when shipping rice to the United States. Because of both the tariff and the transportation costs, as well as concerns about quality and reliability, only a small quantity of rice is imported into the United States. Consequently, the lack of competition in the U.S. market from lower-priced imports helps keep the U.S. price higher than the adjusted world price. In commenting on a draft of this report, USDA officials disagreed with the importance of tariffs in protecting the U.S. rice market. Currently, the rice that is imported is almost exclusively rice varieties not grown in the United States. However, these officials did not address the question of how much rice similar to U.S.-grown rice might be imported if the tariff were not as high.

As in the case of cotton, the adjusted world price may not consistently reflect actual world prices. Since there is no readily available source of world market prices for rice, USDA has to calculate a world price for rice on the basis of actual transaction prices in international rice markets. This world price is then adjusted for transportation costs and some quality differences. Even though the adjusted world price is based on market data, it is still a formula-based price and may not represent actual world market conditions. Moreover, the formula USDA uses to determine the world price and adjusted world price for rice is not publicized, as it is for cotton. According to one USDA official, the formula is not publicized to prevent price manipulation by foreign competitors and domestic producers. However, the formula's confidentiality has led experts to question its validity. Some industry officials we spoke to stated that the adjusted world price for rice is set too high, while some agricultural economists stated that it is set too low. Setting the adjusted world price too low would increase the premium paid by domestic buyers for U.S. rice.

The forecasts of USDA and others indicate that while U.S. prices are expected to remain above the loan rate for the 7-year duration of the 1996 farm act, world prices are predicted to be lower than the loan rate in some of those years. If the adjusted world price falls far enough below the loan rate, producers' use of marketing loan provisions should allow U.S. prices to also fall below the loan rate.

Wheat, Feedgrains,
and Oilseeds

For wheat, feedgrains, and oilseeds, the historical data needed to assess the effect of the marketing loan provisions are limited. Unlike the cotton and rice programs, which have over a decade of experience with the

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marketing loan provisions, oilseeds have had these provisions in effect only since 1991 and wheat and feedgrains only since 1993. Moreover, since the marketing loans were authorized for these commodities, U.S. prices have generally been above the loan rates, and the federal government has spent only a limited amount on marketing loan gains and loan deficiency payments. The marketing loan provisions were used only in crop years 1993 and 1994 for wheat and feedgrains, and gains were realized on only a small percentage of the total U.S. production of these commodities. However, for oilseeds, these provisions were used for crop years 1991 through 1994. Table II.1 provides information on the total quantity of wheat, feedgrains, and oilseeds produced in crop years 1993 and 1994; the percent of total production realizing marketing loan benefits; and the average marketing loan gain or loan deficiency payment received.

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Table II.1: Marketing Loan Benefits (Marketing Loan Gains and Loan Deficiency Payments) for Wheat, Feedgrains, and Oilseeds, Crop Years 1993-94

Commodity	Year ^a	Total quantity produced	Percent of total production receiving marketing loan benefits ^b	Average marketing loan gain per bushel or cwt.	Average loan deficiency payment per bushel or cwt.
Wheat	1993	2,396 mil. bu.	0.36	\$0.12	\$0.10
	1994	2,320 mil. bu.	0.005	0	0.12
Feedgrains					
Corn	1994	10,103 mil. bu.	1.020	0.02	0.04
Barley	1993	398 mil. bu.	0.005	0	0.10
	1994	375 mil. bu.	0.004	0	0.10
Oats	1994	230 mil. bu.	0.011	0	0.07
Sorghum	1994	655 mil. bu.	0.055	0	0.03
Oilseeds					
Flaxseed	1993	3,480 mil. bu.	67.13	0.60	0.77
	1994	2,922 mil. bu.	23.99	0	0.11
Soybeans	1993	1,871 mil. bu.	0.001	0.03	0
	1994	2,558 mil. bu.	0.001	0	0.02
Sunflowers	1994	48,361,850 cwt.	1.55	0.14	0.15
Canola	1993	2,524,500 cwt.	18.25	1.02	0.67
Rapeseed	1993	74,420 cwt.	7.24	0	1.11

Legend: bu.— bushel
cwt. — hundredweight
mil. — million

Note: No benefits were realized for these commodities in crop year 1995 because U.S. prices and the alternative repayment rates were above the loan rates.

^aFor some commodities, payments were made only in a single year. Therefore, for those commodities, information is provided for the year when payments were made. ^bMarketing loan benefits include both marketing loan gains and loan deficiency payments made in any given year.

Source: GAO's analysis of USDA's data.

Generally, marketing loan gains and loan deficiency payments were made for a small share of the total production during crop years 1993 and 1994. For example, for corn, total marketing loan benefits (marketing loan gains and loan deficiency payments) were realized on 1 percent of the total bushels produced in crop year 1994. Five states (Illinois, Indiana, Michigan, Ohio, and Wisconsin) received about 95 percent of the total loan deficiency payments made for corn in crop year 1994. The average marketing loan gain for corn was \$0.02 per bushel in crop year 1994, and

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the average loan deficiency payment was \$0.04 per bushel. Furthermore, 50 percent of the loan deficiency payments made to corn producers in crop year 1994 occurred when the alternative repayment rate was no more than 3 cents below the loan rate. With less than a 2-percent difference between the repayment rate and the loan rate, it is difficult to determine whether the loan rate was acting as a price floor for corn during that year.

Even if additional data were available, particular aspects of each commodity's program and market features make it difficult to reach firm conclusions about the performance of the marketing loan provisions in allowing U.S. market prices for wheat, feedgrains, and oilseeds to drop below the loan rates.⁶ For example:

- For wheat, only one county loan rate applies to all five classes of wheat, but there are five alternative repayment rates. The average county loan rate may be set too high or too low for a particular class of wheat. As a result, for some classes of wheat, the fact that forfeitures occurred would not necessarily indicate that the loan rate was supporting prices but rather that the loan rate provided a price advantage not normally supported by the market.
- For wheat, corn, and other feedgrains, the market is becoming more specialized because some buyers are willing to pay a premium for certain quantities of grain with specific characteristics. Such contractual arrangements result in several U.S. prices existing simultaneously, some of which could be above the loan rate because of price premiums. It is therefore difficult to assess, at any given time, whether the loan rates are supporting prices or whether the contractual arrangements are keeping prices higher than the loan rates.
- For oilseeds, since 1991, most payments under the marketing loan provisions have been made for minor oilseeds.⁷ However, little price information exists for these commodities because many of the minor oilseeds are grown under contract or are thinly traded. For example, flaxseed received marketing loan benefits on almost 70 percent of the total crop produced in crop years 1991 through 1993. But most of this crop was grown under contract and little price information is available, according to a USDA official. Moreover, because flaxseed is a thinly traded commodity, determining its alternative repayment rates is also difficult. Limited price

⁶Other government programs, such as the Export Enhancement Program, may also influence U.S. prices for wheat, feedgrains, and oilseeds.

⁷Minor oilseeds include sunflower seed, canola, rapeseed, safflower, flaxseed, and mustard seed. Soybeans are not a minor oilseed.

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data make it difficult to assess whether the loan rate is acting as a price floor.

In addition, for wheat, feedgrains, and oilseeds, the method that USDA uses to calculate the alternative repayment rates—posted county prices—hinders an assessment of the marketing loan provisions’ effectiveness in allowing U.S. prices to drop below the loan rates. USDA determines each county’s posted county price, daily for wheat, feedgrains, and soybeans, and weekly for minor oilseeds,⁸ by using the appropriate terminal price⁹ from the previous day or week, adjusted for transportation costs and other factors. Because the terminal price may not reflect local county market conditions, the posted county price is not always consistent with local prices. Moreover, because posted county prices measure the previous day’s or week’s terminal prices, they do not incorporate new information that may affect prices on a particular day. As a result, in some instances, the posted county price may be set below the loan rate when actual market conditions warrant a posted county price above the loan rate. In these cases, it may appear that the loan rate is supporting the U.S. price, when in actuality the posted county price may not be reflecting local county market conditions and prices. (See app. I for more information on how the relationship between the posted county price and the U.S. price affects the benefits producers receive under the marketing loan provisions.)

Lacking conclusive data, USDA officials, agricultural economists, and other commodity analysts disagree on the extent to which the marketing loan provisions will prevent the loan rates from acting as price floors for wheat, feedgrains, and oilseeds. Many USDA officials and agricultural economists we spoke to expect that the marketing loan provisions for wheat, feedgrains, and oilseeds will work largely as intended if alternative repayment rates fall below the loan rates. They expect these provisions to be most effective when prices fall substantially below the loan rates and remain there for a significant period of time. For example, one USDA official told us that producers used the generic commodity certificate

⁸For minor oilseeds, the alternative repayment rate is calculated at a regional level instead of at the county level.

⁹A terminal price is derived from a terminal market, which is a major U.S. market where commodity transactions occur. USDA assigns two terminal markets to most counties and calculates a price differential for each terminal that reflects transportation costs and other factors that influence local prices. For each commodity, USDA uses the assigned terminals’ closing prices, applies the relevant differentials, and then uses the higher of the two as the posted county price.

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program¹⁰ during a period of low prices in the 1980s. Therefore, he stated that it is likely that producers will use the marketing loan provisions if the posted county prices fall substantially below the loan rates in the future. Moreover, these experts stated that when prices are below the loan rates, it will be to the producers' advantage to use the marketing loan provisions because the producers must pay for storage if they choose not to sell.¹¹ Producers would usually gain from using the marketing loan provisions and selling their crops instead of forfeiting them because they would not incur the storage costs they would have had to pay if they had held their commodity for the full term of the loan and then forfeited it. (See app. 1 for further discussion on producers' marketing loan gains.) These experts also stated that because producers would be willing to accept lower prices for their commodities and use the marketing loan provisions, loan rates would no longer act as price floors, and forfeitures would be unlikely to occur.

However, a few agricultural economists and commodity analysts offer several reasons why the loan rate may at times provide some price support despite the marketing loan provisions. For example, some told us that when U.S. prices and posted county prices are slightly below loan rates, a temporary resistance prevents prices from falling further below the loan rate. This happens because the gain from using marketing loan provisions may not be enough to overcome the transaction costs¹² associated with using the provisions. In this case, producers may continue to hold their commodities under loan and temporarily keep U.S. prices above or at the loan rates. These experts stated that if supply and demand conditions warrant prices falling further below loan rates, this resistance is most likely to disappear. Some also stated that the loan rate may at times provide price support because the option value of the loan is relatively large compared with the potential savings from avoiding storage costs. If so, producers may prefer to keep their commodities under loan and forfeit them if prices remain low despite the marketing loan provisions. In addition, the greater the option value of the loan, the greater resistance

¹⁰The 1985 farm act authorized USDA to issue generic commodity certificates to make in-kind payments to producers participating in government commodity programs. Producers receiving certificates could exchange them at the posted county prices for commodities placed under loan, exchange them for government-owned commodities, or sell them for cash.

¹¹Except for cotton, producers who place their commodity under loan are responsible for paying all storage costs. Commodities may be stored on the farm or at a warehouse; on-farm storage may cost less than warehouse storage. Because USDA requires producers to pay storage costs in advance for the 9-month loan term when placing a commodity under loan, total storage costs to the producer include the actual cost of storage as well as the interest foregone on the advance payment.

¹²Producers incur transaction costs when they obtain a marketing loan from USDA. These transaction costs include both measurable costs, such as a loan service fee, as well as unmeasurable costs, such as filling out paperwork and visiting the loan office.

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loan rates will provide against falling prices. Furthermore, because the posted county prices are sometimes not consistent with local U.S. prices, some agricultural economists told us that if posted county prices are higher than the local county prices, producers may have little incentive to use the marketing loan provisions and may choose to forfeit their commodities. The extent to which this may occur depends on the actual differences between the posted county prices and U.S. prices and the potential to avoid storage costs by redeeming loans at the posted county prices.

According to 1996 forecasts by USDA and others, U.S. prices for wheat, feedgrains, and soybeans are expected to be above the loan rates for the next several years. Under these market conditions, the marketing loan provisions will not be used. However, during 1996, prices for wheat and feedgrains fell substantially. For example, cash prices for corn fell from a high of \$5.25 per bushel on July 11, 1996, to a low of \$2.51 per bushel on November 5, 1996.¹³ (Some of this difference was due to seasonal variations.) If prices continue to fall to levels near the loan rate of \$1.89, then producers may use the marketing loan provisions.

¹³These corn prices represent central Illinois daily spot prices. USDA calculates this price from the midpoint of the high and low prices from a sample of 30 central Illinois elevators.

Additional Changes Made to the Peanut Program in the 1996 Farm Act and Their Impact on the U.S. Peanut Market

The 1996 farm act lowered the quota support price for peanuts to reduce U.S. peanut prices and the cost of the peanut program to the government. This appendix discusses additional changes made to the peanut program and their effect on the U.S. peanut market. This appendix also includes an economic analysis of the effect of the reduced quota support price on the national poundage quota and on the U.S. peanut market.

1996 Farm Act Changes to the Peanut Program

In addition to the reduction in the quota support price, discussed on page 15, other changes were made to the peanut program in the 1996 farm act: elimination of the legislatively set minimum national poundage quota; authorization to increase marketing assessments; elimination of provisions allowing the carryover of unfilled quota from year to year (undermarketings); redefinition of the peanut quota to exclude seed peanuts; limits on transfer payments (known as disaster transfers) made to quota holders whose commodity is of lesser quality; and added marketing requirements for maintaining program eligibility. These changes should enable USDA to better control the quantity of peanuts marketed at the quota support price, thus reducing the government's costs associated with the program. In addition, out-of-state nonfarmers and government entities can no longer hold quota; and the annual sale, lease, and transfer of quota is now permitted across county lines within a state, up to specified amounts of quota. These changes will improve the equity and economic efficiency of the peanut program. The following discusses these changes in detail:

- **National poundage quota.** The 1996 farm act eliminated the minimum level for the national poundage quota, which refers to the quantity of peanuts that can be marketed domestically at the support price. The minimum quota is no longer fixed at 1.35 million tons by legislation. Instead, if conditions warrant, the national poundage quota may fall to lower levels. For crop year 1996, USDA set the quota at 1.1 million tons—0.25 million tons less than the minimum set under the previous legislation. This lower quota is intended to be more in line with the estimated quantity of peanuts demanded at the \$610 per ton support price. If market conditions change in the future, USDA now has the ability to match the quota to the changing quantity demanded at the fixed support price. In addition, if the quota is set to equal the quantity of peanuts demanded at the support price, government costs for the program should be minimized. This is because the government would not have to purchase surplus peanuts to maintain the quota support price.

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Additional Changes Made to the Peanut
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- Marketing assessments. The 1996 farm act provides USDA with the authority to increase future marketing assessments if marketing assessments in the current year do not cover all losses incurred from operating the peanut loan program. According to USDA officials, this provision will help ensure that the peanut program operates at no net cost to the Treasury.
- Undermarketings. The 1996 farm act further enhanced USDA's ability to set the quota by no longer allowing the carryover of quota from year to year when producers are unable to produce enough peanuts to meet their quota. The amount of peanuts represented by the quota carried over to the next year was known as undermarketings. Previously, these undermarketings were in addition to the national poundage quota set for the year. By eliminating undermarketings, the 1996 farm act improved USDA's ability to control the quantity of peanuts marketed at the quota support price.
- Seed peanuts. For the 1996 through 2002 crop years, producers will be allocated a temporary quota for peanuts to be used as seed. Previously, producers had to purchase quota peanuts rather than less expensive additional peanuts for seed. The new quota for seed in effect reimburses producers for the extra expense of using the quota peanuts. Under the previous legislation, the national poundage quota was based on domestic edible, seed, and related uses. Now the national poundage quota will not include seed use. The quota for seeds will be in addition to the national poundage quota. Also, the quota for seeds will be temporary and will only apply to the seeds used in the year the quota is issued. While the separate quota for seeds may increase the total quantity of quota, it ensures that the national poundage quota represents more closely only those peanuts marketed for edible use.
- Disaster transfers. Under the previous legislation, quota peanut producers who harvested a crop but were unable to market it commercially because it had been damaged by weather, insects, or disease were protected from a loss in income by disaster transfer payments. To qualify for the transfer payment, producers placed their damaged peanuts into the government's additional peanuts loan program and received the support price established for additional peanuts. Furthermore, they received the disaster transfer payment, which is the difference between the higher quota support price and the support price for additional peanuts. These transfer payments ensured that quota holders received the quota support price regardless of the quality of the peanuts they produced. Under the new legislation, disaster transfers are limited to 25 percent of the producer's quota and 70 percent of the quota support price.

- Marketing requirements for maintaining program eligibility. Producers who market 100 percent of their quota peanuts through a marketing association loan for 2 consecutive years shall be ineligible for price support the next crop year if during the prior 2 years they received and did not accept a written offer from a buyer for at least the quota support price.
- Reallocation of peanut quota held by out-of-state nonproducers or government entities. Effective with the 1998 crop year, peanut quota may no longer be held by people who are not peanut producers or whose primary residence and place of business is located outside the state in which the quota is allocated. In addition, peanut quota will be forfeited for farms owned or controlled by municipalities, airport authorities, schools, colleges, refuges, and other public entities. The forfeited quota will be allocated to other eligible producers in the state. The change made pursuant to the 1996 farm act will help ensure that peanut producers, rather than peanut quota holders who do not produce peanuts, are the beneficiaries of the peanut program.
- Transfer of peanut quota across county lines. The 1996 farm act allows for the annual transfer of the peanut quota across county lines within the same state for counties with less than 50 tons of quota. For counties with more than 50 tons of quota, the amount of transfer is limited to 40 percent of the quota in the transferring county as of January 1, 1996. The cumulative out-of-county transfers for any state, however, may not exceed 15 percent for 1996, 25 percent for 1997, 30 percent for 1998, 35 percent for 1999, and 40 percent for 2000. The previous legislation allowed the transfer of quota freely across county lines only in those states that had less than 10,000 tons of quota and under certain conditions within contiguous counties in the same state.

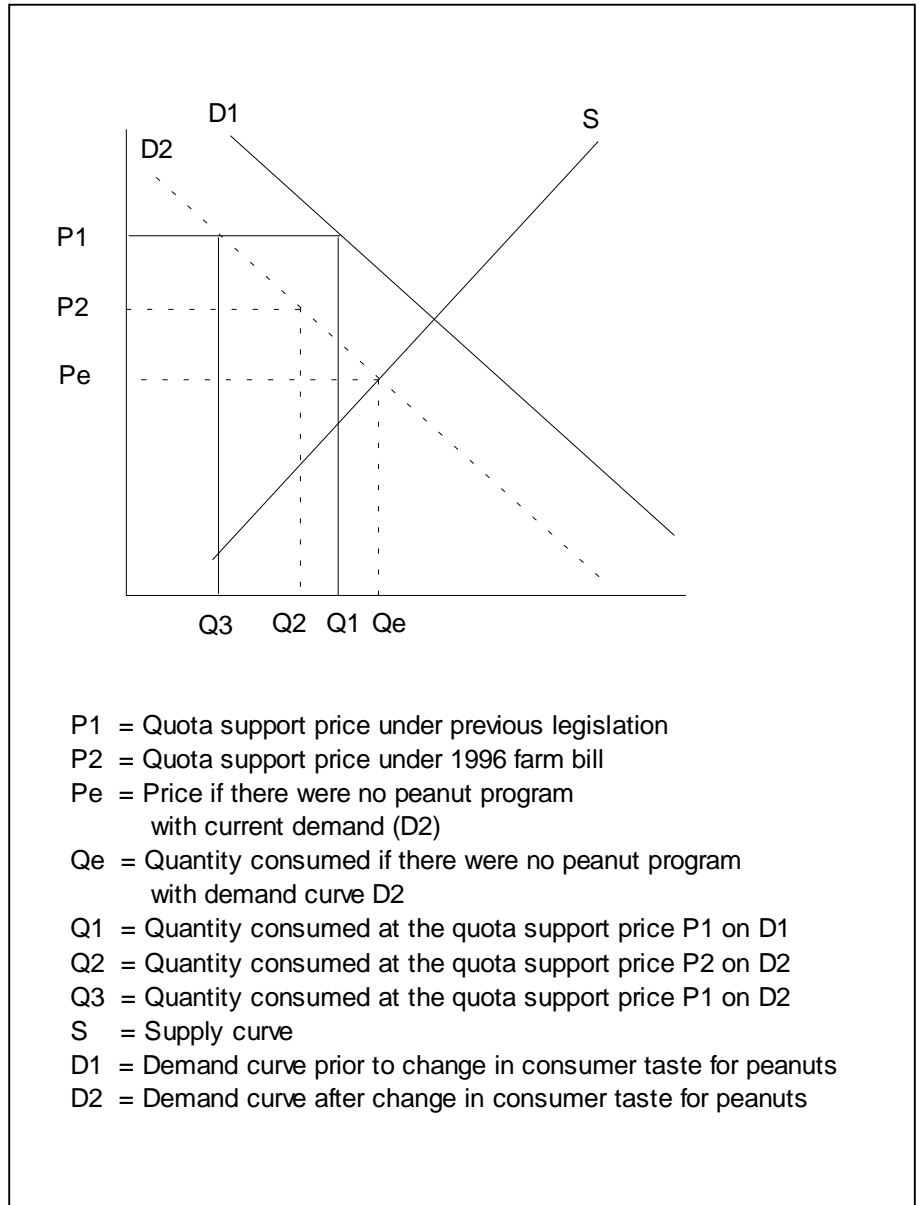
Economic Analysis of the Effect of a Reduced Quota Support Price on the National Poundage Quota and on the U.S. Market

An economic analysis of the effect of the reduced quota support price on the national poundage quota and on the U.S. market illustrates that as a result of changes made under the 1996 farm act, more peanuts will be available at a lower price than under the previous legislation. Additional reductions in the quota support price may further reduce the price of U.S. peanuts. The method by which the support price and national poundage quota interact is shown in figure III.1.¹

¹The following article contributed to this analysis: Martin, Laura L. and A. Blake Brown. "Economic Impacts in North Carolina of a Peanut Support Price and Quota Reduction," *Journal of Agribusiness*, 14-1 (Spring 1996): 95-108.

**Appendix III
 Additional Changes Made to the Peanut
 Program in the 1996 Farm Act and Their
 Impact on the U.S. Peanut Market**

Figure III.1: Effect of the Peanut Program on the Market



Appendix III
Additional Changes Made to the Peanut
Program in the 1996 Farm Act and Their
Impact on the U.S. Peanut Market

This figure is a simplified economic representation of how the peanut market operates. The supply curve shows the different quantities of peanuts that producers will offer at each price. The demand curve shows the different quantities of peanuts that buyers will purchase at each price.

Prior to the 1996 farm act, the support price was set at a level represented in the figure by P1, and the minimum national poundage quota was set at a quantity represented by Q1. In recent years, domestic use of peanuts has fallen short of the minimum national poundage quota set by legislation. This decline in use is attributed to changes in consumers' tastes because of concern about fat in the diet and is represented by a shift in the demand curve from D1 to D2. Although demand for peanuts declined and only Q3 quantity of peanuts would be purchased on the domestic market at the quota support price P1, the national poundage quota was fixed by legislation at Q1. Therefore, USDA could not reduce the quota and had to buy Q1 minus Q3 quantity of surplus peanuts, increasing the costs associated with the program. To reduce these costs while maintaining a support price of P1, USDA would have had to reduce the quota to Q3 quantity of peanuts—the quantity that would have been purchased at the quota support price P1.

Under the 1996 farm act, the legislatively set minimum national poundage quota was eliminated and the poundage quota was reduced. The quota did not need to be reduced to Q3, however, because the quota support price was also reduced—from P1 to P2. The new quota was set at Q2, the quantity that would be purchased by the market at the lower support price, P2. These changes reduce the possibility that the government will have to purchase surplus peanuts. Under this scenario, buyers purchase a larger quantity of peanuts at a lower price than under prior legislation, even though the quota has been lowered. If there were no program, however, the quantity purchased would be even greater—Qe—and the price even lower—Pe. For this reason, further reductions in the quota support price for peanuts, if made, may lower U.S. prices.

Scope and Methodology

At the request of the Chairman of the House Committee on the Budget, we reviewed seven commodity programs—cotton, rice, wheat, feedgrains, oilseeds, peanuts, and sugar—to determine how certain support provisions that remain operative under the 1996 farm act affect U.S. commodity prices in comparison with world prices. The world price must be analyzed on a commodity-by-commodity basis because currently there are only proxies for world prices. For this review, we used USDA's proxies for the world price for cotton, rice, wheat, feedgrains, and oilseeds. The world price for peanuts is derived from the price quoted for U.S. peanuts in Rotterdam, adjusted for the cost of shelling and transportation back to the United States. The world price for sugar is the Number 11 contract price as traded on the New York Coffee, Sugar, and Cocoa Exchange, (f.o.b. Caribbean) for raw cane sugar. For this review, when analyzing U.S. prices, we used prices that producers receive for cotton, rice, wheat, feedgrains, and oilseeds.

In conducting our review, we obtained data from USDA on payments made under the programs for cotton, rice, wheat, feedgrains, and oilseeds, as well as information on how the alternative repayment rates are calculated. We also spoke with representatives of USDA's Commodity Credit Corporation, Economic Research Service, Farm Service Agency, Foreign Agricultural Service, National Agriculture Statistical Service, Office of Chief Economist, and county offices. We also spoke to officials from the World Bank, academic experts, industry and trade representatives, and agricultural commodity consultants. We reviewed various economic and international trade studies conducted by universities, management consulting groups, USDA, and international agencies.

We conducted the following analyses to determine if the marketing loan provisions prevent loan rates from acting as price floors and allow U.S. prices to fall to levels that are closer to adjusted world prices. For cotton and rice, we analyzed USDA's proxies for weekly world prices for crop years 1986 through 1995 and the way in which these prices were converted to the adjusted world prices used for the marketing loan provisions. To understand how the conversions were made, we spoke to officials at the Farm Service Agency. We also analyzed weekly spot market prices for cotton and producer prices for rice for the same period to understand the relationship between the adjusted world price and U.S. prices. To adjust prices for inflation, we used the gross domestic product implicit price deflator, which is the generally accepted method for determining real prices. We also identified other program and market factors that affect U.S. prices for cotton and rice.

To make the same determination for wheat, feedgrains, and oilseeds, we obtained data on marketing loan benefits from USDA's Kansas City Management Office to determine the level and general distribution of payments for crop years 1993 through 1995. For corn, we also analyzed posted county prices, loan rates, and market price information to understand the relationship between these prices for crop year 1994. We selected corn for our detailed analysis because this was the only commodity of this grouping for which meaningful price data were available.

We recognize that our analysis of historical price data to determine the effectiveness of the marketing loan provisions may be limited in its applicability to the future. This is because the 1996 farm act has either eliminated or changed many of the program provisions that were in place in the past.

To determine the effect of lower loan rates on the relationship between U.S. and world prices, we spoke with USDA officials, including agricultural economists, and other agricultural economists who are specialists in each of the commodities we reviewed. We also reviewed the literature on this question.

To determine the effect of a lower loan rate on step 2 payments, we interviewed and obtained documents from USDA officials and spoke to officials from the National Cotton Council and the International Cotton Advisory Committee, and to a cotton industry official. To determine the impacts of the recent changes in the timing of step 2 payments on the program's effectiveness, we reviewed regulations and reports from USDA and others and spoke to officials at USDA, the National Cotton Council, and the International Cotton Advisory Committee, and to a cotton industry official.

To identify additional changes that could be made to make the peanuts and sugar programs more market-oriented, we reviewed legislation and regulations, as well as reports from USDA. We also interviewed officials at USDA, in academia, commodity consulting groups, the American Sugar Alliance, and representatives of sugar grower and processor associations.

We did not independently verify the data used in this report. We conducted our review from July 1996 through January 1997 in accordance with generally accepted government auditing standards.

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