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Report to the Chairman, Committee
Agriculture, House of Representatives

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GENERAL AGREEMENT ON TARIFFS AND TRADE

Agriculture Department's Projected Benefits Are Subject to Some Uncertainty



General Government Division

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July 22, 1994

The Honorable E (Kika) de la Garza
Chairman, Committee on Agriculture
House of Representatives

The Congress is considering legislation to implement the Final Act of the Uruguay Round negotiations that were conducted under the auspices of the General Agreement on Tariffs and Trade (GATT).¹ One important issue relevant to congressional decision-making is the likely impact of the Final Act on U.S. agriculture.

In March 1994, the U.S. Department of Agriculture (USDA) issued a report that projected the impact that the Final Act would have on U.S. agriculture in the years 2000 and 2005. Generally speaking, USDA found that the Final Act would increase world agricultural trade and benefit U.S. agricultural exports, employment, and farm income. As you requested, we assessed the analytical framework of USDA's analysis and the assumptions that USDA used to prepare its report.² While we identified other analyses completed on the Final Act's economic impact on agriculture, at the time of our review, the USDA study was the most comprehensive report available. Two other studies were completed after our review—one by the Food and Agricultural Policy Research Institute (FAPRI)³ and one by the International Trade Commission (ITC).⁴

Results in Brief

USDA used a reasonable analytical framework, consistent with common economic principles and modeling practices, to determine the economic effects of the Final Act on U.S. agriculture. However, USDA's projected benefits of the Final Act to U.S. agriculture should be interpreted with caution. Even though USDA made reasonable assumptions in conducting its

¹GATT is an international organization created in 1947 pursuant to the GATT agreement that now has more than 100 nations as signatories. The GATT is devoted to the promotion of freer trade through multilateral trade negotiations and was founded on the belief that more liberalized trade would help the economies of all nations grow. For more information on the Final Act, see International Trade: Observations on the Uruguay Round Agreement (GAO/T-GGD-94-98, Feb. 22, 1994) and the forthcoming two-volume GAO report General Agreement on Tariffs and Trade: Uruguay Round Final Act Should Produce Overall U.S. Economic Gains.

²See Effects of the Uruguay Round Agreement on U.S. Agricultural Commodities, USDA, Office of Economics and the Economic Research Service (Washington, D.C.: Mar. 1994).

³See The Implications of the Uruguay Round for U.S. Agriculture, FAPRI, University of Missouri and Iowa State University (Columbia, Missouri, and Ames, Iowa: June 1994).

⁴See Potential Impact on the U.S. Economy and Industries of the GATT Uruguay Round Agreements, ITC (Washington, D.C.: June 1994).

analysis, assumptions about future events are subject to inherent uncertainty.

In particular, assumptions concerning three areas crucial to USDA's analysis are subject to substantial uncertainty: assumptions about projections for world income growth resulting from the Final Act, assumptions about how governments of other countries would implement the Final Act, and assumptions about how agricultural producers in the United States and other countries would respond to the expected changes in agricultural policies.

Regarding the first area of uncertainty, projected world income growth was the principal basis for USDA's estimated benefits to U.S. agriculture. USDA used two growth scenarios for world income. Under the high-growth scenario, two-thirds of the projected income growth was attributed to dynamic gains, and under the low-growth scenario, one-half was attributed to dynamic gains.⁵ According to an ITC report,⁶ economists believe that while dynamic gains from more liberalized international trade can be substantial, dynamic gains cannot be easily estimated. To the extent that these gains are not achieved, the level of USDA's projected benefits to U.S. agriculture may be affected.

Regarding the second area of uncertainty, governments would have to make some major agricultural policy changes to implement the Final Act, as well as take actions to respond to the consequences of the Final Act. As is characteristic of this type of analysis, USDA was not able to project or incorporate all of these potential policy changes in its analysis. For instance, USDA assumed that the European Union (EU)⁷ would reduce its subsidized exports of grain, as required by the Final Act, but did not assume further restrictions in production. Since the EU would be unable to export its excess production, USDA's study assumed that the EU would allow its holding of surplus grain stocks to more than double to some 77 million tons by 2005. According to USDA, however, it is unlikely that the EU would allow stocks to grow to this level; instead, the EU would implement policies to control the stock buildup by reducing production.

⁵Generally speaking, dynamic gains are benefits derived from higher productivity, either due to higher investment rates or better technology, that is stimulated by trade liberalization.

⁶See *The Dynamic Effects of Trade Liberalization: A Survey*, ITC, Office of Economics (Washington, D.C.: Feb. 1993).

⁷The European Union was formerly known as the European Community. It consists of 12 member countries: Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, and the United Kingdom.

Depending on what action the EU takes, and what actions other nations take to address similar types of problems, U.S. export opportunities and the projected benefits of the Final Act for U.S. agriculture may be affected.

Regarding the third area of uncertainty, agricultural producers worldwide respond to a complex set of internal and external policies, some of which would be changed significantly by the Final Act. As a result, any model, even with the best information available, would have difficulty in accurately predicting future trade flows, particularly because the trade environment is expected to change significantly if the Final Act is implemented.

Background

Signed on April 15, 1994, the Final Act includes the most substantial reform in international agricultural trade undertaken by GATT contracting parties.⁸ One of the most significant provisions that would be required by the Final Act is that countries would have to make specific reductions in three types of government support for their agriculture sectors—restrictions on access to markets, subsidies on exports, and financial support for production.

Although USDA expected the Final Act would increase world agricultural trade, estimates of the extent to which individual commodity sectors in the United States would benefit from the Final Act vary. USDA estimated that the Final Act would benefit U.S. agricultural exports, employment, and farm income by 2005.⁹ Moreover, USDA predicted that these gains would reduce the need for government outlays to support commodity prices and farmers' incomes. Each of these predicted effects is discussed in the following paragraphs.

- **Exports.** USDA reported that the Final Act would lead to substantially improved access to foreign markets for U.S. agricultural exports and that annual exports would increase by between \$1.6 billion and \$4.7 billion by the year 2000 and between \$4.7 billion and \$8.7 billion by 2005. While USDA expected exports to grow for various commodities, grains and animal products accounted for almost 75 percent of these projected increases.

⁸Attempts were made to address agricultural trade in the Dillon Round (1960-62), the Kennedy Round (1963-67), and the Tokyo Round (1973-79). While the scope of these efforts was not as broad as the Uruguay Round (1986-93) negotiations on agriculture, the rounds did provide some liberalization of agricultural trade.

⁹Some commodities would be adversely affected in the short run, as identified by the previously cited ITC study. For a further discussion of possible short-term effects, see the forthcoming GAO report *International Trade: Impact of the Uruguay Round on the Export Enhancement Program*.

Some of the reasons that USDA cited for the anticipated expansion in U.S. agricultural exports included the expected rise in world income, the expansion of market access resulting from the Final Act, and the requirement that other countries would have to reduce their subsidized exports more than the United States to meet the provisions of the Final Act.

- Employment. USDA predicted that U.S. export-related employment would increase as a direct result of the expected growth in agricultural exports, resulting in an increase in employment of 41,000 to 112,000 jobs by the year 2000 and 105,000 to 190,000 jobs by 2005.
- Farm income. USDA predicted the Final Act would lead to an increase in U.S. net farm sector annual income (net of expenses) of between \$1.1 billion and \$1.3 billion by the year 2000 and between \$1.9 billion and \$2.5 billion by 2005. The principal basis for this increase was attributed to the expected growth in world income, which USDA predicted would raise the demand for agricultural products, particularly for income-sensitive commodities such as meat, fruits, vegetables, and other specialty crops. According to USDA, increased demand for beef, pork, and poultry means that U.S. feedgrain and soybean producers would gain as well.
- Government outlays. USDA predicted that annual government outlays for agriculture could decline by \$0.7 billion-\$1.3 billion by the year 2000 and \$2 billion-\$2.6 billion by 2005. USDA projected that expanded U.S. exports would raise commodity prices and increase farm income, and thus reduce the overall need for current government support programs.

While the USDA study reported that the Final Act would generally benefit most U.S. agricultural commodity sectors, these benefits would not extend equally to all commodities. For instance, USDA projected that the U.S. wheat sector would benefit substantially, while there would be no effect on the U.S. sugar sector. In appendix I we provide more information on the USDA-estimated effects of the Final Act on eight major U.S. commodity sectors.

Scope and Methodology

For this report, we assessed the analytical framework of USDA's analysis and the assumptions that USDA used to determine the impact of the Final Act on U.S. agriculture. We interviewed USDA officials and reviewed USDA documentation describing USDA's analytical framework and assumptions to determine whether the framework and assumptions adhered to common economic knowledge and principles and common modeling practices. We also interviewed USDA officials regarding the application of the model that USDA used in its analytical framework to project the economic effects of

the Final Act. We did not evaluate the details of USDA's model structure nor did we verify the accuracy of USDA's data or computations. We also reviewed two other analyses completed by the governments of Australia¹⁰ and the United Kingdom (UK).¹¹ However, because these studies had a different focus than the USDA study, our use of them was limited to comparing some of their assumptions to those made by USDA. We did not evaluate two other studies that were completed in June 1994—one by FAPRI¹² and one by ITC¹³—because they were published after we completed our work.

We did our work between March and May 1994 in accordance with generally accepted government auditing standards. For more information on our scope and methodology, see appendix II.

USDA Used a Reasonable Analytical Framework

USDA developed two scenarios—one baseline scenario assuming the Final Act would not be in effect and the other scenario assuming the Final Act would be in effect. The difference between the scenarios constituted the estimated economic effects of the Final Act. To develop and compare both scenarios, USDA used analysts' judgment as well as an econometric model to predict the supply, demand, exports, and imports for 13 major U.S. agricultural commodity sectors, such as wheat and rice.¹⁴ USDA incorporated into the model information on 43 countries and regions, with up to 25 agricultural commodity sectors per country. It appears that USDA linked to each agricultural commodity sector the expected direct and indirect effects of the Final Act. For example, USDA predicted the economic effects for livestock and linked the results to the effects for feedgrains, showing how changes in livestock production might affect the demand for feedgrains, and vice versa.

Moreover, USDA incorporated various assumptions that appeared to consider the effects of the Final Act and were consistent with common economic principles. For instance, USDA incorporated assumptions on

¹⁰See N. Andrews, I. Roberts, and S. Hester, "The Uruguay Round Outcome: Implications for Agriculture and Resource Commodities," in Outlook 94, Australia Bureau of Agricultural Research (ABARE), Macroeconomic and Trade Branch (Canberra, Australia: 1994).

¹¹See The GATT Uruguay Round Agreement and the Implications for EC Agriculture, (unpublished), United Kingdom, Ministry of Agriculture, Fisheries and Food (London, England: Feb. 1994).

¹²See Implications of the Uruguay Round for U.S. Agriculture.

¹³See Potential Impact on the U.S. Economy and Industries.

¹⁴USDA estimated the effect of the Final Act on 13 U.S. commodity sectors—wheat, corn, rice, beef, cotton, dairy products, eggs, peanuts, pork, poultry, soybeans, specialty products (e.g., fruits), and sugar.

economic factors such as growth in national income and predicted how consumers and producers would respond to this income growth—that is, USDA assumed that consumers with more income would purchase more agricultural commodities, and farmers would produce more to meet the increase in demand. USDA also incorporated analysts' expectations of trade under normal conditions by considering factors such as weather fluctuations, technological development, and the continuation of current law, including the North American Free Trade Agreement¹⁵ and the EU's Common Agricultural Policy.¹⁶

USDA's Estimated Benefits Must Be Interpreted With Some Caution

While USDA used a reasonable analytical framework to predict the effects of the Final Act, USDA's projected benefits should be interpreted with caution. All results based on assumptions about future events are inherently subject to uncertainty. To the extent that the assumptions used in USDA's analysis are different from events that actually unfold, USDA's projected benefits may be affected.

Assumptions Related to World Income Growth

In any agriculture impact analysis, consideration of world income growth is critical. Such growth is a major factor in determining the demand for agricultural commodities. For instance, common economic theory states that, when consumers have higher income, they tend to purchase larger quantities of some food products and more higher-quality products. USDA followed this logic and assumed that growth in world income would lead to a higher demand for grains and meat. In fact, the projected growth in world income is the principal basis for USDA's estimated benefits to U.S. agriculture after the year 2000.

However, the assumptions of world income growth used by USDA are subject to substantial uncertainty because the growth estimates included, in part, economic gains that are difficult to estimate. The assumptions included both static and dynamic income gains anticipated from more

¹⁵The North American Free Trade Agreement, which took effect in January 1994, is an agreement between the United States, Canada, and Mexico that establishes a free trade area between the three countries through the combined elimination of tariffs and other barriers to trade, including in most agricultural sectors, mostly within 10 years.

¹⁶The EU's Common Agricultural Policy (CAP) attempts to increase agricultural productivity by promoting technical progress, ensuring a fair standard of living for the agricultural community, stabilizing markets, assuring the availability of supplies, and ensuring that supplies reach consumers at reasonable prices. In 1992, the EU supported farmers through CAP at a cost of 36 billion European Currency Units (ECU) (about \$30 billion at the 1992 year-end exchange rate of \$1=1.19 ECU), which accounted for almost 60 percent of the EU's 1992 budget.

liberalized international trade.¹⁷ According to an ITC report,¹⁸ most economists specializing in international trade believe that dynamic gains from trade liberalization are larger than static gains but agree that dynamic gains cannot be easily estimated. The governments of Australia and the UK did not include dynamic gains in their economic analyses of the Final Act.

USDA used two growth scenarios for world income. In the higher-growth scenario, USDA used the estimate developed by the U.S. Trade Representative (USTR) and the President's Council of Economic Advisers (CEA). This estimate projected that the Final Act could increase world income over a 10-year period in real terms, equivalent to a 5-percent increase in world income in 2005, compared with what it would be without the Final Act. The estimate included a rise in U.S. real income over a 10-year period, equivalent to a 4-percent increase in U.S. income by 2005. USTR and CEA attributed two-thirds of this increase in income to dynamic gains.

The lower-growth scenario for the anticipated impact on U.S. agriculture was based on less optimistic expectations for dynamic gains from more liberalized international trade. Under this lower-growth scenario, USDA—in conjunction with USTR and CEA—projected the cumulative world income growth would be equivalent to about 2.5 percent of world income in 2005, compared with what it would be without the Final Act. The cumulative U.S. income growth over 10 years would be about 1.7 percent of U.S. income in 2005. One-half of this projected income increase was attributed to dynamic gains.

To the extent that the projected income growth used by USDA—in either the high- or low-growth scenario—is not achieved as a result of the Final Act, there is uncertainty about the degree to which increased world demand for agricultural products, particularly meat and grains, would be realized. As a result, USDA's projected benefits to U.S. agriculture would be affected.

Assumptions Related to How Countries Would Implement the Final Act

To estimate projected benefits for the United States, USDA assumed that all member countries would implement the Final Act. However, USDA assumed only changes specifically required by the Final Act would be

¹⁷Generally speaking, static gains are benefits anticipated from resources being reallocated to more efficient sectors of an economy and from the increase in real income for consumers and downstream producers due to cheaper prices on imported goods. As previously mentioned, dynamic gains are benefits derived from higher productivity, either due to higher investment rates or to better technology, that is stimulated by the trade liberalization.

¹⁸See *The Dynamic Effects of Trade Liberalization*.

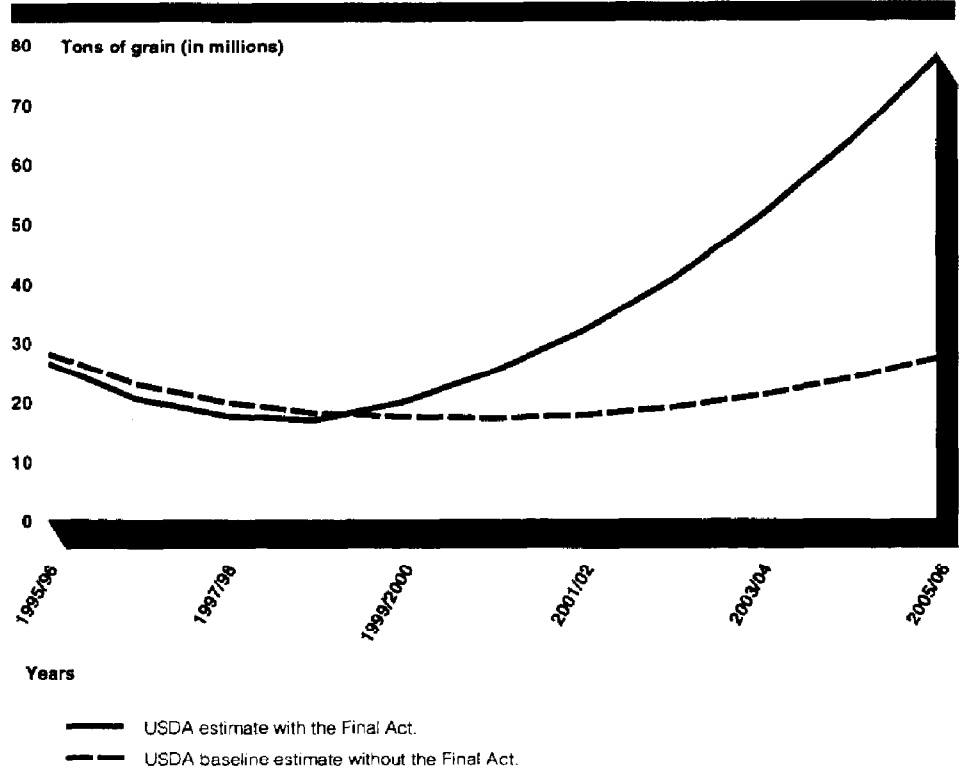
made. While this is a common analytical approach, U.S. export opportunities and the projected benefits of the Final Act for U.S. agriculture depend on the actions that other nations would take to implement the Final Act, as well as the actions they would take to respond to the consequences of the Final Act. The governments of the United States and of other countries might make significant changes to their agricultural policies because of the Final Act's provisions. Many of these possible changes would require hard choices.

As is characteristic of this kind of analysis, USDA was not able to project or incorporate all of these possible policy changes in its analysis. For instance, USDA assumed that the EU would reduce its subsidized wheat exports as required to meet the provisions of the Final Act.¹⁹ Since the EU would no longer be able to export surplus grain,²⁰ USDA assumed that the EU would allow its grain stocks to more than double to some 77 million tons, as shown in figure 1.

¹⁹The Final Act specifies that industrialized member countries, including the United States, must reduce their subsidized exports by 21 percent of volume and 36 percent in budget outlays over a 6-year period, using 1986 to 1990 as the base level.

²⁰EU grains include wheat, corn, barley, rye, and other grains.

Figure 1: USDA-Assumed EU Grain Stocks Under the Final Act



Source: USDA.

This situation would occur because USDA assumed that the EU would not significantly change its agricultural policies to avoid excess production leading to a doubling of grain stocks. Our review of the UK's analysis and our discussions with foreign officials confirmed that EU stock levels could potentially rise for the reasons USDA cited, unless EU policies changed.

Although USDA assumed this level of EU grain stock in its analysis, USDA stated that it is unlikely that the EU would be willing to allow stocks to rise to this high level and would, therefore, implement policies to control the buildup of stocks. While EU and UK officials told us that they were aware of the potential buildup of grain stocks, and the challenge for addressing it, the EU has not yet proposed any action. How the EU will respond to this problem, and how other countries will address similar types of problems, will affect the benefits that are realized by U.S. agriculture. Because USDA

was not able to project or incorporate potential policy changes into its analysis, USDA's projected benefits should be interpreted with caution.

Assumptions Related to Responses of Producers in a New Trade Environment

Another area of uncertainty concerns assumptions about how agricultural producers in the United States and other countries would likely respond to changes in agricultural policies. U.S. and other agricultural producers respond to a complex set of internal and external policies, some of which would be changed significantly by the Final Act. As a result, any model, including USDA's, even with the best information available, would have difficulty in accurately predicting future trade flows, particularly because the trade environment would be altered significantly under the Final Act.

For example, changes in agricultural policies might enable certain other nations to emerge as significant competitors in certain commodities. This circumstance could result in fewer gains for U.S. exports and greater import penetration in the U.S. market. This is especially true in the context of individual market sectors, where the future performance of U.S. and foreign producers might differ substantially from what is currently projected due to the response to the new environment.

Conclusions

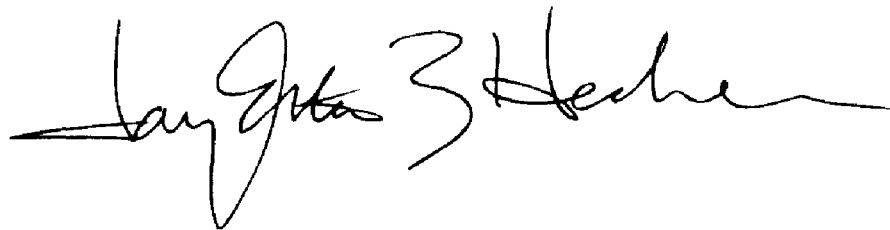
USDA used a reasonable analytical framework in estimating the effect of the Final Act on U.S. agriculture. However, the assumptions it used in forecasting future benefits—specifically the growth in world income, how countries would change their agricultural policies to implement the Final Act, and the response of producers to changing agricultural policies—are subject to substantial uncertainty. Because events could unfold differently than the assumptions in USDA's analysis, the anticipated benefits to U.S. agriculture should be interpreted with caution.

Agency Comments

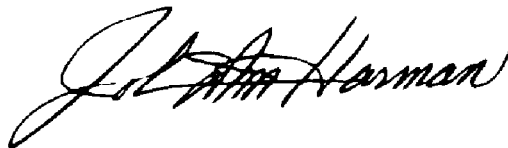
We discussed the contents of this report with USDA officials, including the Principal Economic Counselor and the Deputy Coordinator of USDA's analysis of the Final Act, on June 28, 1994. The USDA officials agreed with this report's overall message and offered a few clarifying comments. Specifically, they said that the estimates of world income growth projected by the Final Act were developed primarily by USTR/CEA. We made the appropriate changes to the report based on USDA's comments to include a more explicit recognition of USTR/CEA's role in developing world income growth projections.

We are sending copies of this report to Members of the House and Senate Agriculture Committees; the U.S. Trade Representative; the Secretaries of Agriculture, Commerce, and State; the Chairman of the U.S. International Trade Commission; and other interested parties. Copies will also be made available to others upon request.

Please contact us on (202) 512-5889 or (202) 512-5138, respectively, if you have any questions concerning this report. Other contributors to this report are listed in appendix III.



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Contents

Letter	1
Appendix I U.S. Department of Agriculture (USDA) Estimated Effects of Final Act on Eight U.S. Commodities	14
Appendix II Objectives, Scope, and Methodology	22
Appendix III Major Contributors to This Report	24
Figures	
Figure 1: USDA-Assumed EU Grain Stocks Under the Final Act	9
Figure I.1: Anticipated Percentage Change From USDA Baseline for Beef by 2005	15
Figure I.2: Anticipated Percentage Change From USDA Baseline for Corn by 2005	16
Figure I.3: Anticipated Percentage Change From USDA Baseline for Dairy Products by 2005	17
Figure I.4: Anticipated Percentage Change From USDA Baseline for Peanuts by 2005	18
Figure I.5: Anticipated Percentage Change From USDA Baseline for Rice by 2005	19
Figure I.6: Anticipated Percentage Change From USDA Baseline for Soybeans by 2005	20
Figure I.7: Anticipated Percentage Change From USDA Baseline for Wheat by 2005	21

Contents

Abbreviations

CAP	Common Agricultural Policy
CEA	President's Council of Economic Advisers
ECU	European Currency Unit
EU	European Union
FAPRI	Food and Agricultural Policy Research Institute
GATT	General Agreement on Tariffs and Trade
ITC	International Trade Commission
UK	United Kingdom
USDA	U.S. Department of Agriculture
USTR	U.S. Trade Representative

U.S. Department of Agriculture (USDA) Estimated Effects of Final Act on Eight U.S. Commodities

The U.S. Department of Agriculture (USDA) estimated what the effect of the Final Act would be on 13 U.S. commodity sectors—beef, corn, cotton, dairy products, eggs, peanuts, pork, poultry, rice, soybeans, specialty products,¹ sugar, and wheat—and reported that the Final Act would generally benefit 11 of the individual sectors by 2005. In conducting its analysis, USDA used a variety of indicators, such as commodity production, exports, prices (farm or producer), and gross farm receipts or value of production. For example, USDA projected that 11 sectors—beef, corn, cotton, dairy products, eggs, pork, poultry, rice, soybeans, specialty products, and wheat would experience an increase in exports; 1 sector—peanuts—would experience a decrease in exports; and 1 sector—sugar—would experience no change in exports.

We reviewed USDA's forecast for 8 of the 13 U.S. commodity sectors (beef, corn, dairy products, peanuts, rice, soybeans, sugar, and wheat) to obtain insights into how USDA conducted its analysis of the impact of the Final Act on these commodities. Figures I.1-7 highlight some of the benefits reported by USDA for seven of these commodities (sugar excluded).² For two of these sectors—beef and peanuts—we have included explanatory notes on why all indicators for these commodities do not show benefits from the Final Act.

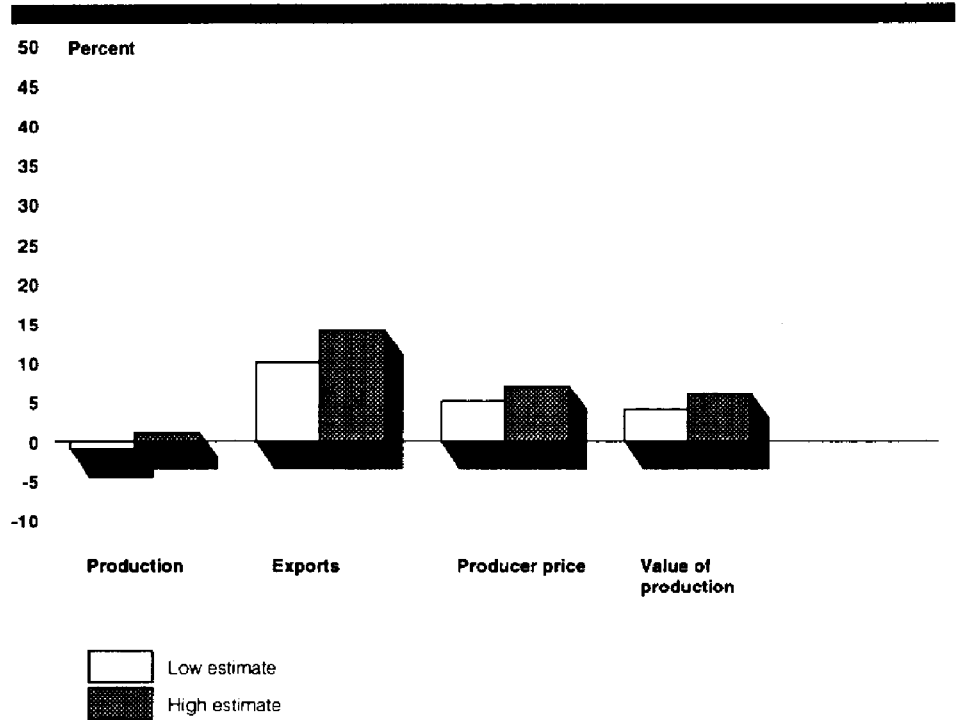
The benefits to U.S. agricultural commodity sectors are shown as percentage increases above USDA's baseline scenario in the areas of production, exports, prices, and gross farm receipts or value of production. USDA provided both a high and low range of estimated benefits of the Final Act for each commodity sector, except peanuts.

¹Specialty products include fruits, tree nuts, and vegetables.

²U.S. sugar imports are subject to specific quotas and tariffs that already meet the provisions of the Final Act for minimum market access. Even though the Final Act specifies that tariffs be reduced over the next 6 years, USDA assumed that U.S. sugar tariffs would remain high enough to discourage additional imports. As a result, USDA predicted that the Final Act would not affect the U.S. domestic sugar market.

Appendix I
U.S. Department of Agriculture (USDA)
Estimated Effects of Final Act on Eight U.S.
Commodities

Figure I.1: Anticipated Percentage Change From USDA Baseline for Beef by 2005

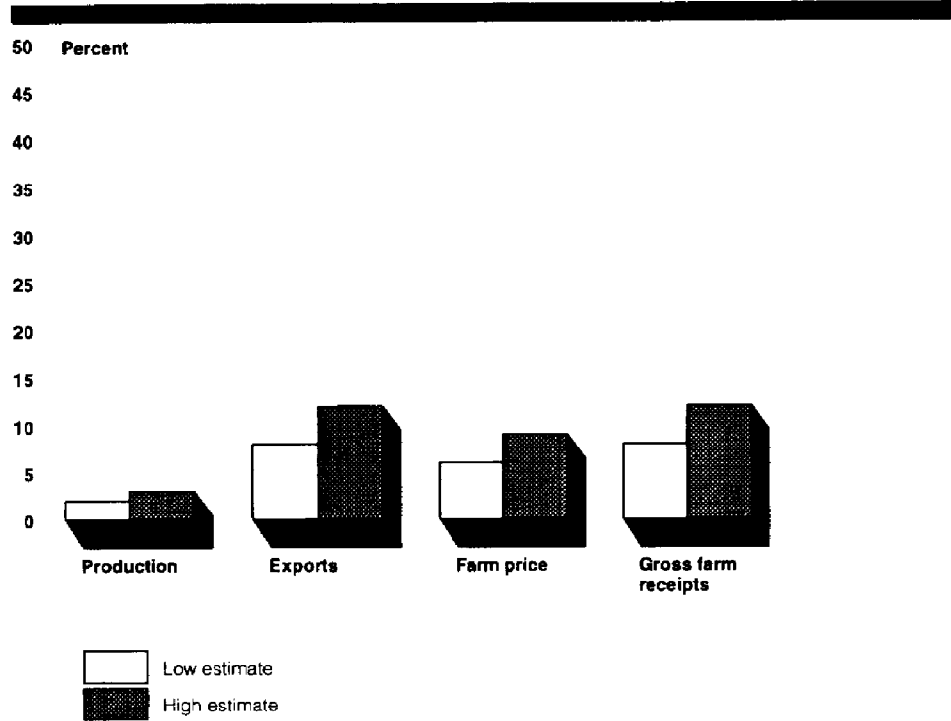


Source: USDA.

USDA projected that under the low-growth scenario, U.S. beef production would fall 1 percent below the USDA baseline. This decline would be due to an increase in beef production costs brought about by higher—Final Act-driven—feedgrain prices. USDA also projected that U.S. domestic consumption of beef would decrease under this scenario due to increases in the price of beef.

Appendix I
U.S. Department of Agriculture (USDA)
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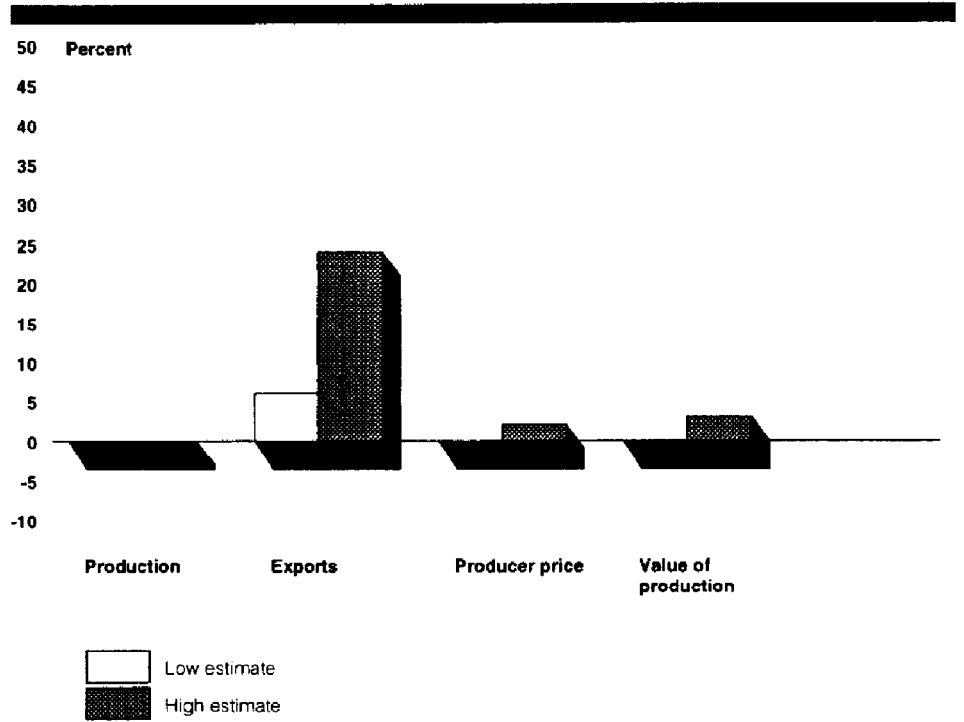
Figure 1.2: Anticipated Percentage Change From USDA Baseline for Corn by 2005



Source: USDA.

Appendix I
U.S. Department of Agriculture (USDA)
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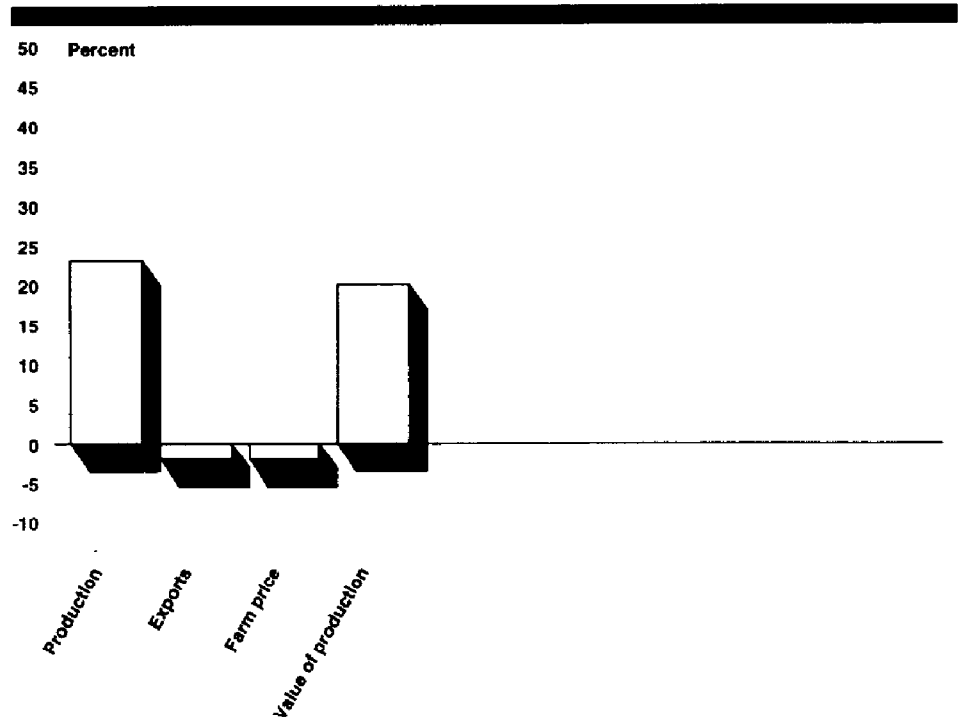
Figure I.3: Anticipated Percentage Change From USDA Baseline for Dairy Products by 2005



Source: USDA.

Appendix I
U.S. Department of Agriculture (USDA)
Estimated Effects of Final Act on Eight U.S.
Commodities

Figure I.4: Anticipated Percentage Change From USDA Baseline for Peanuts by 2005



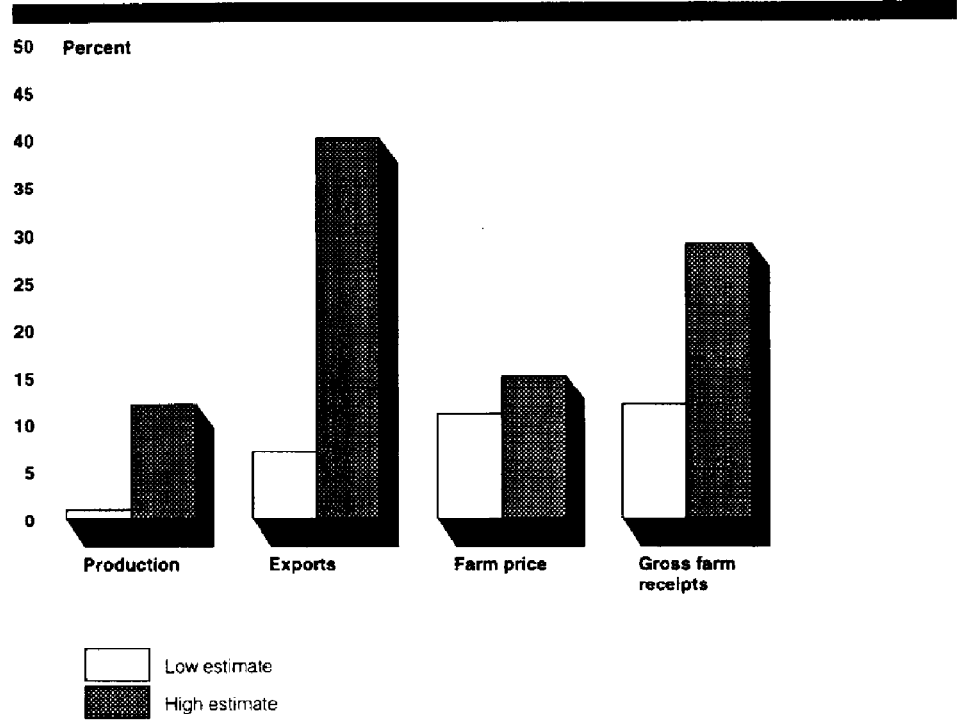
Note: Although we did not generally verify USDA's computations, we noticed what appeared to be an error in USDA's estimate of the increase in value of production for peanuts. We brought this to the attention of USDA officials. The officials checked their computations and informed us that they had made an error. The correct percentage change from the USDA baseline for the value of production for peanuts is 20 percent rather than the 25 percent shown in the USDA report. Figure I.4 above reflects this correction.

Source: USDA.

USDA provided only one estimate of the change from the baseline forecast for peanuts—rather than a range bracketed by high and low estimates of change as it did for other agricultural commodities. USDA projected that if the Final Act is implemented, U.S. peanut prices received by farmers would be 2 percent lower than in the USDA baseline scenario. This situation would occur because the U.S. minimum government support price would increase more slowly under the Final Act due to the expected increase in imported peanuts. USDA also projected that domestic demand would increase for peanuts and thus reduce the supply of this commodity available for export.

Appendix I
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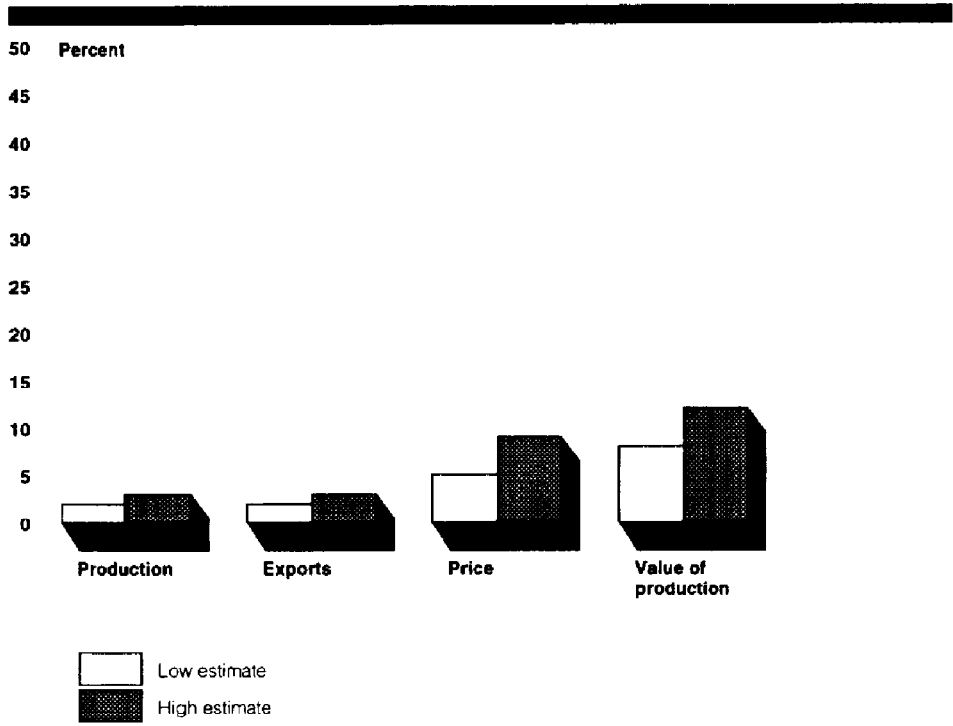
Figure I.5: Anticipated Percentage Change From USDA Baseline for Rice by 2005



Source: USDA.

Appendix I
 U.S. Department of Agriculture (USDA)
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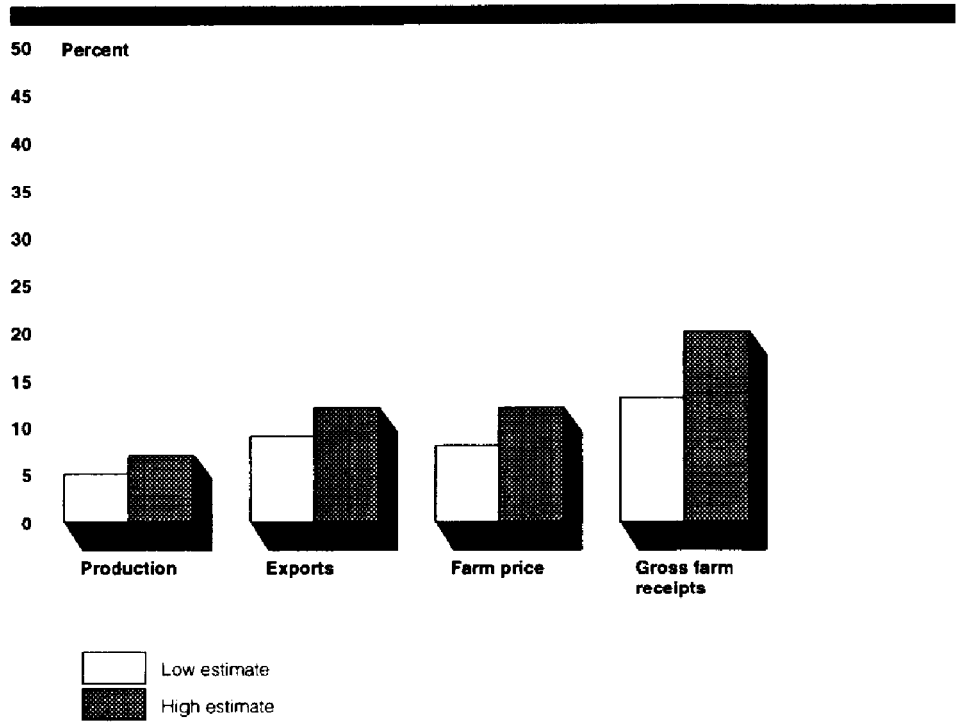
Figure I.6: Anticipated Percentage Change From USDA Baseline for Soybeans by 2005



Source: USDA.

Appendix I
U.S. Department of Agriculture (USDA)
Estimated Effects of Final Act on Eight U.S.
Commodities

Figure 1.7: Anticipated Percentage Change From USDA Baseline for Wheat by 2005



Source: USDA.

Objectives, Scope, and Methodology

As you requested, we prepared this report on USDA's projected economic effects of the Final Act of the Uruguay Round negotiations to U.S. agriculture to assist the Congress in considering legislation to implement the General Agreement on Tariffs and Trade (GATT). Specifically, we assessed the analytical framework of USDA's analysis and the assumptions that USDA used to prepare its report.

To identify all studies completed on the Final Act's economic impact on U.S. agriculture, we interviewed U.S. and foreign officials representing various U.S. and world organizations. Specifically, we contacted U.S. officials representing USDA, the U.S. Mission to the General Agreement on Tariffs and Trade, the U.S. Mission to the European Union (EU), the U.S. embassies in the United Kingdom (UK) and France, the Congressional Research Service, the Office of Technology Assessment, the Congressional Budget Office, and the Food and Agricultural Policy Research Institute (FAPRI). We also contacted foreign officials representing the GATT Secretariat; the EU; the UK's Ministry of Agriculture, Fisheries and Food; the British National Farmers Union; the British and Australian embassies located in Washington, D.C.; the Organization for Economic Cooperation and Development; AgraEurope; and the United Nations Commission on Trade and Development.

We focused our review on the USDA study because it was the most comprehensive report available during the time of our review. We also reviewed two other analyses completed by the governments of Australia¹ and the UK.² However, because these studies had a different focus than the USDA study, our use of them was limited to comparing some of their assumptions to those made by USDA. Two other studies were completed in June 1994—one by FAPRI³ and one by the International Trade Commission (ITC).⁴ However, we did not evaluate these studies because they were published after we finished our review.

We assessed USDA's analytical framework to determine whether it adhered to common economic principles and common modeling practices. We reviewed the two scenarios USDA developed: one scenario assumed that the Final Act would not be in effect, and the other scenario assumed that Final Act would be in effect. We did this by studying USDA documentation

¹See N. Andrews, et al., The Uruguay Round Outcome.

²See The GATT Uruguay Round Agreement.

³See The Implications of the Uruguay Round for U.S. Agriculture.

⁴See Potential Impact on the U.S. Economy and Industries.

describing the econometric model USDA used to predict the effect of the Final Act on, among other things, world prices and trade in agricultural commodities. We also interviewed USDA officials regarding the application of the model and whether there were linkages between the results predicted by the model. We did not evaluate the details of USDA's model structure, nor did we verify the accuracy of USDA's data or computations.

To determine the reasonableness of USDA's assumptions, we reviewed numerous assumptions USDA made for analyzing the two scenarios. We then identified the assumptions most important to USDA's analysis and focused our evaluation on them. We reviewed USDA documentation and interviewed USDA officials to determine whether the assumptions USDA made adhered to common economic knowledge and principles. To the extent the information was available, we also compared some of USDA's assumptions with those made by other governments in their analyses measuring the likely impact of the Final Act. To obtain additional information on the reasonableness of some of USDA's assumptions, we interviewed officials representing the U.S. Mission to the European Union; the EU; the UK's Ministry of Agriculture, Fisheries and Food; and the British National Farmers Union.

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