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2000 WTO Negotiations

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2000 WTO Negotiations: Issues for Agriculture in the Northern Plains and Rockies

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The Northern Plains and Rockies Center for the Study of Western Hemisphere Trade, publicly known as the Trade Research Center, was created at Montana State University-Bozeman in early 1996 by the Regents of the Montana University System. The purpose of the Trade Research Center is to support informed public and private decision making related to agricultural and natural resource trade policies and their economic effects in the Northern Plains and Rockies region. The Center does this by sponsoring research on agriculture and natural resource trade policies and their economic effects and by communicating this information to the public through various media.

The Trade Research Center wants to acknowledge Kitty Sue Squires, our Publication Manager, who prepared this manuscript. Her dedication and professional manner are greatly appreciated.

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Executive Summary

On November 30, 1999, the 2000 Round of negotiations under the World Trade Organization will begin in Seattle. Negotiators from 134 countries will work toward further liberalization of world trade, including agricultural trade. These negotiations are important to the agricultural industries of the Northern Plains and Rockies due to their reliance on world markets. This book provides a broad overview of the issues of concern to agriculture in this region.

U.S. policymakers and negotiators will face a challenge in balancing the divergent interests of the agricultural sectors that have a stake in the 2000 Round. Industries that rely on export markets, such as wheat, feed grains, and to an increasing extent beef, will likely benefit from increased access to foreign markets and a decrease in the level of trade-distorting domestic support given to foreign producers. Industries that rely on protection from imports to maintain market prices, such as sugar, have a different stake in the negotiations. Major findings from the studies included in the book follow.

- There are a number of compelling reasons to make further reduction of tariffs a priority. Tariffs on agricultural goods vary widely but on average are quite high compared to manufactured goods. Tariff reduction alone will exert a significant force on domestic policies by motivating the adaptation of domestic policies to less distorting measures.
- Further reduction or complete elimination of export subsidies is likely to be an important objective of the 2000 Round and is supported by a number of countries. Export subsidies distort world markets, provide only indirect income support, and when compared to other options, are relatively inefficient in improving U.S. producer welfare.
- Further restriction in the use of domestic agricultural policies categorized as trade-distorting is held by many economists as a priority for the next round. Reductions in the aggregate measure of support would have to be substantial in order to have an impact on trade, as most countries have not been constrained by their commitments on the aggregate measure of support. Another useful step toward less distortion in global agricultural markets would be elimination of the "blue box," which exempts specified policies from reductions in government support.

- Increased access for sugar imports due to a potential new agreement and due to implementation of the North American Free Trade Agreement may motivate restructuring of the U.S. sugar program. U.S. agricultural policy has largely moved away from policies that support market prices to policies that support producer incomes on a decoupled basis. One option for the U.S. sugar program is to adopt direct payments to sugar producers that would meet the criteria of decoupled support. This type of program would be congruent with the general direction of policy in both the United States and in other countries.
- Increasing concerns with food safety and environmental quality are likely to heighten the importance of technical barriers to trade. Labeling and product certification are two approaches to convey information to consumers about product attributes. How labeling and other methods for establishing product quality will be used and their consistency with WTO agreements are issues that need to be addressed in the 2000 Round.

On balance, agriculture in the Northern Plains and Rockies has a great deal to gain from negotiations that may result in an agreement to extend and deepen the work begun in the Uruguay Round. Increases in market access, reductions in distortions caused by government support, and the elimination of export subsidies may create new opportunities for producers and agribusinesses in this region. New issues presented by genetically modified organisms and food safety concerns need to be dealt with in order to prevent new barriers to trade.

Acronyms

AMS	aggregate measure of support
ASEAN	Association of South-East Asian Nations
APEC	Asia Pacific Economic Cooperation
BSE	bovine spongiform encephalopathy
CAP	Common Agricultural Policy (of the EU)
CUSTA	Canada–United States Trade Agreement
GATT	General Agreement on Tariffs and Trade
CRP	Conservation Reserve Program
EEP	Export Enhancement Program
FAIR Act	Federal Agricultural Improvement and Reform Act
FTAA	Free Trade Agreement of the Americas
ECU	European Currency Unit
EU	European Union
FACT	Food, Agriculture, Conservation, and Trade Act
GMOs	genetically modified organisms
HFCS	high fructose corn syrup
MERCOSUR	Common Market of the South (Mercado Comun del Sur)
NAFTA	North American Free Trade Agreement
NIS	Newly Independent States
mmt	million metric tons
NTB	nontariff barrier
OECD	Organization for Economic Cooperation and Development
PSE	producer subsidy equivalents
RTA	regional trade agreement
SPS	Sanitary and Phytosanitary
STE	state trading enterprise
TBT	technical barrier to trade
TRQ	tariff rate quota
USDA	United States Department of Agriculture
UR	Uruguay Round
URA	Uruguay Round Agreement
URAA	Uruguay Round Agreement on Agriculture
WTO	World Trade Organization

Chapter 1

Introduction and Major Findings

Linda M. Young and John M. Antle

This book provides a broad overview of the issues of concern to agriculture in the Northern Plains and Rockies in the 2000 Round of negotiations under the World Trade Organization (WTO). Authors were asked to present their opinions on negotiating positions that would be beneficial to the agricultural sector and their assessments of likely negotiating positions of major negotiating countries and blocs. Chapters 2, 3, 4, and 5 address WTO negotiation concerns for wheat, meat, feed grains, and sugar, commodities of importance in the Northern Plains and Rockies. Most countries blend negotiating priorities for individual commodities into an overall negotiating position. Negotiating issues of major players—the United States, the European Union, and the Cairns Group—are presented in Chapters 6, 7, and 8. Issues for other important countries, such as Japan and South Korea, are woven into the chapters on individual commodities. In this introduction we review the previous round of negotiations (the Uruguay Round), the setting for the 2000 Round negotiations, and the impact of regional trade agreements. This chapter concludes with a summary of the authors' major findings as well as our own observations about the 2000 Round.

Mandate for the 2000 Round

On November 30, 1999, trade negotiators from 134 countries will arrive in Settle to work toward further liberalization of world trade. Although the complete scope of the negotiations is currently unknown, agriculture will be included. The United States and all other members of the WTO are obligated to begin another round of negotiations on agricultural trade

no later than December 31, 1999. This was agreed to in the 1994 Uruguay Round Agreement (URA). The General Agreement on Trade in Services contains a similar mandate. In 1996 WTO ministers agreed in principle that the following topics would be included in the 2000 Round as well: investment, competition policy, transparency in government procurement, and trade facilitation (Hartridge 1999). Further discussions on the exact scope of the negotiations have occurred throughout the fall of 1999. It is expected that a ministerial declaration setting out the contents, limits, and terms of the negotiations will be drafted before the negotiations begin. According to some observers, the negotiations are likely to last three years (World Trade Agenda 1999). Although countries have expressed diverse opinions on the scope and depth of the agenda, most countries agree on the importance of building on the achievements made in the Uruguay Round.

Brief Overview of the Uruguay Round

Breadth of Negotiations and Major Accomplishments

Ninety member countries began negotiations on the URA in 1986. Negotiations concluded in 1994. Major accomplishments of the round were further trade liberalization, strengthening the rules governing international trade, and establishment of a new institution, the World Trade Organization, to govern the world trading system. For the first time, an agreement devoted to agriculture was achieved, the Uruguay Round Agreement on Agriculture (URAA). New areas included in the URA were trade in services, trade-related aspects of intellectual property rights, and trade-related investment measures.

The Uruguay Round Agreement established the World Trade Organization, giving a permanent institutional structure and a new name to the General Agreement on Tariffs and Trade (GATT). The GATT was established in 1948 and is the name commonly used to refer to both the trade agreements made previous to the establishment of the WTO and the temporary secretariat that administered them. The World Trade Organization is housed in Geneva. Functions of the WTO include implementing multilateral and plurilateral trade agreements, providing a forum for future multilateral trade negotiations, resolving trade disputes, conducting ongoing reviews of current agreements, and providing analysis of national trade policies (WTO 1996).

The URA includes previous agreements made through the GATT. The principles established in 1948 with the founding of the multilateral system remain unchanged. Trade without discrimination is one important principle with two facets: (1) the most-favored nation clause states that members are bound to grant to the products of other members no less favorable treatment than that accorded to the products of any other member; (2) national treatment entitles goods that have entered a market no less favorable treatment than that given to the equivalent domestically produced good.

Accomplishments Since the Last Round

Negotiations continued after the conclusion of the Uruguay Round. Agreements were reached on trade in information technology products, basic telecommunication services, and financial services. These agreements will facilitate the expansion of the global information infrastructure necessary for the provision of financial services, which are important for further growth in trade and investment. Although these agreements did not receive the wide media attention given to the Uruguay Round, these combined agreements cover more than $1 trillion in global transactions, comparable to the value of trade liberalization achieved in previous rounds (Schott 1998a, p. 6).

Uruguay Round Agreements Pertinent to Agriculture

The URA has three components of particular interest to agriculture: the Agreement on Agriculture, agreements on technical barriers to trade and sanitary and phytosanitary measures, and an understanding on dispute settlement. This discussion focuses on aspects of these agreements that are important in understanding progress in reforming agricultural trade to date, as well as issues for the next round. The details of the agreements are not given here. More exhaustive treatments of the URAA are presented by Smith (1997) and Josling, Tangermann, and Wharley (1996). Issues that have arisen in the implementation of the URAA are discussed throughout the book, particularly in chapters on individual commodities.

The following discussion of the Agreement on Agriculture includes provisions on market access, export subsidies, and domestic support. In

developed countries, these provisions are being implemented over six years, beginning in 1995. In developing countries, the implementation period is 1995–2004.

Market Access

Agricultural trade has been hindered both by tariffs and a wide variety of other barriers to trade. Tariffs are taxes on imports. They can be calculated as a percentage of the value of the imported product, in which case they are called ad valorem tariffs, or set at a fixed per unit charge, in which case they are called specific duties. Barriers in addition to tariffs include quotas (a quantitative limit on the amount of a product imported), variable levies (a tariff that varies with the difference between the world price and the domestic price), voluntary export restraints (an agreement by the exporter to limit exports), and discretionary import licensing. Such barriers are labeled nontariff barriers. One accomplishment of the URAA was the conversion of agricultural nontariff barriers to tariffs. A maximum level for the tariffs, called a tariff binding, was set in many cases. For developed countries, tariffs are to be reduced by 36 percent, on a simple average basis, in equal increments over the implementation period. The conversion of nontariff barriers to tariffs is widely regarded as a significant achievement. Many authors in the following chapters argue for further reduction of tariffs, as tariff rates for agricultural goods, including those exported by the United States, remain quite high relative to manufactured goods (Table 1.1). Since 1948, under various GATT rounds, tariffs on manufactured goods have been reduced from a trade-weighted average of 40 percent to current levels of about 4 percent (Waino 1999).

Minimum access provisions apply to countries with no history of imports. These provisions do not guarantee that imports will occur. Provisions simply require that a low tariff be applied to a specified quantity of imports (a quota) and allow a higher tariff to be applied to imports over that amount. This is called a tariff rate quota (TRQ). Market access is given by the importing country through the low tariff applied to the quota. For developed countries, the low tariff quota was initially set at 3 percent of domestic consumption, increasing to 5 percent by the end of the implementation period.

In the process of converting nontariff barriers to tariffs, many overquota tariffs were set at high levels. In some countries, this resulted

Table 1.1. Average Unweighted Ad-Valorem Bound Tariff Rates Post-Uruguay Round for Agricultural Goods (from 20 countries)

Product	Percent	Product	Percent
Grains	46.7	Dairy Products	47.1
Oilseeds	41.7	Sugar	48.7
Fats and Oils	41.6	Fresh Fruits and Vegetables	35.5
Meats	39.3	Processed Fruits and Vegetables	35.3
Milk	40.7	Other Agriculture	24.4

Source: Josling (1998).

in a reduction in market access. Current access provisions apply to countries where there is a history of imports and result in a TRQ similar to the one described above.

Export Subsidies

The agreement limits the use of export subsidies in the twenty-five countries who used them during the base period (USDA-ERS 1998). These countries must reduce the quantity of subsidized exports by 21 percent from 1986–1990 levels. In addition, they must reduce budgetary outlays for export subsidies by 36 percent from the 1986–1990 base. Subsidies cannot be applied to commodities that were not subsidized during the base period. In effect, the agreement bans the use of export subsidies by countries who did not use them during the base period, preventing the introduction of new export subsidies.

Domestic Support

Domestic support provisions constrain the use of specified types of government support to agriculture. The provisions attempt to strike a balance between a desire to reduce the impact of government support on world markets and political pressure to continue such support. Policies were grouped by their impact on production and trade into three catego-

ries, called "green," "amber," and "blue" boxes. The criterion for policies labeled as "green box" is that they have no or minimum impact on production and trade. The green box includes a long list of policies such as advisory services, domestic food aid, income insurance and safety net programs, set-aside payments, environmental programs, and decoupled income support (Josling, Tangermann, and Wharley 1996, p. 204). Income support must meet specific criteria to qualify as decoupled. Payment amounts cannot be based on the volume of production in any year (after the base year), nor can payment be related to market prices or input use.

Policies included in the "amber box" have the largest impact on production and trade. The amber box includes policies that support market prices, reduce input costs, and make direct government payments (that are not decoupled). The aggregate measure of support (AMS) is a measure of the assistance given by government to all commodities through policies that meet amber box criteria. For example, for the United States the AMS in 1995 and 1996 included dairy, peanuts, and sugar price supports based on administered prices, marketing loans and loan deficiency payments, loan forfeit benefits, storage payments, commodity loan interest subsidies, irrigation and grazing programs, crop insurance, and state credit programs (USDA-ERS 1998, p. 17). The use of amber box policies is constrained for all countries to the AMS given in the base period of 1986–1988. Twenty-eight countries have agreed to reduce their AMS by 20 percent over six years (USDA-ERS 1998).

The final category of policies is the "blue box." The blue box includes programs that limit production and make payments and that do not meet the criteria for decoupled support to producers. Blue box policies are given an exemption from inclusion in the aggregate measure of support if they meet specified criteria. These criteria include the following: (1) payments are made on fixed acres and yields; (2) payments are for 85 percent or less of the base level of production; (3) livestock payments are for a fixed number of head. The blue box exemption was included in the URAA due to concerns of the European Union (EU) and the United States. As a result, U.S. deficiency payments (in the past) and current EU compensation payments are not included in those countries' aggregate measures of support.

Technical Barriers to Trade

Technical barriers include measures that prevent the entry of products failing to meet the health, quality, safety, compatibility, or environmental standards of importing countries. As trade rules for agriculture are strengthened and tariffs and quotas are reduced, there is concern that governments may use technical barriers as a way to protect their domestic industries. In the Uruguay Round (UR) the existing agreement on technical barriers to trade was strengthened. Provisions relating to sanitary and phytosanitary measures were removed from the agreement on technical barriers, and a new agreement was created for these measures.

Countries can enact technical measures if they meet certain criteria (Roberts, Josling, and Orden 1999). Technical measures cannot be applied with a view to obstructing trade. They can be adopted to realize legitimate objectives, such as protection of the environment and prevention of deceptive practices. Technical measures must provide equal treatment for domestic products and imports. One change to the agreement made in the UR is that technical regulations now include measures that regulate "related processes and production methods" (Roberts, Josling, and Orden 1999). This is important because of current conflicts over trade in genetically modified organisms, an issue addressed in several chapters.

The Sanitary and Phytosanitary Agreement

Sanitary and phytosanitary (SPS) regulations for imports are adopted by countries to protect human, animal, and plant life and to prevent certain biological and chemical risks. The SPS agreement provides incentives for a country to adopt internationally recognized standards as a basis for their SPS measures (Young and Miljkovic 1999). At the same time, countries are allowed to develop standards that reflect their risk preferences, even if those standards differ from international standards. If a country or trading bloc adopts standards that differ from applicable international standards, the standards can be challenged through the Dispute Settlement Understanding of the WTO. If a challenge is made, the country must demonstrate that its standards are based on science. The country's assessment of the actual risks involved must include available scientific evidence, relevant inspection, sampling and testing meth-

ods, the prevalence of specific diseases or pests, and the existence of pest- or disease-free areas. Another criterion of the SPS agreement is that a country's regulations must be consistent. For example, where similar conditions for disease, pests, or other risks prevail, regulations cannot be more restrictive for imports than for goods produced in the home country, or more restrictive for some countries than for others. Finally, the decision-making process under which regulations are developed must be accessible to the public at home and abroad.

The Understanding on Dispute Settlement

The effectiveness of the multilateral trading system rests on its dispute settlement system. This system must ensure that trade rules of all types, including criteria for sanitary and phytosanitary regulations, are enforced. The 1994 Uruguay Round Agreement strengthened the dispute settlement process by increasing the automation of the process within a clearly delineated time frame. These improvements reflect an attempt to decrease the role of politics. The Dispute Settlement Understanding emphasizes the role of consultation in securing dispute resolution between members and provides a forum for countries to resolve disputes themselves. The steps of dispute resolution are detailed in Smith (1997) and are available through the WTO (1999a).

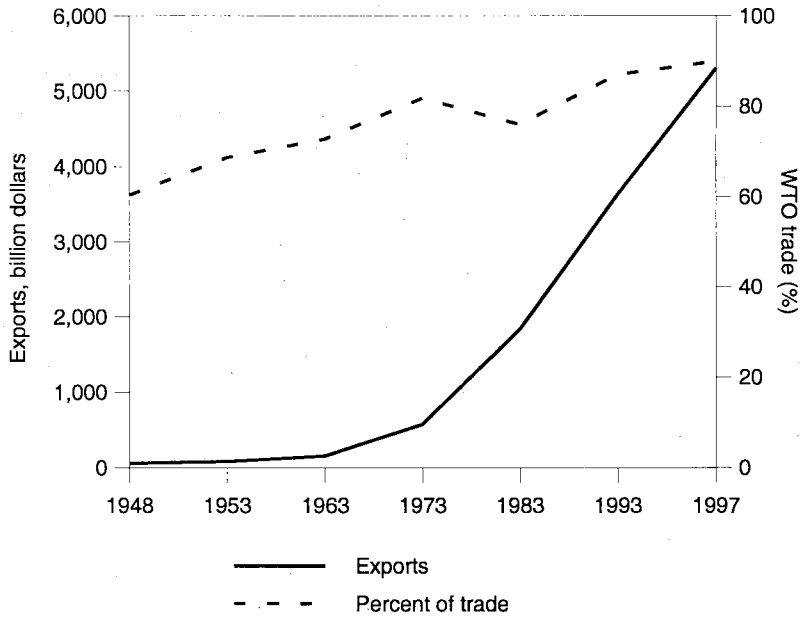
The Setting for Negotiations

World Trade

World trade is increasing (Figure 1.1). World merchandise trade increased by an average of 7 percent annually between 1990 and 1997 (WTO 1999b) and reached 5.2 trillion U.S. dollars in 1998. World trade has grown at a faster rate than world income (Figure 1.2). Imports and exports as a percentage of gross domestic product have also increased, from 17 to 24 percent for developed countries between 1985 and 1997.

The United States has a large stake in world trade and in the 2000 Round negotiations. The United States is the world's largest single-country importer and exporter of merchandise trade, accounting for 17 percent of world imports and 22 percent of world exports in 1998 (WTO 1999b). The United States is also the world's largest exporter of agricultural products and is the second largest importer, following Japan.

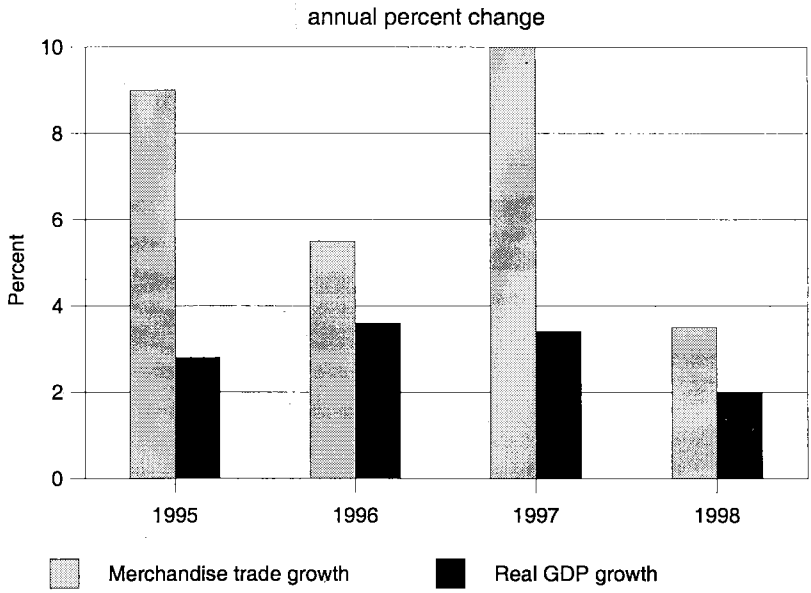
Figure 1.1. World Merchandise Trade, 1948–1997



Note: Percent of total world trade conducted by GATT/WTO members.
Source: WTO, *Annual Report 1998: International Trade Statistics,* 1999, Table 11.2.

World agricultural trade was valued at 580 billion dollars in 1998 and accounted for 9 percent of trade in merchandise and services (Figure 1.3). Agricultural trade increased in value by an average of 5 percent annually between 1990 and 1997, but it accounts for a decreasing proportion of world trade (Figure 1.4). In North America the share of total exports accounted for by agricultural products declined from 29 percent in 1963 to 12 percent in 1997 (WTO 1999b, p. 13). The composition of agricultural trade is also changing. Trade in high-value agricultural products was barely one-half of total agricultural trade in 1985. By 2000 it is anticipated that high-value products will account for three-quarters of world agricultural trade (Josling 1998b). Product differentiation and increasing consumer demand for quality attributes have contributed to this trend.

Figure 1.2. Growth in World Real GDP and Merchandise Trade, 1995–1997



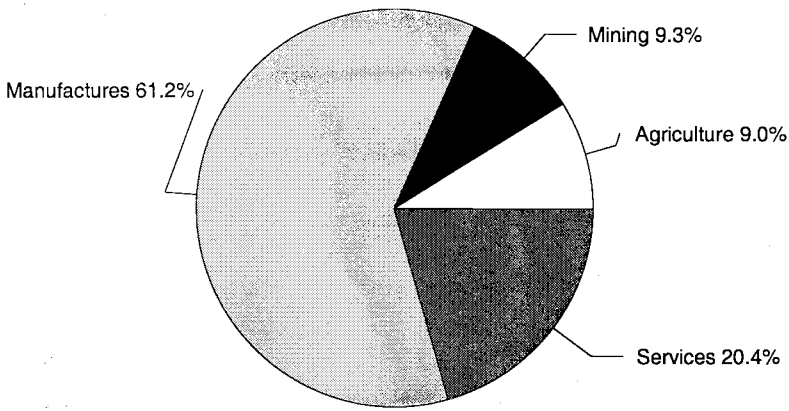
Source: Merchandise Trade: WTO, *Annual Report 1998: International Trade Statistics,* 1999. Real GDP: USDA-ERS, *Agricultural Outlook,* September 1999, Table 3.

The WTO and World Trade

One indicator of the vigor of the multilateral trading system is the percentage of world trade covered by GATT/WTO rules. When the GATT was founded in 1948, 60 percent of world trade was conducted by GATT members (Figure 1.2). In 1997, 90 percent of world trade was conducted by WTO members. Currently, the WTO has 134 members, with 45 new members joining since the beginning the Uruguay Round in 1986. An additional 32 countries have applied for membership, including China.

Whether China will participate in the WTO 2000 Round as an observer or as a member is not yet known. Due to China's large population, anticipated income growth, and resource endowment, it has the potential to be a large player in world agricultural markets (Rozelle and Huang 1998; Hayes 1997; Hayes and Fuller 1998). At this point in time, China accounts for a small percentage of world agricultural trade. In

Figure 1.3. Value of World Exports by Major Product Group, 1998



Source: WTO, *Annual Report 1998: International Trade Statistics,* 1999.

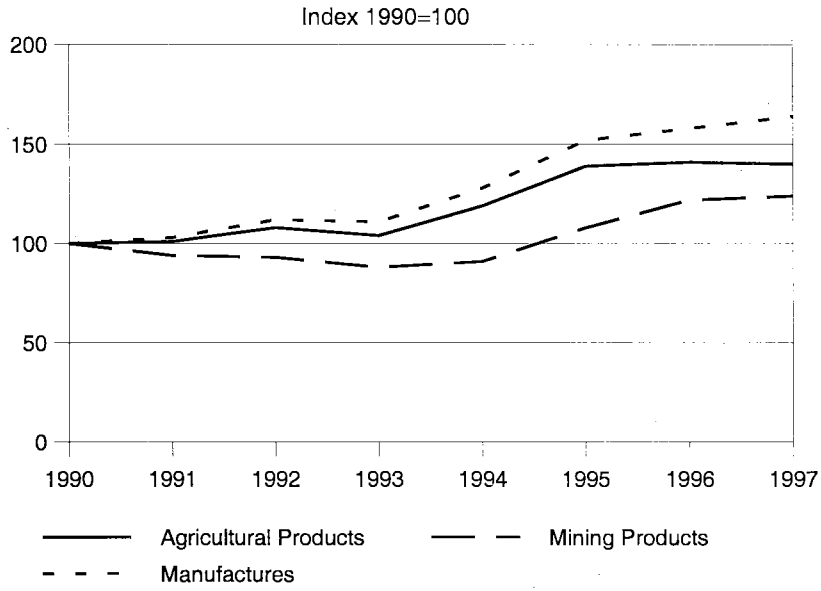
1997 China accounted for 2.8 percent of exports and 1.5 percent of imports of world agricultural goods.

The number of countries applying to join the WTO and the commitment of many countries to engage in further negotiations are indicators that the multilateral trading system is healthy and growing. This is in sharp contrast to the fears about the multilateral trading system that were prevalent during the 1980s, particularly when negotiations over the URA faltered.

U.S. Agriculture and Trade

U.S. agricultural exports were valued at 53.6 billion dollars in 1998, down by 6 percent from 1997. The value of U.S. agricultural exports has been volatile over the past twenty years (USDA-ERS various years). However, the value of agricultural exports doubled over the past ten years, increasing from an annual average of 28 billion dollars in exports for 1985–1987 to an average of 58 billion dollars for 1995–1997 (Figure 1.5). Overall, U.S. agricultural producers depend heavily on export markets, with over one-third of U.S. agricultural production destined for

Figure 1.4. Value of World Merchandise Exports, 1990–1997



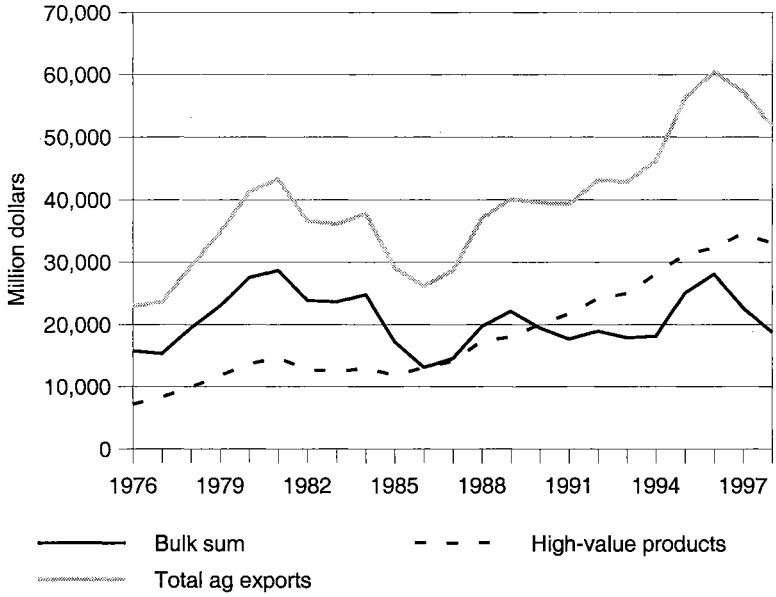
Source: WTO, *Annual Report 1998: International Trade Statistics,* 1999.

export markets. Historically, export markets have been important for wheat and feed grains, crops consequential to the agricultural economy of the Northern Plains and Rockies. Over the past ten years, the United States has exported an average of 54 percent of the wheat and 21 percent of all feed grains produced in the United States (USDA-ERS, various years). Although beef exports are a much smaller percentage of U.S. beef production, they doubled between 1988 and 1997 and reached 8 percent of total U.S. beef production in 1998 (Brester 1999).

The composition of U.S. agricultural exports is changing with a shift from bulk commodities to high-value products (Figure 1.5). In 1976 exports of bulk commodities were twice the value of high-value products exported, in 1986 they were equal in value, and in 1998 high-value products were nearly double the value of exports of bulk commodities.

Canada and Mexico are the second and third largest single-country destinations for U.S. agricultural exports. Their proximity to the United States and the reduction of trade barriers due to the Canada–United States Trade Agreement and the North American Free Trade Agreement have

Figure 1.5. U.S. Bulk, High Value and Total Agricultural Exports, 1976–1998



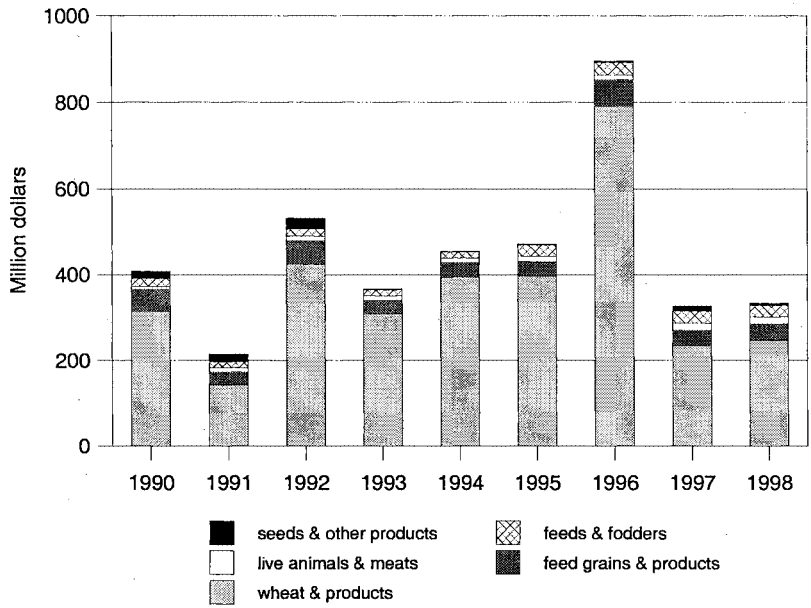
Source: USDA-ERS, (http://www.econ.ag.gov/briefing/agtrade/index.htm#data), 1999.

contributed to their prominence as U.S. trading partners. In 1998 U.S. agricultural exports increased to Canada and Mexico, reaching 7 and 5.9 billion dollars, respectively. The increase in the value of exports to these markets contrasts with the decline experienced in 1998 in most other U.S. agricultural markets.

Montana Agriculture and Trade

The value of Montana's agricultural exports has been volatile over the past decade (Figure 1.6). Montana exported 333.2 million dollars of agricultural goods in 1998. Around 60 percent of Montana's wheat production is exported (USDA-NASS 1999a), and between 1990 and 1998 wheat exports accounted for an average 78 percent of Montana's total agricultural exports. These figures may understate the importance of export markets for other agricultural commodities produced in Montana. Many commodities, such as feeder cattle, are sent to feedlots and processing facilities out of state, much of which is destined for export

Figure 1.6. Montana Agricultural Exports, 1990–1998



Source: USDA-ERS, *Foreign Agricultural Trade of the United States*, various years; USDA-NASS, (http://www.nass.usda.gov/mt/expots/export/export.htm),1999.

markets. On a national basis, relatively open borders for most commodities have integrated U.S. agricultural markets with world markets. Montana, like other states in the Northern Plains and Rockies, has an economy that is uniquely dependent on natural resource industries, including agriculture (Polzin 1998). These states have a stake in the outcome of the 2000 Round of negotiations due to the strong link between their agricultural markets and world markets.

Regional Trade Agreements and the 2000 Round

Since the beginning of the Uruguay Round, the United States has become a member of NAFTA, is promoting the development of a regional trade agreement called Asia Pacific Economic Cooperation, and is advancing another proposed trade agreement known as the Free Trade Area of the Americas. For these reasons, it is useful to consider the relation-

ship between regional trade agreements (RTAs) and the multilateral trading system under the WTO.

Regional trade agreements have increased in importance since the beginning of the Uruguay Round. The most important requirement for legality of regional trade agreements under the WTO is that the RTA include substantially all trade between members. In the late 1980s and early 1990s, some economists feared that the increase in regional trade agreements would result in a fragmented and weakened world trade order. Other economic analysts argue that these fears have largely not materialized and that regional trade agreements create dynamics that foster further policy reform (Josling, Tangerman, and Wharley1996; Sumner and Hallstorm 1997; Burfisher and Jones 1998). Many domestic policies become extremely costly or simply do not work when a country is a member of an RTA and there are no barriers to trade at the border. For example, schemes to support domestic market prices, including export subsidy programs, may be ineffective within a regional free trade area. RTAs give impetus for countries to move toward policies that do not distort competition within the RTA (Josling, Tangermann, and Wharley 1996, p. 231). Pressures also increase to harmonize a wide array of regulations to facilitate commercial interactions between member countries. This process of policy reform within an RTA can foster trade liberalization on a multilateral level.

Friction exists between the multilateral trading system and RTAs. Negotiations under the WTO and for free trade in the Americas may occur at the same time. The potential exists for redundancies in the outcomes of these two sets of negotiations. Some countries are concerned that they do not have sufficient resources to concurrently engage in two rounds of negotiations. The relationship between RTAs and the multilateral trading system is a complex issue that cannot be exhaustively explored here. Although some conflicts do exist, both types of agreements appear to play productive roles in trade liberalization.

Fast Track Issues

Fast track authority is a procedure to expedite presidential negotiation and congressional consideration of trade agreements. Under the Constitution, the president has the sole authority for negotiating trade agreements, whereas Congress has the exclusive authority to set tariffs and to enact other legislation governing international trade. When Congress

votes to approve fast track authority, it agrees to vote on a proposed trade agreement within a fixed period of time, without making any amendments. The executive branch is thus able to carry out detailed negotiations and bring to Congress a trade agreement for its approval or disapproval.

The president must notify Congress of his intention to apply fast track authority to a trade agreement. The authority has always required the president to consult with Congress and the private sector on the scope and objectives of the negotiations and on the progress of negotiations and the implementing legislation. Congress has the prerogative to revoke fast track authority if the president fails to meet his consultation requirements and always retains the authority to vote down any trade agreement it finds unacceptable.

Fast track authority was created during the Ford administration, when the scope of trade negotiations first included nontariff trade barriers such as quotas and import licensing. Fast track authority was first used for the Tokyo Round of negotiations under the General Agreement on Tariffs and Trade and it has been granted to presidents on six subsequent occasions (in 1974, 1979, 1984, 1988, 1991, and 1993). Although fast track authority is viewed by many as essential for U.S. credibility and success in negotiating the 2000 Round, it has been voted down by Congress twice in the past two years (Schott 1998b).

Major Findings

U.S. policymakers and negotiators face a major challenge in balancing the divergent interests of the agricultural sector in the 2000 Round of WTO negotiations. Producers and agribusiness that rely on export markets, such as wheat, feed grains, and, to an increasing extent, beef, will benefit from increased access to foreign markets and reductions in trade-distorting domestic support given to foreign producers. Producers and processors that rely on protection from imports to maintain domestic market prices, such as sugar, have a different stake in the negotiations. What follows is a synthesis of the major findings of the studies included in this book and an assessment of implications for the negotiations.

Tariff Reduction

Further tariff reductions are likely to be a priority for several reasons. Tariffs on agricultural goods vary widely but on average, are quite

high compared to those on manufactured goods. As Sumner points out in Chapter 6, the reductions in tariffs and quotas place significant pressures on domestic policies. Countries with minimal tariffs are likely to move away from policies that support market prices due to the incompatibility of those policies with open borders. Sumner and other authors, including Schott (1998a) and Waino (1999), argue that maintaining the current pace of tariff reductions through the 2000 Round of negotiations will be beneficial. The gains from continuing the present pace of tariff reform may outweigh the benefits of opening discussions on other formulas for reducing tariffs.

A new agreement requiring increased access for imports may motivate a restructuring of the U.S. sugar program. As described in Chapter 5, the U.S. sugar program currently supports market prices through a combination of tariff rate quotas to restrict imports and the intermittent use of nonrecourse loans. The history of the U.S. sugar program differs from that of other program crops. Foreign policy considerations and a mandate to operate at no cost to the federal government have played a role in shaping it. At this point, U.S. agricultural policy has largely moved away from policies that support market prices to policies that support producer income on a decoupled basis. The FAIR Act gives decoupled income support to wheat, barley, corn, grain sorghum, oats, rice, and upland cotton producers. In contrast, the sugar program has continued to use policies to support market prices. One option for the U.S. sugar program is to adopt direct payments to sugar producers that would meet the criteria of decoupled support. This type of program would be congruent with the general direction of policy in the United States and other countries. It also would be more compatible with increased imports to the U.S. sugar market that may result from NAFTA and other trade agreements.

Export Subsidies

In several chapters, authors argue that further reductions in, or complete elimination of, export subsidies should be an important objective of the 2000 Round (Sumner; Brester, Hayes, and Clemens; MacLaren; and Miner). Export subsidies do distort world markets, provide only indirect income support, and are relatively inefficient in improving U.S. producer welfare compared to other options. Moreover, the elimination of export subsidies is a stated goal of a number of countries, including those of the Cairns Group.

A key issue is whether the EU will agree to further reductions in export subsidies. Smith (in Chapter 7) argues that political leaders in the EU may be unwilling to implement further changes to the Common Agricultural Policy in the next few years. However, EU policymakers may be willing to explore a reduction in internal supports and accompanying support levels over the longer term.

MacLaren points out in Chapter 2 that some countries will also seek restrictions on exports credits. However, although export credits are widely viewed as a form of export subsidy, several major exporting countries, including the EU, Canada, Australia, and the United States, have a vested interest in maintaining their current programs. There is therefore less agreement about the desirability of eliminating export credits than eliminating more direct export subsidy programs.

Domestic Support

Further reductions in the use of domestic agricultural policies categorized as trade distorting (such as amber box policies included in the aggregate measure of support) are held by many economists as an important objective for the next round. One way to accomplish this objective is to commit to further reductions in the aggregate measure of support. To have any effect on trade, these cuts would have to be substantial, as most countries have not been constrained by their current commitments on aggregate measures of support. Limits to aggregate measures of support for product groups instead of an overall limits on commodities could, over time, reduce the unbalanced level of support between commodities.

Another useful step toward less distortion in global agricultural markets would be elimination of the blue box. Smith in Chapter 7, and Brester, Hayes, and Clemens in Chapter 3 point out, for example, that EU payments to beef and wheat producers are not fully decoupled. Elimination of the blue box would mean that the EU would need to change these policies to meet the criteria for decoupled support, or these payments would be moved to the amber box and included in the EU aggregate measure of support.

Sumner presents a different view on URAA provisions on domestic support. He argues that the URAA did not provide serious constraints on domestic support and that a future agreement is unlikely to do so. From his point of view, the complexity of the wide array of domestic

programs makes it impossible to create effective and enforceable commitments on internal support. His arguments lead to the conclusion that negotiators should devote more effort to reducing barriers to trade at the border, which in itself will motivate the adaptation of domestic policy to less distorting measures.

State Trading Enterprises

State trading enterprises vary in importance in the markets for the commodities examined in this volume. STEs account for a significant portion of trade on both the export and the import side of the wheat market. Goodwin in Chapter 4 notes that STEs are also potentially important on the import side of the feed grain market, particularly with the potential accession of China and central and eastern European countries to the World Trade Organization. In contrast, Brester, Hayes, and Clemens in Chapter 3 state that STEs are of limited importance to the beef market, as South Korea is the only major importer maintaining an STE for beef. The United States has made negotiation of further disciplines on STEs a priority of the 2000 Round. Given the use of STEs over a wide range of nations and commodities, it is unlikely that an outright ban will be achieved (Miner 1998; Josling 1998a).

There are two difficulties in evaluating potential benefits to U.S. agriculture of further disciplines on state trading enterprises. One is that investigations of both importing and exporting STEs have been hampered by the lack of data needed for conclusive empirical analysis. A clear consensus does not exist on the size of the economic impact that state trading has on world markets. Another difficulty in assessing further disciplines on STEs is ambiguity over what is being proposed. To date, U.S. government position statements submitted to the World Trade Organization have not included any specific proposals on how further discipline on STEs would be achieved.

Analysts have proposed that one avenue to address many of the issues presented by state traders is competition policy. Due to the complexity of the issues involved in competition policy and the divergent starting positions of WTO members, WTO progress on competition policy may require several years. Another option may be to obligate the countries maintaining STEs to purchase a minimum amount from the world market, comparable to Japan and South Korea's current obligations under the URAA (Josling 1998a; Miner 1998). Miner (1998) also pro-

poses that governments could remove the monopoly powers of importing STEs and allocate a share of tariff rate quotas and import requirements to the private sector. Failing that outcome, he suggests that importing STEs be required to provide sufficient information to indicate that they are meeting their obligations. The tabling of specific proposals by the United States will facilitate further analysis of this issue.

Food Safety, Environmental Concerns, and Technical Barriers to Trade

Increasing concerns with food quality, health, safety, and environmental quality among the richer countries of the world are likely to heighten the importance of food safety regulation, environmental regulation, and other technical barriers to trade in coming years. This shift in consumer preferences appears to be fueling the movement in Europe against the use of modern genetic methods. At the same time, the incorporation of agriculture into the multilateral trade system managed by the WTO means that countries are less able to use conventional trade barriers—tariffs and quotas—to restrict trade. Regulations justified by supposed health and environmental concerns may therefore become more attractive to countries wanting to restrict imports from other countries.

Motivated partly by these issues, negotiators in the Uruguay Round developed separate agreements on SPS and on Technical Barriers. The SPS agreement provides that such measures be nondiscriminatory and based on scientific risk assessment. Several potential problems may arise in the attempt to utilize this agreement. First, many countries—including the United States—have some health and environmental regulations that are motivated by consumers' health concerns that are not always supported by scientific risk assessment. Consequently, there is likely to be an increasing number of situations, like the beef hormone dispute between the United States and Europe, where the SPS agreement is inconsistent with health and environmental policies. Second, several policy instruments may be used to implement SPS and related environmental policies. A widely used method to convey product attribute information to consumers is labeling. Another approach is based on product quality certification, either by private or public entities. How labeling and other methods for establishing product quality will be used, and whether they will be judged to be consistent with WTO agreements, are issues that will need to be resolved in future trade negotiations.

Scope of the Round

A successful round of trade negotiations usually requires that a broad set of issues be discussed so that trade-offs can be made and consensus reached. Japan and other important food importers like South Korea, as well as the EU, are unlikely to support further reform of agricultural trade. Some developing countries also do not support further trade liberalization under the WTO. India, which leads a group of developing countries, has expressed opposition to further reform, arguing that developing countries have not gained from the Uruguay Round and that the URAA deals only with issues of importance to developed countries (Bridges 1999; WTO 1999c).

Only agriculture and services are mandated to begin new negotiations at the turn of 1999. Although other topics have been proposed for the 2000 Round, it is unclear at this time what the scope of the agenda will be. Agricultural interests should consider pressing for a round that is comprehensive enough to attract the support and involvement of a wide group of countries.

Conclusions

On balance, agriculture in the Northern Plains and Rockies may gain from the 2000 Round if it results in an agreement to extend and deepen the work begun in the Uruguay Round. Increases in market access, reductions in distortions caused by government support, and the elimination of export subsidies may create new market opportunities for producers and agribusinesses in the region. New issues presented by genetically modified organisms and food safety concerns need to be dealt with effectively in order to prevent new barriers to trade.

For More Information

This book is a starting point for analysis of the WTO 2000 Round and has been written before the agenda and scope for the round have been announced. There are a variety of sources for readers desiring information as the 2000 Round progresses. The Trade Research Center homepage (http://www.trc.montana.edu) contains publications and briefings on trade issues pertinent to the 2000 Round and on a variety of other trade issues. Other sources of information on the round include the Economic Re-

search Service (http://www.econ.ag.gov), and the World Trade Organization (http://www.wto.org).

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Chapter 2

Negotiating Priorities for Wheat

Donald MacLaren

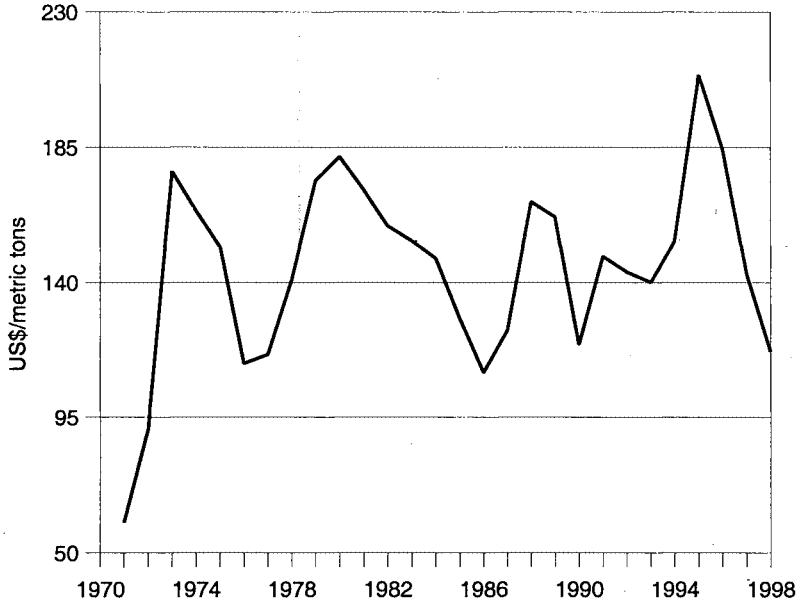
The negotiating priorities for wheat are best considered by separating those issues that stem from the Uruguay Round Agreement on Agriculture (URAA) from new issues such as state trading enterprises (STEs). The former issues relate to the ways in which the agreement has been implemented with respect to domestic support, import access, and export assistance and to the ways in which further progress can be achieved. STEs are an important feature of the international wheat market and one that the United States would like to see disappear. The success of the negotiations will depend partly on economic conditions during the negotiations and the trade-offs identified between negotiating parties

An Overview of the International Market for Wheat during the 1990s

Prices

During the 1990s prices for wheat in the international market, as measured in nominal terms by the price of No. 2 hard red winter, ordinary protein, wheat f.o.b. at Gulf Ports, have been more volatile than at any time since the early 1970s (Figure 2.1). The price reached a peak in 1995 at $209 per metric ton but fell to $117 per metric ton in 1998, the lowest real price in fifty years. The peak price reflected a reduction on a worldwide basis of area harvested and average yield, which together reduced production to 524.8 million metric tons (mmt) from the previous three-year average of 554.8 mmt (USDA 1999, calculated from Appendix Table 16).

Figure 2.1. Wheat Prices (hard-red winter, fob, Gulf Ports)



Source: USDA, *Wheat: Situation and Outlook*, Appendix Table 17, March 1999.

Volumes

The volume of international trade in wheat, which expanded steadily throughout the 1970s and 1980s, reached a plateau in the 1990s at around 100 mmt (Figure 2.2). The share of various exporters has changed over the past three decades (Figure 2.3). Exports from the United States reached a peak in 1981–1982 at almost 50 mmt, but in recent years they have been closer to 30 mmt. The share of U.S. exports also peaked in 1981 at 45 percent but has varied between 27 and 31 percent in more recent years (Figure 2.4).

Over the same period, EU wheat exports increased until, in the early 1990s, they were about 22 mmt. Since then they have declined, reflecting in part the effects of Common Agricultural Policy reforms implemented in 1993 (Figure 2.3). Canada's wheat exports have followed a similar pattern, although the decline in export volume from 25 mmt in 1991–1992 to 20 mmt in 1997–1998 has been less marked than that of the European Union (EU). Australia's exports remained almost constant

Figure 2.2. World Wheat Market Trade

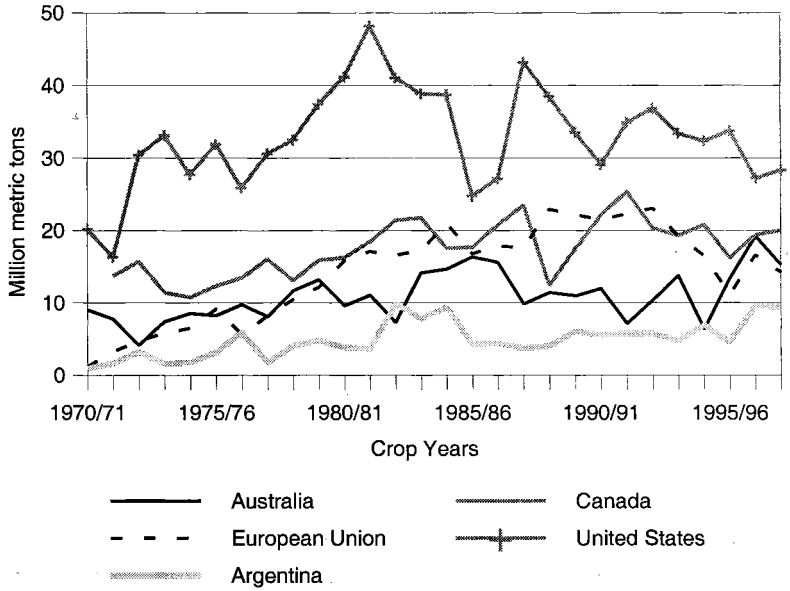
Source: USDA, *Wheat: Situation and Outlook*, Appendix Table 17, March 1999.

from the mid-1980s until the mid-1990s at around 13 mmt but rose sharply in crop year 1996/97 to 19 mmt. Argentina's exports remained constant between the late 1970s and mid-1999 at 5 mmt but then almost doubled to 10 mmt in 1996–1997 and 1997–1998.

Use of Subsidized Exports

Export subsidies have been an important feature of the international wheat market. The EU subsidizes the difference between its supported internal wheat price and the world price of wheat. The United States has used the Export Enhancement Program (EEP), a targeted export subsidy program for wheat, since 1985. Although funding for the program remains intact, EEP subsidies have not been used since the 1995/96 crop year. The URAA limited the volume and value of export subsidies for WTO members, including the United States and the EU. Josling, Tangermann, and Warley (1996) note that 61.45 mmt of wheat exports were subsidized during the 1986–1990 period. Export subsidies have not been used to the full extent possible due to unanticipated increases

Figure 2.3. Wheat Exports

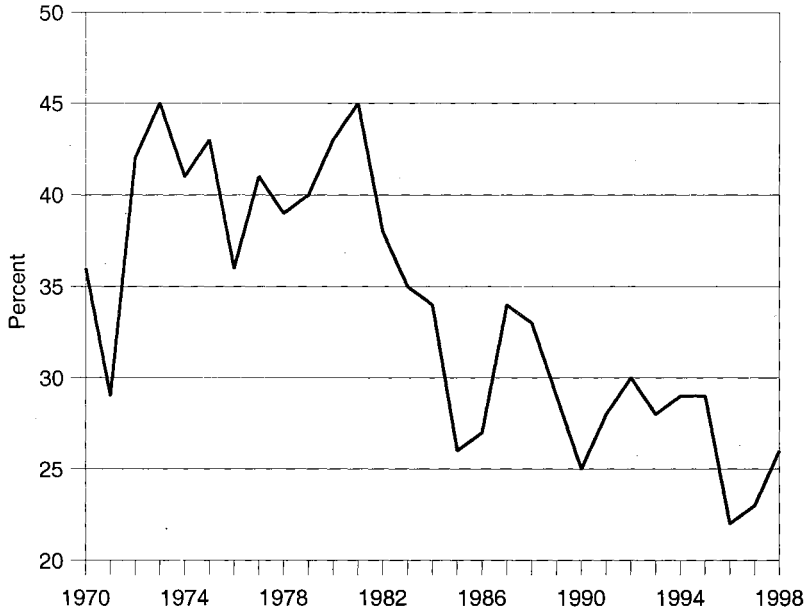


Source: USDA, *Wheat: Situation and Outlook*, Appendix Table 17, March 1999.

in market prices in 1995 and 1996. In 1995, of total world exports, only 4.35 mmt of wheat and wheat flour were subsidized. This is just 7 percent of the volume of wheat (from all exporters) allowed to be subsidized under Uruguay Round commitments (USDA 1998). In 1996, 34 percent of the total commitment was used.

The United States and other countries continue to be concerned over the ability of the EU to meet its export subsidy reduction commitments without further changes in their domestic policies, namely reductions in their intervention prices for wheat (see Chapter 7 for a further discussion). The United States, along with the Cairns Group, is seeking to eliminate export subsidies in the next round of negotiations. In this volume, Sumner and Smith argue that the elimination of export subsidies is an important goal in the next round. However, they also argue that it is in U.S. interests to propose a schedule for elimination that the EU will agree to, and the cost of some delay would be worthwhile in achieving that objective.

Figure 2.4. U.S. Share of the World Wheat Market

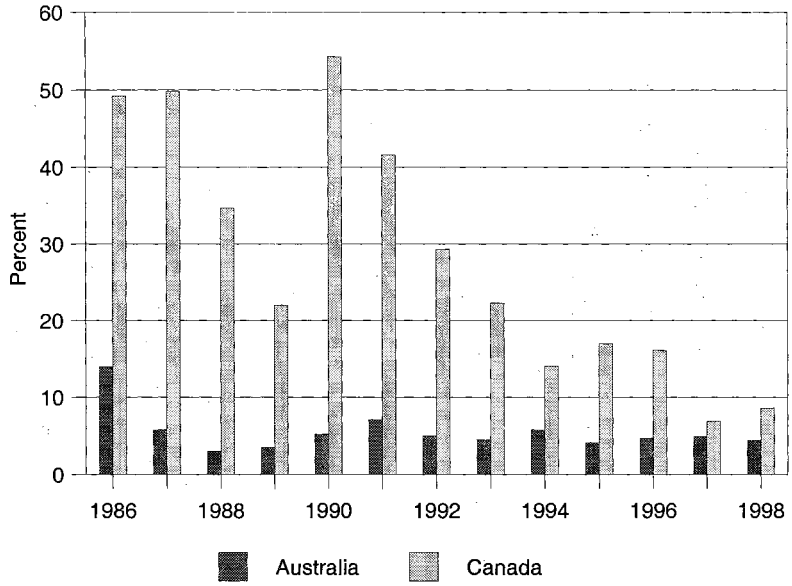


Source: USDA, *Wheat: Situation and Outlook*, Appendix Table 17, March 1999.

PSEs for the United States and Its Major Trading Partners

Farm income support is provided in many different forms. Since the mid-1980s, economists have utilized producer subsidy equivalents (PSEs) to provide summary measures of the relative sizes of each country's various programs. The PSEs are monetary measures of the transfers to the farm sector from consumers of food products and from taxpayers. The percentage PSE is an estimate of support provided by the government as a percentage of the value of production measured at domestic producer prices. The principal types of policy instruments accounted for in PSE calculations are market price supports, direct payments, reductions of input costs, and general services (see OECD 1999a, pp. 18–20 and 85–87 for details). PSEs do not measure the impact of transfers in terms of how they distort production and trade.

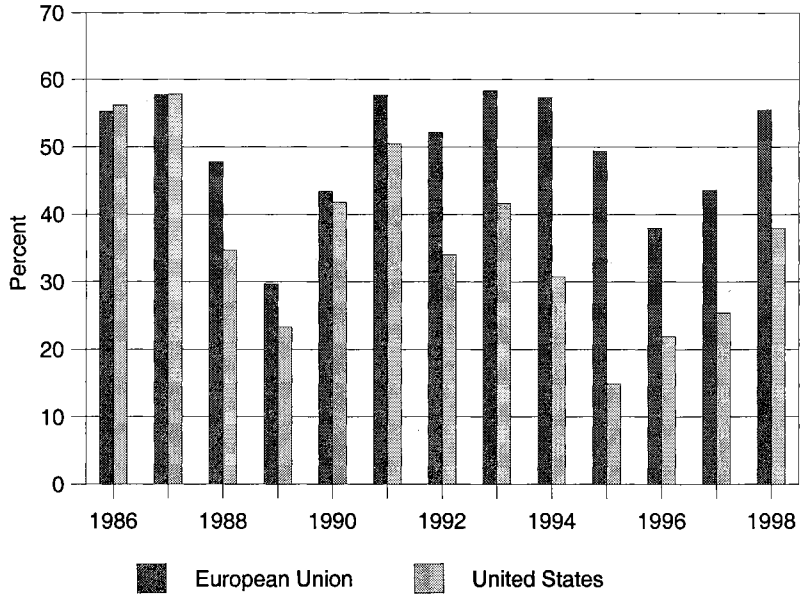
Figure 2.5. Australian and Canadian Percentage PSEs for Wheat



Source: OECD, *Producer and Consumer Subsidy Equivalents Database*, 1999.

Among the United States' major competitors in international wheat markets, Australia's wheat farmers receive the least support from their government, as measured by the percentage PSE (Figure 2.5). Since 1987, support for Australian producers has been much less than 10 percent of the value of production. In contrast, the percentage PSE provided to Canadian wheat growers reached a peak at 54 percent in 1990 but since then has fallen to less than 10 percent (Figure 2.5). The pattern for the EU presented in Figure 2.6 has been quite different. Five peaks have occurred, each at around 57 percent, in 1987, 1991, 1993, 1994, and 1998. Despite recent policy changes within the United States, including the Federal Agricultural Improvement and Reform Act of 1996, support for U.S. wheat farmers remains higher and much closer to the amount provided in the EU than in either Australia or Canada (Figure 2.6). The U.S. percentage PSE was equal to Canada's percentage PSE in 1987, has since declined on average, but did increase between 1995 and 1998 from 15 percent to 38 percent, mainly because of lower world prices during that period.

Figure 2.6. EU and U.S. Percentage PSEs for Wheat



Source: OECD, *Producer and Consumer Subsidy Equivalents Database*, 1999.

Implementation of the Uruguay Round Agreement on Agriculture

Prior to the Uruguay Round Agreement on Agriculture, international markets for agricultural products were widely viewed as in a state of disarray. This was particularly true in the early 1980s, and these concerns resulted in the use of PSEs, which attempted to quantify the level of government transfers to agriculture. Disarray in agricultural markets has been the consequence of governments pursuing domestic agricultural policy objectives without any apparent consideration for international spillover effects. No limits were imposed by international agreements on the instruments used by governments to achieve their domestic agricultural objectives, in part because the discipline imposed by the General Agreement on Tariffs and Trade (GATT) on government behavior in other sectors was lacking in agriculture. Against this backdrop, an Agreement on Agriculture was deemed necessary in the Uruguay Round. In the 1994 Agreement on Agriculture, support for agriculture was classified into domestic support, import access, and export assistance.

Domestic Support

The policy instruments providing domestic support were divided into three boxes labeled "amber," "blue," and "green." Amber box policies directly affect production and/or consumption decisions and due to that distort agricultural trade. The extent of the income support provided by these instruments is measured by the aggregate measure of support (AMS), which differs from the PSE by including only the transfers of those instruments that fall in the amber box. In each signatory country, the AMS for the agricultural sector has to be reduced by 20 percent by the end of the implementation period from its base-period value in 1986–1988. Given that the base period was one of high transfers to agriculture for many key countries, the 20 percent reductions had already been achieved by the time the agreement was signed in 1994. Hence, this component of the agreement has not effectively bound the support given through amber box policies. For example, the 1997 AMS for Australia was around 25 percent of its commitment level, for Canada, the 1995 AMS figure was around 15 percent, and for the United States the 1996 AMS was around 28 percent (OECD 1999a, p. 44).

Policy instruments providing direct payments based on a fixed area are not subject to the AMS reduction, as they are considered to have a much smaller distortionary impact on domestic production and trade. Such instruments are labeled blue box policies. Originally they included deficiency payments for wheat in the United States and compensation payments provided to wheat growers in the EU. However, with the implementation of the 1996 FAIR Act, blue box deficiency payments were replaced with market transition payments that are reported in the green box. The green box is the third category into which instruments of domestic support are classified. Essentially, such instruments should have no, or at least minimal, output-increasing effects on production or on consumption and, hence, they should not distort international trade. Moreover, they should be funded through the taxpayer and not the consumer. In practice, there are instruments in this box that do have some effect on trade. These include the Conservation Reserve Program (CRP), which removes land from production in the United States, payments for disaster relief, which affect production decisions because farmers may be prepared to take greater risks, and research and development expenditures, which tend to improve agricultural productivity.

Table 2.1. Tariff Rates for Wheat for the Major Importers

Importer	Tariff Item No.	Base Period Tariff	Bound Rate	Percentage Reduction
Brazil	1001.90.0100	45%	55%	22
Egypt	1001.9	5%	5%	0
European Union[a]	1001.90.95	149 ecu/t	95 ecu/t	36
Indonesia	1001.90.190	30%	27%	10
Japan	1001.9	65 yen/kg	55 yen/kg	15
Morocco	1001.90.1	45%	34%	24
P.R. China	1001.90.00	150%	114%	24
South Korea	1001.90.90	10%	1.8%	82
Turkey	1001	200%	180%	10

a. The European Union's base period tariff has been calculated by Josling, Tangermann, and Warely (1996, Table 8.2) to be 142.3%.

Source: USDA, *WTO Tariff Schedules* (http://www.fas.usda.gov/scriptsw/wtopdf/wtopdf_frm.idc), 1994.

Import Access

Import access was improved through the conversion of all nontariff barriers (NTBs) to tariffs and the binding of the resulting tariff rates. This provision brings agricultural products under the same rules as trade in other products. Once NTBs were converted to tariffs, each tariff rate was required to be reduced by a minimum of 15 percent from the base period of 1986–1988 over the implementation period. The reduction in the unweighted average of tariff rates was set at 36 percent. The rules for calculating the tariff equivalents in the base period were not clearly established, and much creative arithmetic was employed to generate bound tariff rates, in some instances of several hundred percent. Bound tariffs refer to the highest tariff level that can be implemented. The effect of reducing such prohibitive rates by 35 percent will not create any change in import volumes when they exceed the actual (applied) rates by a substantial margin.

The schedule of tariff rate reductions for wheat, which were submitted by a selection of countries during early 1994, is provided in Table 2.1. Taking the average volume of wheat imports by country for the crop

years 1995/96 to 1997/98 and expressing these volumes as a share of world imports, the most important import markets were Egypt (7.6 %), Japan (6.2 %), Brazil (6.1 %), P.R. China (6.1 %), Iran (4.9 %), Algeria (4.2 %), Indonesia (4.1 %), South Korea (3.3 %), the EU (3.1 %), Morocco (2.4 %) and Turkey (2.2 %) (calculated from ABARE 1998, Table 211). With the exceptions of Iran and Algeria, for which no tariff rates were found, the base period (1986–1988) tariff rates of these countries and the bound rates at the end of the implementation period (2004 except for Japan and the EU) are shown in Table 2.1. The bound rates vary from a low of 1.8 percent to a high of 180 percent. The reductions vary from 0 to 82 percent, but Brazil intended to increase its tariff by 22 percent. There are two important points to note from Table 2.1. The first is that the base period tariff rates vary substantially from 5 percent for Egypt to 200 percent for Turkey. The second is that the percentage reductions chosen also vary substantially from the minimum permitted of 15 percent (Japan) to 82 percent (South Korea).

A second component was the introduction of minimum access commitments, which are implemented through the use of tariff rate quotas (TRQs). A TRQ allows a given volume (quota) of imports of a product access at a lower tariff rate than that applied to imports of a greater volume. The rules for implementing the TRQs were again not clear, and this was a serious deficiency in the URAA. All that was made clear was that minimum import access should grow from 3 percent to 5 percent of consumption over the implementation period. Thus, TRQs provide limited import protection for importers and limited market access for exporters.

Export Assistance

The use of export assistance in the form of subsidies is now constrained, and no new export subsidies are allowed. The constraint is in two parts: the volume of subsidized exports is required to fall by 21 percent from the base period (1986–1990) to the end of the implementation period; and outlays on subsidized exports have to fall by 36 percent. Each of these constraints is applied on the basis of twenty-two product groups, of which wheat and wheat flour comprise one group. The URAA also dealt with a point over which the United States and the EU had disagreed for years. The point was whether an export subsidy was permitted on a processed agricultural product, such as pasta. The new rules make it clear that any such subsidies are counted in the raw material

content of the processed product and are subject to the constraints (Josling, Tangermann, and Warley 1996, p. 196). The issue of export credits was not part of the URAA, and they remain an outstanding and, so far, unresolved issue for negotiation, an issue that is currently part of ongoing discussion in the OECD.

Miscellaneous

One other element of the URAA, food aid, has a bearing on the international wheat market. The URAA included an understanding to address the problems of low-income, net food-importing countries that might be disadvantaged by the reforms undertaken by food-exporting countries. Members of the WTO are obliged to be cognizant of the needs of this group of countries. However, it became obvious during the period of high wheat prices in 1995 that the EU chose to ignore these aspects of the agreement. To limit increase in domestic wheat prices, the EU taxed wheat exports, ignoring any potential impacts on international wheat prices.

Issues for Further Negotiation

Several issues for further negotiation follow directly from the Agreement on Agriculture. Some of the new issues have the potential to be difficult both technically and politically, because they involve not just agriculture in isolation but also multifunctionality (see the section on new issues below), the environment, food safety, and the interface between competition policy and trade policy and the role of STEs.

Issues Stemming from the Agreement on Agriculture

It would be desirable for negotiators to agree to further and substantial reductions in amber box policies as measured by the AMS. See Chapter 1 for a discussion of the policies included in the AMS. This time, the reductions should be commodity specific, or at least product group specific, as in the case of export subsidies, and not on a sectorwide basis. Furthermore, removal of the peaks in the levels of price support would be beneficial as the economic loss borne by a country is proportional to the square of the difference between domestic and world market prices.

Blue box policies are now less important than previously due to recent changes in U.S. farm legislation, as discussed earlier. However, the blue box remains relevant in the EU, for wheat as well as other

crops. Blue box payments are not fully decoupled from production, and blue box programs may stimulate production (Josling, Tangermann, and Warley 1996). In addition, the peace clause protects these programs from challenge as long as countries adhere to their commitments on the level of support provided. Elimination of the blue box or requirements for further decoupling of programs would be a useful step. However, U.S. marketing assistance loans are not independent of production. If the market price for wheat falls below the loan rate, U.S. producers can receive marketing loan deficiency payments (the difference between the loan rate and the posted county average price). These payments were substantial in 1998 and are expected to be substantial in 1999. U.S. marketing assistance loans have been included in the AMS, and the United States must abide by its schedule of reductions for the AMS.

The green box provided countries with the option of offering subsidies to farmers for the achievement of objectives such as environmental quality that had only minimal effects on production decisions. But some policies in this box are trade distorting. Criteria need to be tightened to ensure that increased support provided through green box policies does not distort trade and so inhibit efficient resource use. Little attention appears to have been given in the policy debate to the possibility that decoupled payments made to risk-averse farmers will not be production neutral. Under risk aversion, a decoupled payment acts in the same way as a positive increment to wealth, and such an increment induces an increase in production (for further elaboration of this point, see MacLaren 1983). Although, these effects are likely to be small in most countries, continued care needs to be taken with the definition of green box policy instruments and with the whole concept of decoupled payments to ensure that output-enhancing programs do not receive green box status.

The process of tariffication resulted in substantial tariff peaks for wheat in some countries (Table 2.1). The implications of continuing the present path of tariff reductions are discussed by Sumner in Chapter 6. Another possibility is a modification of the Swiss formula that has been used to reduce tariff rates for manufactured goods. The Swiss formula would reduce the peak rates more than the smaller rates and, overall, would reduce rates toward a more acceptable level. The formula used was $z = 14x \div (14 + x)$, where z is the final tariff rate and x is the initial rate (see Josling, Tangermann, and Warley 1996, p. 250).

Market access is also linked to TRQs and involves closely related issues. The first is the within-quota tariff rate, the second, the size of the

import quota, the third, the rate applied beyond the quota, and the fourth, the way in which quotas have been allocated. The experience thus far with the thirty-six countries and 1,370 TRQs is that, on average, quotas are not being filled. In 1995 and 1996, the average fill rate was 65 percent (ABARE 1999, Table 5). However, it should not necessarily be inferred that there is an excess of protectionism. The reasons for incomplete fills are complex and vary from case to case. For example, the within-quota tariff may have been too high, the quota too generous, or the method of allocation inadequate. Abbott and Morse (1999) have investigated TRQ implementation in developing countries. They argue that low fill rates for market access commitments are not due to the emergence of complex institutions to maintain protection. They anticipate that the unresponsiveness of demand to decreases in price and high transportation costs make it likely that the quotas will continue to be underfilled.

The need for export subsidies, by themselves, will decline if there is agreement to reduce the levels of support provided through the amber box policies and if import access expands with a reduction in tariffs. However, countries such as Australia and New Zealand will probably argue that export subsidies should be banned altogether and that agriculture should be brought into line with prohibitions on the use of export subsidies by other sectors. The use of export credits remains a source of concern for exporting countries with limited government budgets. Within the OECD-sponsored discussions on this topic, negotiations about the use of export credits in agriculture have stalled, despite progress in other sectors. At present, the United States refuses to accept any constraints on the use of export credits. In other sectors there has been agreement on aspects such as length of period over which repayments are made and the size of the gap between market interest rates and concessional rates applied to credit sales.

Although export assistance has been the main issue on the export side, events in 1995–1996 illustrated the need for export restraints to be scrutinized. Under the GATT (1994), export embargoes and other measures restricting exports are to be used only in the case of critical domestic food shortages. Countries that restrict exports are to notify the WTO Committee on Agriculture and food-importing countries in advance as well as to be sensitive to the needs of these countries. In the context of the exporting countries persuading food-importing countries to be less protectionist, it would be sensible for the former to agree not to use

export embargoes or restrictions, thereby improving the sense of food security in importing countries and making food security concerns less credible. In the case of wheat, this is an important issue.

The New Issues

Although further progress on the existing issues will no doubt be fraught with difficulties and tensions, new issues may prove to be more difficult. These new issues are likely to include the interface between competition policy and trade policy and the role of STEs. Another item, although again one not restricted to wheat, is the link between the environment and trade; in particular, the new item for agriculture comes under the heading of "multifunctionality."

Multifunctionality is the rather loosely defined idea that farming produces not only food and fiber but also public goods such as an attractive landscape, the preservation of biodiversity, and wildlife habitats. It is then argued that because society values these public goods, which are undersupplied by private markets, governments should continue to assist farmers so that these goods can be provided at the levels for which society is willing to pay. Multifunctionality has become a popular concept in the EU, which places a high value on the maintenance of farming in rural areas. To a lesser extent, this is also true in Japan. A third issue will be trade in products containing genetically modified organisms (GMOs) and synthetic hormone residues and their relationships with food safety. Although issues surrounding GMOs are not yet pressing for wheat, it is likely that they will become more important over the next few years with the anticipated introduction of Roundup Ready wheat and other genetically engineered wheat products. The chapter on feed grains provides an overview of the issues as they currently exist for corn and soybeans.

Further disciplines on STEs were not negotiated as part of the Uruguay Round Agreement on Agriculture. However, the United States wants to have this item on the agenda for the 2000 Round of negotiations on agriculture. STEs come in several different forms, reflecting their role in achieving agricultural policy objectives in many countries. They are WTO-legal entities so long as their activities are consistent with requirements under the GATT (1994). Nevertheless, there remains the suspicion that state traders are unfair traders, and hence their trading activities should be curtailed. There is the additional issue that a number of countries seeking membership in the WTO, including China, make ex-

tensive use of STEs in many sectors and that such widespread use of these entities raises serious and difficult problems in their becoming part of an international trading system based on the principles of market-based economics.

Because there are different types of STEs and because their objectives and functions vary, it is difficult to measure their effects on trade other than on a case-by-case basis. Moreover, it is not always obvious what the structure of the domestic or international market would be in their absence. Some commentators appear to assume that the removal of STEs would render perfectly competitive the markets in which STEs currently operate. This may not be an appropriate assumption. The issue for research is then to define the functioning of imperfectly competitive markets and to analyze the effects of the removal of STEs from those markets (Veeman, Fulton, and Larue 1999). Given the richness of alternative models of industrial organization, there is likely to be no single, simple answer.

It may be the case that STEs, at least in exporting countries, will generate the same degree of contestability (contestability refers to the ability of new firms to enter and compete) in the international wheat market as would private firms with market power. Even for STEs in importing countries, where the prima facie case for distortions is greater, it may be that the removal of the STE and its replacement by a private oligopoly may not improve the ability of new firms to enter and compete in the absence of domestic competition policy. There have been suggestions made to classify STEs into three or four boxes according to their potential to distort markets (see Dixit and Josling 1997; Veeman, Fulton, and Larue 1999). However, such a classification can be meaningful only if the basis of comparison is accurate. Therefore research and analysis should precede classification.

Despite the incomplete understanding of the effects of STEs on market contestability, the likelihood is that the Canadian and Australian wheat boards, among the exporting STEs, and the Japanese, Korean, and Indonesian importing STEs, will come under pressure from the United States to be reformed. Even if the case has not yet been proven that STEs inhibit market contestability, this pressure is based on the suspicion that importing STEs are subverting the rules of the URAA on tariff bindings, as well as contributing to the maladministration of TRQs, and that export STEs are cheating on the export subsidy bindings through

the opportunities for pooling prices from domestic and international markets. The potential certainly exists, but whether that potential is being exercised is difficult to assess.

Conclusions

The basic aim of the new WTO negotiations must be to increase the rate of change in the movement from agricultural protectionism to market-oriented outcomes. One way to continue the process of reform is to help governments that need to be freed from the pressures of domestic farm lobbies by tightening the rules still further and, in the case of domestic support and import access, by ensuring that the revised rules actually bind. The percentage reductions in domestic support that are provided through amber box policies should be applied to product groups rather than to the sector as a whole; the peaks in support should be removed, and requirements on the new levels of support must act as a constraint under normal market conditions. The blue box should be discontinued, and the rules for the green box should be made stricter to ensure that support is truly production neutral. The rules on import access must be made more honest in terms of the allocation of the TRQs. Ideally, this instrument ought to be scrapped altogether in conjunction with a reduction in tariff peaks. Also, ideally, export subsidies should be banned and new rules drawn up for export credits, which are just another form of subsidy.

For years in GATT negotiations, the United States has argued that agricultural negotiations should proceed in the same way as negotiations on other matters. Perhaps it is time for countries to stop treating agriculture as unique and to make the rules applying to agriculture indistinguishable from those applied to international trade in goods in general. As the composition of international trade in raw materials and processed foods continues to alter substantially in favor of processed foods, such a decision may become easier.

Of course, there are some issues that are of special relevance to agriculture and that do distinguish it from other sectors, but they are not to be found in the "old agenda." There are the issues of market structure and contestability in the food chain and the globalization of that chain; of the rural environment and the influence of agriculture on that environment; of food safety and the scientific controversies surrounding

GMOs. And there is the recurring theme of food security both in the near and the longer term. These new issues cannot be divorced entirely from the old issues because of the relationships between policy objectives, policy instruments, levels of production, and the uptake and types of new technologies used in farming and food processing. Yet, they need to be dealt with separately and urgently because their technical complexity in the realms of economic analysis, of society's sense of welfare, of the use of science, and of the transnational spillovers is very great. Those whose interest is in wheat must face up to this new complexity. To ensure that trade wars do not erupt in the future, negotiators must define and embrace new or modified rules to take account of these new issues.

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Chapter 3

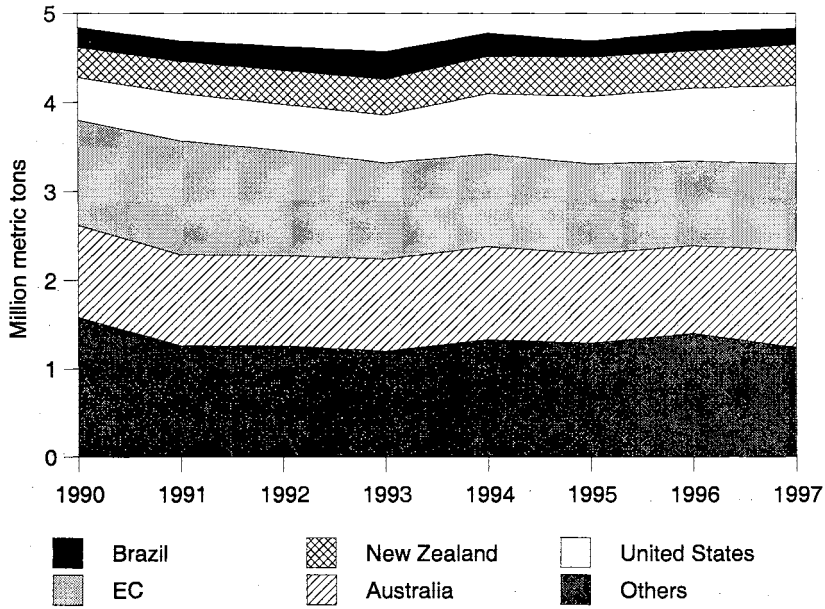
Negotiating Issues for Beef

Gary W. Brester, Dermot Hayes, and Roxanne Clemens

The United States is one of world's largest exporters, importers, and producers of beef products. U.S. beef exports account for approximately 17 percent of world beef exports (Figure 3.1). The United States is also one of the world's largest beef importers (Figure 3.2). Exports are becoming increasingly important for the U.S. beef industry given the mature nature of the U.S. domestic market. Exports as a percentage of the U.S. beef supply have increased sharply over the past several years and now represent over 8 percent of total supply. Declining domestic demand coupled with technological change have lowered real livestock prices (Brester, Schroeder, and Mintert 1997; Marsh and Brester 1999; Marsh 1999). Hence, U.S. beef producers are increasingly dependent upon export markets to maintain economic viability. Many countries are willing to protect their domestic beef markets for a variety of reasons. Consequently, although pork and poultry exceed beef in terms of world trade quantities, beef production remains important to many economies and is a highly charged trade issue.

Growth in world beef consumption has been minimal in recent years. Beef markets in developed countries are relatively mature. Growth in beef consumption has been hampered by decreasing prices of substitute meats, dietary concerns, and a variety of health and food safety concerns (e.g., cholesterol, dietary fat, bovine spongiform encephalopathy [BSE] and *E. Coli*). Consumption declines in high-income countries have been offset by increases in Asia and developing countries. Trade liberalization, commonality among sanitary trade rules, and increasing incomes in developing economies bode well for future growth of beef consumption. Thus, it is likely that rules governing beef trade will be an important issue in the WTO 2000 Round.

Figure 3.1. World Beef Exports by Country, 1990–1997



Source: FAO, *Commodity Market Review,* 1995–1997; FAO, *Commodity Review and Outlook*, 1990–1994; and (http://www.fao.org).

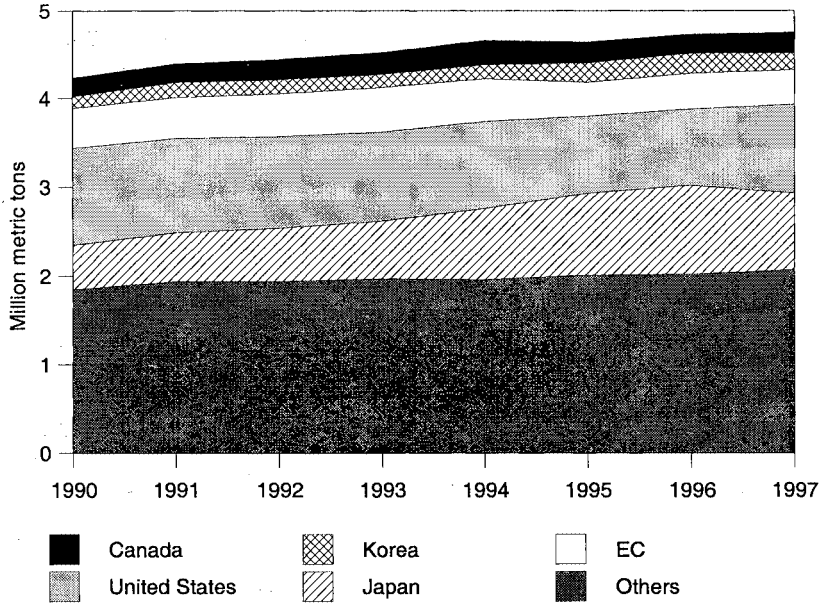
World Beef Production, Consumption, and Trade

World Beef Production

World beef production is dominated by the United States, European Union (EU), and Brazil (Figure 3.3). Russia, Argentina, and Australia have historically been major producers. Accelerating production in developing countries has slowly raised world beef production. The United States is the world leader in producing high-quality, grain-fed beef. The EU produces both grain- and grass-fed beef cattle, but EU production is expected to be flat in the near term.

South America is the world's second largest producer and exporter of beef. However, beef production is hampered by domestic political and economic problems, poor breeding herd productivity, and foot-and-mouth disease (FMD). Brazil's 160 million beef herd is the largest commercial beef herd in the world. Brazil's competitive advantage centers on its low use of growth hormones and subtherapeutic antibiotics. Most cattle are grass-fed, which is considered by some to be a "sustainable"

Figure 3.2. World Beef Imports by Country, 1990–1997

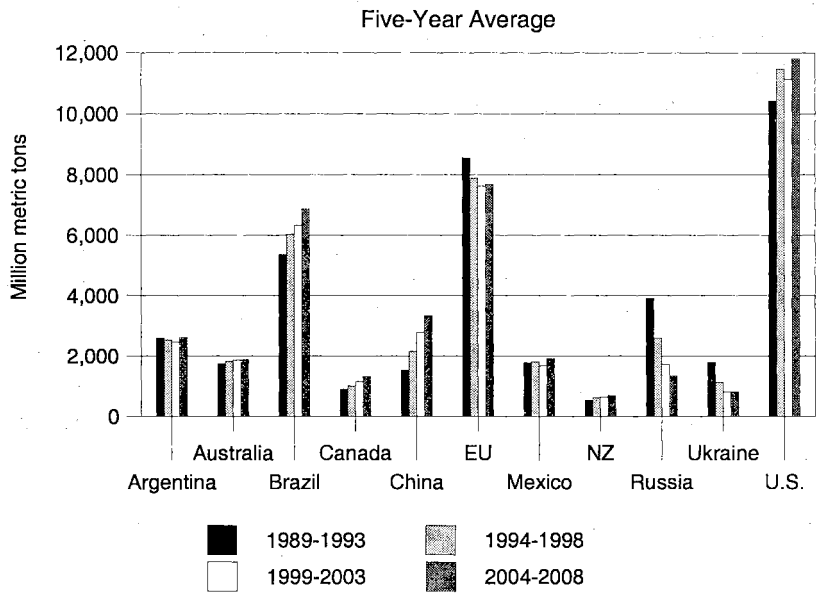


Source: FAO, *Commodity Market Review,* 1995–1997; FAO, *Commodity Review and Outlook,* 1990–1994; and (http://www.fao.org).

production system. However, like much of South America, domestic economic problems and poor herd productivity have characterized Brazil's beef industry. While Brazil accounts for 60 percent (10 million metric tons in 1997) of South American beef production, Argentina represents 25 percent. Argentina opened its economy over a decade ago, which has caused agricultural output to grow at an average rate of 6.2 percent between 1991 and 1998.

Australia is a world leader in grass-fed, unsubsidized, FMD-free beef. Sixty percent of Australian beef production is exported, and Australia is an aggressive promoter of its products in Asia. Although not a major producer, New Zealand, like Australia, produces grass-fed, unsubsidized, FMD-free beef and exports a large percentage of its production. Canada possesses resource qualities similar to the United States for grain-fed beef production and has dramatically increased its production since the mid-1990s. Canada is poised to compete against the United States in grain-fed beef export markets.

Figure 3.3. Actual and Projected Beef Production by Country, 1989–2008



Note: 1989–1998 data represent actual production; other years are forecasts.
Source: FAPRI, *1999 World Agricultural Outlook*, Staff Report 2-99.

Some argue that China may join the United States, the EU, Brazil, Argentina, and Australia as a major beef-producing nation, the logic being that as incomes rise in China, so will the demand for diets similar to those of other wealthy nations (i.e., increasing protein consumption from animal sources). However, Hayes (1999) argues that China will eventually find that increasing beef production will generate large costs because of requisite increases in feed grain imports. Coupled with Chinese preferences for beef products that are of little value to other beef-producing nations (e.g., variety meats and edible offal), China may eventually import these products rather than produce them domestically.

World Beef Consumption

Per capita beef consumption in developed countries is evolving into preferences for quality, convenience, variety, nutrition, and safety (International Policy Council 1998). These preferences will drive mature beef markets. In most developing countries, rising incomes will likely increase

the demand for animal-source proteins, and at least some of this demand will be met by increasing per capita beef consumption. Per capita beef consumption is expected to decline slightly by 2008 in the United States, Argentina, and the EU (FAPRI 1999). Russia may experience relatively larger decreases in per capita beef consumption due to economic problems. Per capita consumption is expected to increase in Brazil, China, Mexico, Japan, and South Korea.

World Beef Trade

A dichotomous global beef market has emerged over the past decade: (1) lower-priced Atlantic markets, which allow imports from countries with FMD, and (2) higher-priced Pacific markets which do not. The distinction may disappear if FMD is eradicated in South America. The Organization for Economic Cooperation and Development (OECD) predicts that the Asian Pacific Rim will soon replace North America as the world's largest beef-importing region.

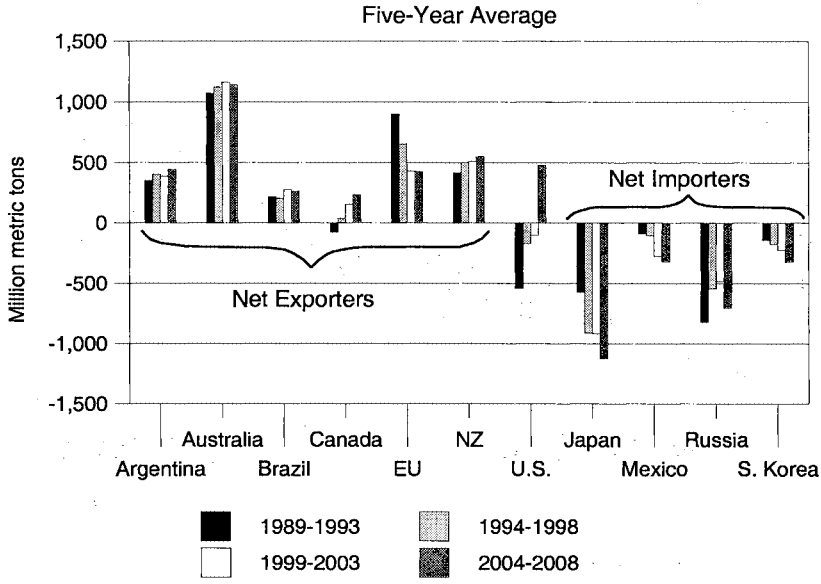
Australia, the EU, and the United States are major beef exporters. Recently, EU exports have declined because of Uruguay Round (UR) commitments to reduce export subsidies and the BSE outbreak.

Since the Canadian/U.S. Free Trade Agreement (CUSTA), Canadian and U.S. markets have become highly integrated (Young and Marsh 1997). Canada is currently a minor competitor of the United States in export markets, but the United States is a major export market for Canada. Canada is the third largest export market for the United States. Canadian beef production is closer to U.S. population centers than to Canadian population centers. Canadian cattle and beef flow south from western Canada to U.S. packing plants, while U.S. beef produced in the Midwest moves north into eastern Canada. Canada could become an important competitor for the United States in terms of high-quality beef production for Asian markets.

Argentine beef exports increased from 250,000 metric tons in 1991 to 496,000 metric tons in 1997. Recently, Argentina has been declared FMD-free. Argentine producers have been investing in capital improvements and grain-fed cattle operations. Argentina appears poised to target North American and Asian markets with grain-fed beef.

FAPRI's net beef trade projections through 2008 are illustrated in Figure 3.4. The United States is expected to become a net beef exporter (in terms of quantities) within the next several years. Net imports will increase in Russia, Japan, Mexico, and South Korea. Net exports from the EU are expected to decline.

Figure 3.4. Actual and Projected Net Beef Trade by Country, 1989–2008

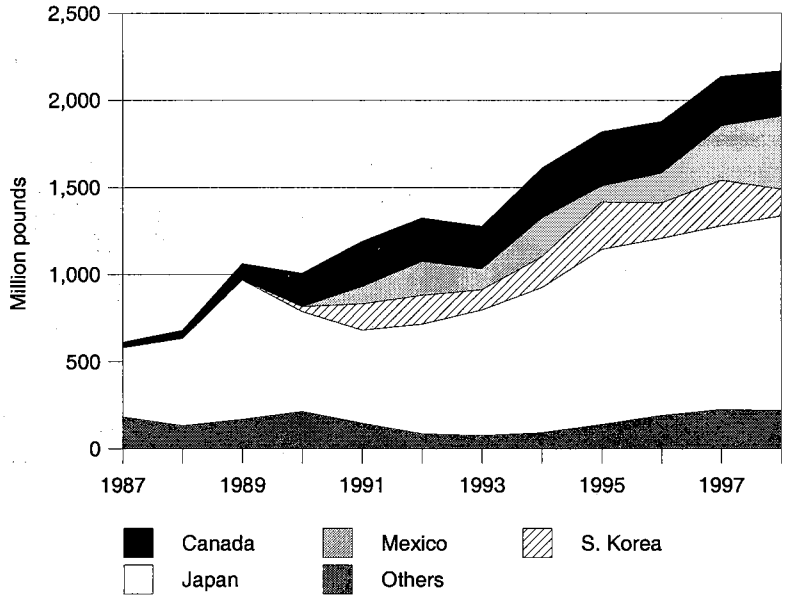


Note: 1989–1998 data represent actual production; other years are forecasts.
Source: FAPRI, *1999 World Agricultural Outlook*, Staff Report 2-99.

U.S. Beef Export Markets

Primary markets for U.S. beef and veal are shown in Figure 3.5. Japan purchased 52 percent of all U.S. beef exports in 1998. The next two largest markets for U.S. beef are Mexico and Canada, which combined for 31 percent of U.S. exports in 1998. CUSTA and North American Free Trade Agreement (NAFTA) provisions increased the ability of the United States to market beef in both countries. Sanitary and other quality regulations continue to restrict trade but are subject to changes based on scientific evidence. The recent Northwest Pilot Project involving Washington and Montana was designed to reduce regulatory restrictions and costs of U.S. feeder cattle exports to Canada (Young and Marsh 1997). However, preliminary rulings regarding import tariffs on U.S. beef exports to Mexico and Canadian live cattle exports to the United States threaten to disrupt trade flows in North America. South Korea is the second largest market in the Pacific Rim for U.S. beef and accounted for 7 percent of U.S. beef exports in 1998.

Figure 3.5. U.S. Beef and Veal Exports by Destination Country, 1987–1998



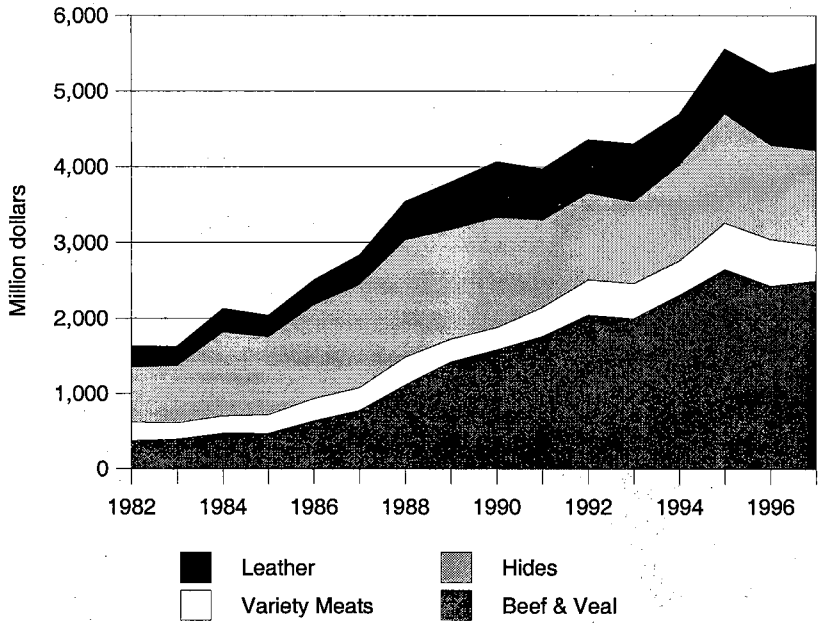
Source: Livestock Marketing Information Center, (http://LMIC1.co.nrcs.usda.gov), 1999.

Most by-products of beef slaughtering are exported to the Pacific Rim. Exports of beef variety meats, hides, and leather are important factors for the U.S. beef industry. Asian economic problems probably caused a $2–3/cwt (or 5 percent) decline in U.S. fed cattle prices in 1998 because of a decline in demand for by-products (Marsh forthcoming). On a value basis, the sum of U.S. beef by-product exports have historically exceeded that of U.S. beef and veal exports (Figure 3.6). Many of these products circumvented quota restrictions that existed before the UR. Further beef trade liberalization will not likely influence by-product exports as much as beef exports. Nonetheless, the value of by-products is very important to the U.S. beef industry.

Previous Beef Trade Liberalization Efforts

Beef trade liberalization has occurred through the Uruguay Round Agreement on Agriculture (URAA) and a multitude of other previous trade agreements. The URAA resulted in an increase in the "Hilton"

Figure 3.6. Value of U.S. Beef, Variety Meat, Hides, and Leather Exports, 1982–1997



Source: U.S. Department of Commerce, Bureau of the Census, *Foreign Agricultural Trade of the United States,* 1982–1997.

quota (high-quality beef import quota the EU has allotted to Argentina, Australia, Uruguay, Brazil, New Zealand, Canada, and the United States). In addition, the EU committed to reducing subsidized beef exports to 817,000 metric tons in 2000, about 300,000 metric tons less than average export levels during the 1991–1995 period. Nonetheless, EU export subsidies continue to impact world beef trade. The 1993 Andriessen Assurances between the EU and Australia prohibit EU export subsidies to some Asian countries, including Japan. Internal EU supports for beef are likely to be reduced in the long term. However, EU beef stocks have increased, and EU subsidies will continue at sizable levels for the near term.

The United States has benefited from greater access in Asia from the URAA and in Mexico from NAFTA (Brester and Wohlgenant 1997). The United States has also benefited from Asian tariff reductions, increasing incomes in developing countries, and reductions in EU subsi-

dized exports. The URAA required the United States to switch from import quotas to tariff rate quotas as a means of protecting its domestic market. The change was intended to allow greater access to the U.S. market over time.

Until 1988, the Japanese domestic market was highly protected by import quotas and *ad valorem* tariffs (Jeong 1995). However, beef import quotas were relaxed in 1989 and 1990. In 1991, import quotas were replaced by a 70 percent *ad valorem* tariff, which was subsequently reduced to 60 percent in 1992 and 50 percent in 1993 (Doyle et al. 1995). Under the URAA, the tariff rate quota will be gradually reduced to 38.5 percent by 2001. However, Japan retains the right to reinstate a higher tariff rate under safeguard provisions if imports of frozen or chilled beef over a specified period are greater than 17 percent of import levels relative to the previous year. The safeguards have been imposed on several occasions since 1995.

Prior to 1993, South Korean beef imports were determined by the Korean government according to projections of domestic supply and demand. Since 1993, however, a "simultaneous buy/sell" quota system has been in effect. Under this system, a "supergroup" acts on behalf of its members to coordinate beef imports and prices between end-users (e.g., wholesalers, meat manufacturers, restaurants, and hotels) and suppliers (Jeong 1995). Under the URAA, South Korea agreed to increase market access by expanding its beef import quota from 123,000 tons (retail weight) in 1995 to 225,000 tons in 2000. A tariff rate quota of 43.6 percent was applied in 1995 and is to be gradually reduced to 41.6 percent by 2000. Beginning in 2001, a tariff of 40 percent will be the only form of import restriction (Doyle et al. 1995).

Argentina, Uruguay, and Chile's beef exports are generally FMD-free. Under the URAA, Argentina and Uruguay can each export 20,000 metric tons of beef to the United States. The southern states of Brazil are FMD-free and can also participate in international beef markets.

Beef Trade Liberalization Issues

WTO negotiations with respect to beef trade liberalization will probably be conducted among two coalitions—those countries favoring increased trade liberalization and those favoring protection of domestic markets. The division essentially delineates those with comparative advantages in beef production and those without such advantages. Countries likely

to benefit from beef trade liberalization include the United States, Canada, Australia, New Zealand, Brazil, and Argentina. Although consumers in many countries would gain from beef trade liberalization, the EU, Japan, South Korea, Mexico, Russia, and China will likely resist such actions. In general, each of these countries will seek to protect their domestic beef industries for social and/or political reasons. In addition, these countries do not appear to have comparative advantages in beef production. Countries favoring trade liberalization will likely rally around three general negotiating themes—expanding market access, eliminating export subsidies and domestic supports, and implementing common science-based sanitary regulations that do not overtly or covertly double as nontariff trade barriers. Market access is currently limited by many countries through the use of tariffs and tariff rate quotas. Export subsidies (although limited by the URAA) and internal domestic supports continue to impact world beef trade. Although each country favoring trade liberalization may weight these three issues differently, there is general agreement that the future of beef trade must involve advances in these areas.

Market Access

The general improvement in market access during the UR was the result of tariffication of previous quotas. The URAA included statements indicating that WTO members were committed to negotiating further "substantial progressive reductions in support and protection." Therefore, it was thought that the 2000 Round would simply involve a combination of (1) reducing base tariffs, (2) increasing tariff rate quotas, and (3) reducing above-quota tariffs. However, issues regarding tariffication have emerged.

The URAA allowed members to use the 1986–1988 period to set relatively high base and above-quota tariffs. For example, in the year 2000, within- and above-quota beef tariffs will be approximately 40 percent in Japan and Korea (Podbury and Roberts 1999). EU within-quota beef tariffs will be 20 percent, but above-quota tariffs will range from 120 to 140 percent. Above-quota tariffs in the United States and Canada will be 26 percent.

The administration of tariffs also complicates tariff-reduction negotiations. For example, applied tariffs (those which are actually imposed) are often lower than bound tariff levels. This means that even if bound

tariff levels are reduced, it may have little actual effect on market access (Podbury and Roberts 1999). Therefore, bound rates must be reduced sufficiently so that actual rates are also reduced. In addition, Japan has frequently implemented "special safeguards" whenever imports exceed certain domestic production levels. In the opinion of these authors, safeguards should be phased out and/or trigger levels adjusted so that they are less likely to be implemented. Increasing minimum access, assuring that access agreements are met, and reducing the capricious use of tariffs will be critical in the 2000 Round.

Additional problems with tariffication have arisen because some import tariffs on specific products greatly exceed average tariffs across all products. These peak tariffs are often associated with tariff escalation, which tends to occur as countries increase tariff protection as products progress along the processing chain. Reductions in peak tariffs could be one way to improve market access.

The United States is certainly disappointed that tariff rate quotas (TRQs) were manipulated to obviate access commitments. That is, many developing countries merely declared bound tariffs (which cannot be raised) with no access commitments (Podbury and Roberts 1999). Many of these are so high that they effectively prohibit trade. So, the United States will likely push for a common framework of TRQs to achieve minimum access. It is in the best interest of the United States to argue for higher quotas for TRQs or lower above-quota tariffs (Hathaway 1999; Sumner, Chapter 6 this volume). The best alternative for the U.S. beef industry may be to negotiate expanded tariff quotas, so as to simultaneously reduce their importance, increase competition, and lessen the impact of high above-quota tariffs. Increasing tariff quotas annually would eventually make most quotas nonbinding. Thus, this may be more liberalizing than merely reducing high above-quota tariffs. Nonetheless, some U.S. agricultural sectors that depend upon TRQs (e.g., sugar, peanut, and dairy) will likely support only lower above-quota tariffs.

The CAIRNS Group (Argentina, Australia, Brazil, Canada, Chile, Colombia, Fiji, Indonesia, Malaysia, New Zealand, Paraguay, Philippines, South Africa, Thailand, and Uruguay) will likely want to reduce bound tariffs (Anderson 1999). Binding tariffs at well above applied rates allow countries to vary actual tariff protection in response to domestic or international conditions. However, an extension of the general approach used in the UR (across-the-board tariff cuts of 36 percent)

would increase tariff dispersion (Wainio 1999). Increased tariff dispersion will inhibit trading of processed products, which are increasingly more important than raw commodities in developed-country exports. One strategy for reducing tariffs might be to employ the "Swiss Formula" used in the Tokyo Round, which reduces higher tariffs by larger percentages than lower tariffs. That may be more appealing than a "zero-for-zero" approach, where tariffs are completely eliminated for selected products, because the Swiss Formula decreases the dispersion of tariffs across products.

Export Subsidies, Domestic Support, and State Trading Enterprises

Countries favoring beef trade liberalization will likely argue for the elimination of export subsidies on the grounds that they are trade-distorting. In addition, Canada may push for broad international agreements rather than unilateral arrangements among countries (Gifford 1998). Canada will likely argue that if export subsidies are reduced, the reductions must not be circumvented through food aid, export credits, "market development" programs, or two-price export systems.

Conversely, the United States will likely be against broadening WTO abilities to limit export credits or credit guarantees, because the United States uses these instruments as foreign policy tools. However, the United States and other coalition countries will likely support stricter rules and enforcement that prohibit export embargoes, export taxes, and other policies often used to limit exports for two reasons. First, some countries apply such taxes when domestic supplies are low, which reduces their exports to the world market. This increases prices in countries with open borders and strengthens the concerns of importers regarding food security. Second, the U.S. Congress and administrations have used embargoes as foreign policy tools to the presumed detriment of U.S. agricultural producers.

A variety of internal domestic supports were allowed under the URAA. The United States and other countries favoring trade liberalization may argue against a wide variety of domestic supports. However, if the United States continues the use of marketing assistance loans on contract commodities (e.g., corn and wheat) without supply control restrictions, not only will such actions be counter to the URAA, but it also will be difficult to argue against other countries who use coupled internal supports.

South American and CAIRNS countries have reduced domestic support of beef production because of fiscal constraints and will certainly lobby for movements toward a more market-oriented beef trading system. In addition to phasing out export subsidies, these countries will likely ask for the removal of "blue box" payments and a tightening of criteria included in "green box" exemptions (Diaz-Bonilla and Reca 1999). For a discussion of blue and green box policies see Chapter 1. Specifically, these countries may argue that policies that are green box eligible should be limited to those that do not encourage production (Anderson 1999). Unlike the U.S. position, South American and CAIRNS countries may argue for export credits to be considered as export subsidies and lobby for their elimination.

State trading enterprises (STEs) have relatively small influence on world beef trade. South Korea's Livestock Products Marketing Organization (LPMO) is the only major importing STE. LPMO was granted 40 percent of Korea's import quota in 1998 (USDA 1998). Three additional Korean supergroups were established in 1999. Thus, improving the transparency of the operations of the LPMO and supergroups may be a negotiating point worth considering during the 2000 Round. Specifically, exporting countries will want assurances that such activities do not constitute covert domestic protection for Korean producers. Nonetheless, STEs will be a relatively minor issue for beef trade negotiations.

Science-Based Sanitary Regulations and Dispute Settlements

The Sanitary and Phytosanitary (SPS) agreement of the URA established criteria for sanitary import regulations to ensure that they are based on science and that they do not discriminate unfairly between countries. On the one hand, the SPS agreement has worked reasonably well. For example, the United States and the EU recently signed a "veterinary equivalency" agreement, which establishes that each region's sanitation and processing procedures provide equivalent levels of food safety.

On the other hand, it could be argued that the URA regulations on sanitary issues have failed. For example, despite signing a veterinary equivalency agreement, the EU has continued its ban on beef imports produced with the use of growth hormones. The ban has prevented the United States from fully using its high-quality beef tariff rate quota to the EU and from exporting beef offal to the EU. The 1995 Codex Alimentarius Commission set maximum allowable residue levels for

growth hormones—and U.S. and Canadian beef generally contain residual levels of growth hormones below allowable levels. In addition, the use of growth hormones was supported by two WTO rulings in 1997 that declared the EU ban inconsistent with WTO agreements. Nonetheless, the EU did not comply with the WTO rulings, on the basis of protecting consumer health. However, this rationale is somewhat questionable given that U.S. hormone-treated beef generally contains lower levels of hormones than EU beef because bull beef (which contains higher levels of naturally occurring growth hormones than steer beef) production is a major component of the European beef industry (World Trade Agenda 1999). The EU offered to compensate the United States for damages resulting from the ban. However, the United States chose to impose 100 percent tariffs (a total of $116.8 million) on a wide variety of EU exports to the United States rather than accept the level of compensation offered by the EU.

In one sense the SPS agreement in this area has worked as planned. The WTO provided a forum for both sides to present their scientific evidence. Based on the evidence presented, the WTO ruled in favor of the United States. The EU agreed to compensate the United States for damages. At this point, the process had important shortcomings. First, the EU's proposed compensation was rejected by the United States because it was deemed to not fully compensate producers for material injuries. Consequently, the United States imposed retaliatory tariffs on other EU products. These tariffs restrict trade flows on products that are completely unrelated to beef products, introducing distortions into world markets. Second, even if the United States had accepted the monetary compensation offered by the EU, it is unclear how these monies would have been distributed to U.S. producers. Unlike many U.S. food and feed grain producers who have long been involved in government assistance programs, only a small percentage of livestock producers have had such programs available to them. Hence, the identity of individual livestock producers is not well known. Although producers would certainly have provided locational information to the U.S. government, monitoring costs associated with a remuneration process would have been large. Third, the dispute process is certainly costly for both sides of a trade challenge. Fourth, it is uncertain whether different cultures regard science, scientific research methodologies, and risk assessments equivalently. For example, whereas U.S. consumers may deem a prod-

uct safe even if five scientific studies out of one hundred indicate that a product is unsafe, EU consumers may deem the same product as unsafe if a single study out of one hundred indicates potential harm. Such attitudes are certainly more likely if consumer confidence has been shaken by recent food safety concerns as has occurred in the EU.

Certainly, EU consumer concerns are being afforded high priority in Europe, and public authorities are reluctant to take risks. For example, the EU has adopted a country-of-origin labeling system, which is compulsory for member states in 2000. This will make more costly both beef movements within the EU and imports from non-EU countries.

The goal for the 2000 Round will be to ensure that food safety issues are used to protect consumer health as opposed to providing covert domestic protection. Perhaps the most prudent negotiating position in this area is to adopt labeling procedures in which beef products produced with (or without) growth hormones are offered to well-informed consumers who can then make choices based on personal risk preferences.

Likely Negotiating Positions of Countries Favoring Protectionism

The European Union

As the United States prepares for the 2000 Round, there will be a temptation to return to negotiating positions used during the UR. However, this approach will not be productive, as the EU will be better prepared for the 2000 Round. In a move that did not get a lot of attention in the United States, the EU changed the Common Agricultural Policy (CAP) in March 1999. The EU is allowing domestic prices to decline while compensating producers with generous direct payments. Price declines are bringing EU cattle prices closer to world price levels. Intervention prices for beef will be reduced by 20 percent between 2000 and 2002 while providing even larger compensation to producers. These cuts will occur in a beef market that is moving closer in price to the U.S. market. For example, from 1996–1998, EU market prices for male cattle averaged $67/cwt (in U.S. dollars)—while U.S. steer prices averaged approximately $64.50/cwt (U.S. Meat Export Analysis and Trade News 1999). Once the reforms have been fully implemented, the EU will not

need to use beef export subsidies to compete in the global market, nor will high import tariffs be needed to protect their domestic beef sector. If the United States demands beef policy changes, it may be surprised at the EU's willingness to accept them. Furthermore, if these two powers agree on significant tariff cuts, Japan and South Korea may be forced to also accept relatively large cuts, which could eventually lead to an important success for U.S. agriculture.

In the 2000 Round, the EU will be on the defensive on two fronts. First, EU negotiators will likely argue that direct payments to producers should be allowed. A valid counterargument by the United States would be that the EU should alter their direct payments so that they no longer encourage production. For example, EU beef producers currently must own beef cows to receive a beef cow payment, and they must own steers to receive a steer payment. Thus, producers maintain animal inventories because direct payments are not decoupled from inventories. A reasonable U.S. proposal might be for the EU to maintain payments at the 2000 levels while decoupling those payments from inventories. This is essentially the decoupling process incorporated into the 1996 U.S. FAIR Act.

Second, the EU will likely ask to be allowed to export their current "beef mountain," so that they can clear out its system before new reforms are implemented. Exporting this surplus beef might push the EU over its export subsidy commitments under the URAA. However, because most of the beef will go to the former Soviet Union, these exports will have little influence on the U.S. beef market. In fact, if the United States does not allow the EU to use export subsidies on sales to Russia, the EU may simply provide the beef to Russia on a humanitarian basis.

Although these two issues will certainly be subject to negotiation, the most contentious issue in the upcoming round may involve a variety of human and animal health concerns. European consumers have been hit by a series of events (e.g., BSE and swine cholera outbreaks, discovery of banned growth promotants in meat, and dioxin contamination of food products) that have shaken faith in science and scientists. EU consumers have begun to demand source identification, the elimination of hormones and antibiotics from livestock production, better treatment of animals, and in some cases, certification that a food product is free of genetically modified organisms (GMOs). Such demands might mean, for example, that GMO corn or soybeans cannot be used in livestock and poultry feeds. These provisions will increase production costs in

Europe, and the EU will have an interest in adding to production costs in other countries as a means for remaining competitive in world markets. Alternatively, the EU may choose to protect its own market from GMO-produced, low-cost beef products under the guise of consumer food safety protection. For example, Japan has already released a list of 30 items for which it plans to require mandatory labeling showing that the product contains GMOs. This mandatory labeling is intended to go into effect in the spring of 2001 (Bridges 1999).

Thus, the United States must carefully consider a negotiating strategy regarding this issue. The EU will likely argue that it is allowing markets to work and "letting consumers decide" what to buy. If the United States attempts to argue with this position, it will appear to be fighting consumer sovereignty. In addition, if the United States argues that science should decide the merits of these issues, the EU will likely employ a delaying strategy similar to that used to prevent the importation of beef produced with growth hormones. That is, they will likely seek (perhaps questionable) scientific support for their position.

A far more useful U.S. response might be that informed consumers are allowed to decide and that the EU allow consumers access to appropriately labeled U.S. products. For example, EU consumers who wish to buy untreated (or hormone-treated) U.S. beef would simply read packaging labels. The same would be true for beef that is treated (or not treated) with subtherapeutic antibiotics, fed with GMO-produced feed, or obtained from animals produced according to a specific animal welfare regime. This alternative U.S. response would allow the United States to promote a consumer-oriented, proactive bargaining position that would portray the EU as an agent bent on limiting consumer choice. Implementation of this system would require the creation of source identification systems in the United States and an approved certification system. But these systems and certification processes are likely to evolve if consumers are willing to pay the cost.

Japan

Previous trade agreements have provided increased access to Japan's highly protected beef market. So far, Japanese beef producers have been protected from losses associated with the gradual opening of the beef market in two ways: (1) Japanese consumers have been willing to pay a premium price for domestically produced Wagyu beef, and (2) the Japa-

nese government instituted a deficiency payment system that has essentially isolated much of the beef industry from changes in market prices.

Japan will likely approach the 2000 Round much as it did the UR. As in the past, Japan needs open world markets for its industrial products and, at the same time, wants to protect domestic agricultural production to avoid excessive dependence on foreign food supplies. Thus, Japan may eventually reduce tariffs on beef by the minimum amount necessary to obtain agreement.

One possible danger is that Japan will be forced to open its beef market too quickly, causing the government to implement nontariff trade barriers—such as those adopted by the EU. Japan might follow such a strategy, knowing that it can import beef from the EU at prices that will not force domestic beef producers out of business. Thus, the best negotiating strategy with the Japanese may be to propose an eventual elimination of beef import tariffs in exchange for guarantees that Japan will not impose nontariff barriers.

Mexico

Until recently, Mexico allowed tariff-free imports of U.S. and Canadian beef. All indications are that U.S. beef exports to Mexico will continue to grow, and Mexico may eventually become the largest market for U.S. beef in volume terms. One paradoxical issue from the perspective of U.S. producers is that Mexico may be forced to reduce its current import tariffs on EU and Australian beef during the 2000 Round. Because the United States already has free access to this market, it may not be in the best interests of the U.S. beef industry that Mexico be forced to open its beef markets as part of a new WTO agreement. However, a successful WTO round will help stimulate the Mexican economy, which is likely to result in increased beef consumption.

On balance, it is probably in the best interests of the United States to push for low tariffs on all beef imported by Mexico, even though doing so may reduce U.S. market share. It would seem hypocritical for the United States to push for low tariffs in all countries except Mexico.

South Korea

The South Korean government maintains a high level of protection for beef as a means of supporting its many small-scale producers, who often have a considerable portion of their life savings tied up in a few

beef animals. Past reductions in beef prices due to trade liberalization have caused riots and suicides among South Korean beef producers. Given this political backdrop, it is surprising that South Korea agreed to liberalize its beef market by 2001. Specifically, South Korea has committed to replacing its current beef import quota with a tariff of 40 percent by 2004. However, the government has done little to prepare their domestic beef industry for this enormous change. If the South Korean government sticks to its earlier agreements, Korean beef prices will fall by more than 50 percent as the market is liberalized. The fact that the government has not begun a gradual reduction in beef prices to prepare for this event may mean that it plans to introduce a Japanese-style beef deficiency scheme to compensate existing producers. Or it may mean that the South Korean government will find some way to avoid the policy change at the last minute.

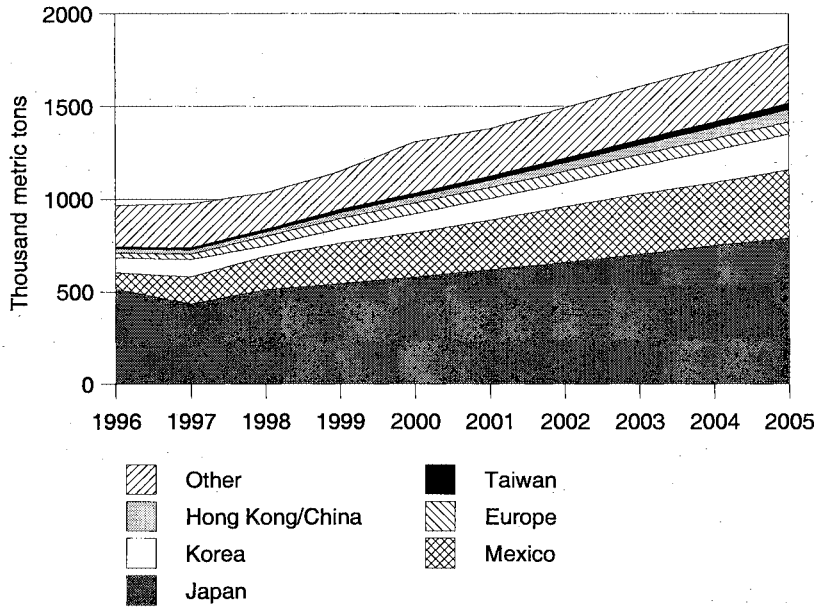
The best U.S. negotiating position may be to use the 2000 Round to ensure that the South Korean government meets all the commitments it made in the UR. Finally, the United States may want to press South Korea on transparency issues related to its LPMO STE and the importing supergroups. However, this issue is much less important than access agreements. The United States might consider not pressing on the STE issue to gain additional access to South Korean markets.

Russia

Over the long term, Russia is not likely to be a viable market for U.S. beef. The Russian market is very price sensitive and will continue to receive large quantities of donated and subsidized beef from both eastern and western Europe. Russian consumers have not developed a taste for high-quality U.S. beef, and the average consumer is unlikely to be able to afford this product in the near future. If the Russian economy eventually prospers, Russian agriculture will likely produce enough beef for its domestic market.

In the short term, Russia is likely to be an outlet for U.S. beef only if it is donated or subsidized. There is potential to increase commercial sales of U.S. variety meats and sausage products once the current round of food donations brings commercial dealers back into the import market. Given the productive potential of the Russian beef industry, a key target for the next WTO round will be to get Russia (which is not a WTO member) to agree not to subsidize domestic beef producers in a way that

Figure 3.7. U.S. Beef and Variety Meat Export Forecasts



Note: 1996 & 1997 represent actual exports; 1998 represents estimated exports; other years are forecasts
Source: U.S. Meat Export Federation, May 5, 1999.

stimulates output or distorts world markets. This goal may be obtainable given the Russian government's current fiscal problems.

China

Chinese beef products are produced from draft animals. Chinese consumers eat very little beef, and most consumption occurs in central and western China. However, many Chinese who have emigrated to urban areas have become beef consumers. Consumption is probably hampered more by a lack of affordable supplies than by a lack of demand. The rapid spread of fast-food outlets in China, projections for continued income growth, and the largest population base of any country will likely result in China being the world's largest beef-consuming country in terms of total quantities.

Although China is not yet part of the WTO, the Chinese government has negotiated concessions with the United States to obtain U.S.

support for entry. As part of these concessions, China has removed some sanitary barriers to beef imports and has agreed to reduce tariffs on imported chilled and frozen beef and beef offal to 12 percent. If these concessions are implemented, China could potentially import significant quantities of beef from Argentina and Australia and may become an important market for certain U.S. variety meats such as the omassum and reproductive organs. Large quantities of U.S. beef will also be imported for four-star hotels and restaurants in China. The U.S. Meat Export Federation (1999) projects exports of as much as 68,000 metric tons of beef to China by 2005 (Figure 3.7).

It is possible that Chinese government interference in import markets may constrain beef exports to China. Once tariffs are reduced, potential importers may find that they need licenses or some other form of government approval. They may also find that they are competing with government employees moonlighting as beef traders, or even with the Chinese army. Therefore, it will be extremely important to ensure that the Chinese market is transparent.

Summary

Countries favoring trade liberalization will likely rally around three general negotiating themes—expanding market access, eliminating export subsidies and domestic supports, and implementing science-based sanitary regulations that do not overtly or covertly double as nontariff trade barriers. Market access is currently limited by many countries through the use of tariffs and tariff rate quotas. Export subsidies and internal domestic supports continue to impact world beef trade. Concern has been expressed over the implementation of the SPS agreement. Although each country favoring trade liberalization may weight these three issues differently, there is general agreement that beef trade liberalization requires advances in these areas.

The United States will find itself in a complex negotiating position. The United States has a competitive advantage in the production of high-quality, grain-fed beef and increasingly depends upon both beef and by-product exports to maintain U.S. beef producers' economic viability. In general, the United States will likely argue for lower tariffs, increased market access, and removal of many nontariff trade barriers.

Several recent events will likely cloud the negotiations. For example, the negotiating environment between the United States and the EU will

be contentious because of the ongoing battle over the use of growth hormones in U.S. beef. Recent trade disputes between the United States and Canada, Mexico, Australia, and New Zealand may make it difficult for the United States to press for increased market access in other countries. Specifically, a U.S. beef producer group filed petitions with the U.S. International Trade Commission (ITC) claiming material injury from the "dumping" of live cattle into the United States by both Mexico and Canada. In January 1999, the ITC ruled that U.S. cattle producers may have been materially injured by Canadian live cattle imports. On June 30, 1999, the U.S. Department of Commerce's Import Administration of the International Trade Administration issued a preliminary ruling instructing the U.S. Customs Service to require cash deposits or bonds totaling 4.73 percent (later increased to 5.57 percent) of the value of imported live Canadian cattle. The ruling was based on a preliminary conclusion that Canadian feedlot managers had sold live cattle to U.S. purchasers below the "normal value" of those cattle in Canada. Although the ITC decided not to place similar sanctions on imported feeder cattle from Mexico, Mexico had already begun the consideration of material injury to their producers in response to the U.S. threat. As a result, Mexico has placed preliminary tariffs on imports of U.S. beef. Finally, the United States has imposed significant tariffs on imported sheep and lamb products to protect U.S. sheep producers. The net result is that the United States is not well-positioned to demand improved market access from other countries.

The issues of GMO-produced feed must be carefully addressed. The U.S. feed grain industry needs GMO technologies to compete against other countries. Thus, concerns regarding consumer welfare must be recognized, and science-based agreements must be established so that such issues are not used as covert trade barriers. Furthermore, the EU is not going to be a large market for U.S. beef in the near future. The downside of prolonged arguments with the EU over GMO issues is that major Pacific Rim importers may side with the EU. Perhaps the best strategy for the United States is to position itself as a champion for consumer choice and to lobby for market access of appropriately labeled beef products.

Trade liberalization occurred in the UR because of fundamental changes in internal agricultural policies in many countries—changes that were primarily fiscally motivated. Since then, many economies have realized benefits associated with open trade. However, sectors that were

previously protected are often harmed by trade liberalization. Throughout the 2000 Round, negotiators must recognize that asset values in protected sectors will likely be negatively influenced by trade liberalization. Given that political and social agendas will also be involved, it is likely that gradual phase-ins of trade liberalizing policies will be required.

Since the Uruguay Round, U.S. beef exports and imports have both increased. Exports generally consist of higher-valued table cuts and edible and inedible offals (which have little value in the United States). Imports generally consist of lower-valued ground beef. Given the mature nature of the U.S. beef market and the technological changes that have increased beef supplies, the U.S. beef industry will increasingly depend upon export markets to maintain its economic viability. Because increased market access for exports will likely necessitate increased market access for imports, various sectors of the beef industry will be affected differently by trade liberalization (Brester and Wohlgenant 1997). Nonetheless, overall U.S. beef producers and processors have much to gain by additional trade liberalization.

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Chapter 4

Negotiating Priorities for Feed Grains

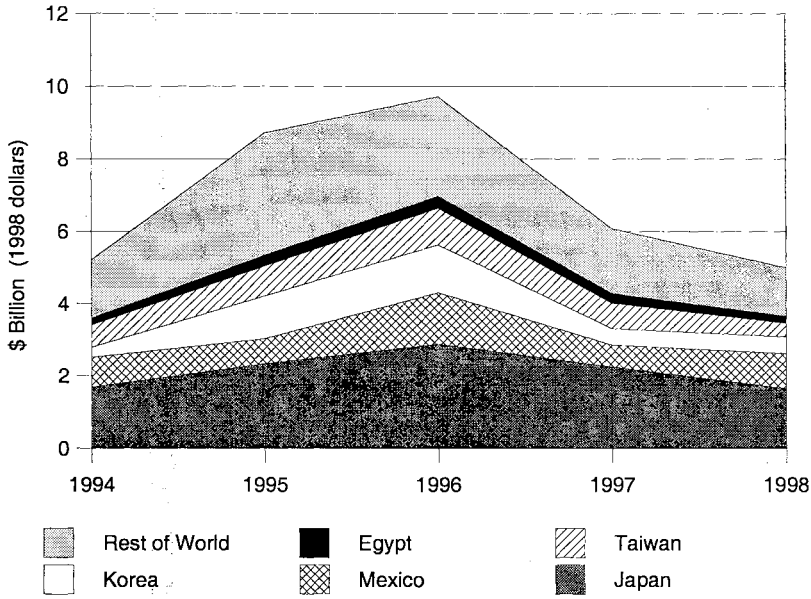
Barry K. Goodwin

The United States is the world's largest exporter of feed grains, accounting for over 58 percent of total world trade in the 1998/99 crop year (USDA-FAS 1999a). Feed grains include corn, barley, sorghum, and oats. The U.S. feed grains sector has a strong interest in maintaining existing international markets, building new markets, and improving access to existing export markets. A number of trade policy issues are relevant to the future of U.S. feed grain exports. Market access, tariffs, export subsidies, and issues that have more recently become important, including biotechnology and state trading, will be at the forefront of the 2000 WTO Round.

The Uruguay Round Agreement on Agriculture (URAA) included policy reforms that were intended to discipline domestic support for agriculture, limit export subsidies, and improve access to internal markets by international traders. The extent to which the policy changes brought about by the agreement constituted tangible, binding reforms of existing policies and greater orientation toward the market is debatable. An examination of specific provisions of the URAA reveals that many provisions of the agreement were made to conform to existing policies in important trading countries, in particular, in the United States and the European Union (EU). However, it is clear that a new set of guidelines for the regulation of international agricultural trade was instituted by the URAA. These guidelines laid the groundwork for the 2000 Round of WTO negotiations on agriculture.

This chapter provides a detailed discussion of issues important to the agricultural trade negotiations and, in particular, international trade in U.S. feed grains. The second section of the chapter discusses the current state of the international market for feed grains. The subsequent

Figure 4.1. U.S. Feed Grain Exports



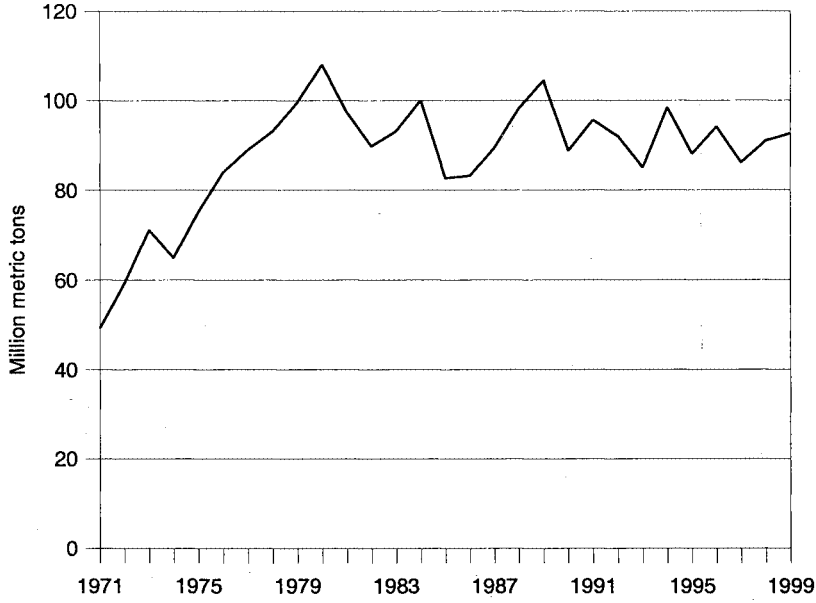
Note: Includes corn, barley, sorghum, oats, and rye.
Source: USDA-FAS, *Grain: World Markets and Trade,* (http://www.fas.usda.gov/grain/circular/1999/99 09/cgra_txt.htm), 1999.

section provides a discussion of issues likely to be addressed in the negotiations. The final section contains a discussion of the outlook for the future and an overview of what are likely to be the major negotiation issues for the U.S. feed grains sector.

The State of the International Feed Grains Market: A Preface to Negotiations

Feed grains are an important commodity in international markets, and the United States is the world's largest exporter. U.S. feed grain exports for the 1998/99 crop year are projected to exceed 52.6 million metric tons, representing over 58 percent of total world trade (USDA-FAS 1999a). Figure 4.1 illustrates recent U.S. feed grain export patterns. Japan has consistently been the largest importer of U.S. feed grains. Korea and Taiwan, with their combined imports, are typically the next largest

Figure 4.2. World Feed Grains

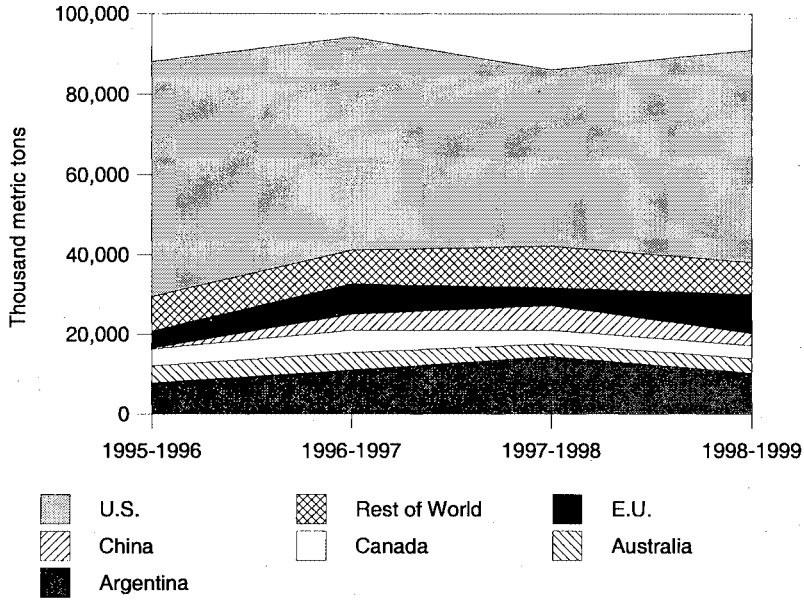


Note: Includes corn, barley, sorghum, oats, and rye.
Source: USDA-FAS, *Grain: World Markets and Trade,* (http://www.fas.usda.gov/grain/circular/1999/99 09/cgra_txt.htm), 1999.

importers, comparable to that of Japan. Exports decreased significantly in 1997 and 1998 relative to earlier years. This decrease was driven partly by the Asian financial crisis, which reduced demand for feed grain imports. Significant decreases in Taiwanese feed imports can be attributed less to the Asian financial crisis and more to a devastating epidemic that required liquidation of 50 percent of its hogs. Overall world trade in feed grains is illustrated in Figure 4.2, which shows that, subsequent to a period of significant growth in the early 1970s, world trade in feed grains has been relatively stagnant. Feed grain export patterns are illustrated in Figure 4.3. The figure illustrates U.S. exports, which play a dominate role, and the significant market share of Argentina's exports, which are comprised mainly of corn.

Several factors may lead to significant growth in world feed grain trade, but uncertainty underlies the potential for growth. Economic growth in Asia has driven world trade in feed grains. This growth was

Figure 4.3. World Feed Grain Exports



Note: Includes corn, barley, sorghum, oats, and rye.
Source: USDA-FAS, *Grain: World Markets and Trade,* (http://www.fas.usda.gov/grain/circular/1999/99 09/cgra_txt.htm), 1999.

sharply curtailed by the recent currency crises experienced by many Asian economies. Several Asian economies appear to be recovering, and thus prospects for restoring these markets appear promising.

Economic growth in other regions of the world may also have the potential to significantly increase feed grain demands. Rising real incomes in the developing world have typically shifted consumption away from cereal commodities toward meat products, increasing the demand for feed grains. This trend was important in increasing world trade in feed grains during the 1970s. To the extent that economic growth continues in the developing world, feed grain export markets are likely to strengthen.

The greatest uncertainty about the development of world grain markets concerns the role of China. Over the last several years China has shifted from being a major net exporter of feed grains to being a major net importer, and then back to being an exporter. Given its population

and large agricultural sector, the potential for China to significantly influence world markets is large. It is, however, very difficult to predict what role China will play in feed grain markets from year to year. Erickson (1999) noted that central control of the economy precludes accurate predictability about China's year-to-year feed grain demand.

Another important dimension of uncertainty about China's future role in feed grain markets involves its application to become a WTO member (Lopez and Wang 1997). Although in 1948 China was a founding member of the General Agreement on Tariffs and Trade (GATT), it withdrew in 1952 following the Communist Revolution. In 1986, China applied to be readmitted into the GATT. China is one of thirty-two countries that are currently seeking accession to the WTO, but China's reliance on central planning has complicated its entry. Although recent political events have threatened the progress of China's accession, it seems likely that China will soon become a full WTO member.

Taiwan, usually the third or fourth largest importer of U.S. feed grains (Figure 4.1), has also applied for accession to the WTO. It is likely that China and Taiwan will simultaneously become members of the WTO. A recent study by the USDA (Wang 1997) suggests that integrating China into the world trading system could increase China's annual agricultural imports by as much as $8 billion (in 1992 constant dollar prices) with $2.2 billion of this increase coming from U.S. agricultural sources.

Western Hemisphere markets are also relevant to U.S. feed grain exports. Mexico, typically the second or third largest buyer of U.S. feed grains (Figure 4.1), is also of critical importance. Feed grain exports to Mexico have been stimulated in recent years by the North American Free Trade Agreement (NAFTA). Mexican imports of corn were limited under terms of the NAFTA by a low quota and high overquota tariff, which is set to expire in 2007. The gradual liberalization of these restrictions should enhance U.S. corn exports.

Argentina is the world's second largest feed grain exporter and is an important competitor with the United States in world feed grain markets. Argentina has recently experienced record corn yields and production. Argentine corn prices are typically below U.S. prices, making Argentine corn competitive on world markets. De Brey (1997) notes that the significant growth in Argentina's corn sector has been accomplished through expansions in input use, especially fertilizer. Greater use of irrigation and adoption of higher yielding hybrid varieties have also increased corn production.

A Review of Negotiation Issues

The Uruguay Round represented an effort to initiate reforms of trade-distorting policies, although in many cases the extent to which policies have actually been reformed is limited. The limited success of the URAA agricultural reforms in removing barriers to trade and resolving subsequent trade disputes suggests several areas for reform that are likely to be important to the 2000 WTO Round of negotiations.

Market Access

The URAA required tariffs to be bound and then reduced over six years by 36 percent. In addition, minimum levels of market access were to be guaranteed and all nontariff barriers were to be converted to tariffs in order to make the effects of the policies more transparent. Tariffication and the administration of tariff rate quotas (TRQs) have been complicated and, in some cases, controversial (Skully 1999; Wainio 1999). As previously noted, tariffication and the implementation of TRQs were subject to a number of loopholes that permitted countries to sidestep or reduce liberalization of their policies.

Many countries are likely to press for a complete removal of the TRQs, which arose from the tariffication process imposed by the URAA. Further, some countries may argue for a "zero for zero" approach to negotiations, where all TRQs are eliminated in exchange for the total elimination of export subsidies. Green (1999) notes that the "zero for zero" approach was successfully used in the Uruguay Round to bring about complete elimination of tariffs on a variety of industrial goods. The United States is expected to argue for further reductions in tariffs on agricultural trade. China's accession into the WTO may raise a host of TRQ issues since China will enter with significant amounts of agricultural trade being subject to TRQs (Green 1999). As Green points out, China's participation in the negotiations may have a significant influence on the direction of measures to eliminate TRQs and tariffs.

Table 4.1 presents current tariff levels for WTO member countries that are important importers of U.S. feed grains. Base-period tariffs are presented along with the binding tariff levels mandated by the URAA and, where available, the tariffs actually being applied. It is important to note that actual (applied) tariffs may be significantly beneath the bound tariff levels. WTO countries are under no obligation to report actual applied tariffs. A few important points emerge from a consideration of

the tariffs. First, tariff levels for Japan are quite low on feed grains, though this is not the case for all Japanese agricultural imports. For the most part, corn and grain sorghum enjoy free access to Japanese markets. A more significant tariff is applied to barley imports. In contrast to Japan, tariff levels for Korea are very high. Tariffs for Mexico remain significant, although tariffs pertaining to U.S.-Mexican trade are being gradually liberalized under terms of the NAFTA. Note also the presence of "Special Safeguards," which are measures that allow countries to apply higher tariff rates in response to sudden import surges or drops in prices.

Table 4.2 contains applied tariff levels for China and Taiwan, two important feed grain importing countries currently seeking membership in the WTO. Applied tariffs are very high for China. This suggests that significant liberalization of import tariffs may be necessary in order for China to gain full WTO membership. In contrast, tariffs for Taiwan are much lower, although a wide range of import licensing restrictions govern feed grain imports into Taiwan.

Domestic Support

Reductions in domestic support following the URAA have been modest. Most countries currently have support levels that are far beneath the modest constraints imposed by the URAA (Nelson et al. 1998). This may suggest that a tightening of the constraints on domestic support may be easily obtainable in the 2000 Round negotiations. Nelson et al. (1998) also point out that as of 1995, a dozen countries, including Japan, and the EU still had support levels that were above 60 percent of their ceilings. Of course, changes in the mix of domestic support policies occur over time. Nowhere is this more obvious than in the United States, where the 1996 FAIR Act brought about significant changes in domestic agricultural policy. A general observation is that support from "green box" policies increased over the URAA coverage period. In the United States, support through such means increased by 54 percent between 1986–1988 and 1995 (Nelson et al. 1998). Thus, the 2000 Round negotiations may benefit from giving greater consideration to the manner in which support is extended to producers. Green box policies, though widely considered to create minimal trade distortions, are also likely to have some influence on international markets. The vague nature of defining "minimal trade distortions" may lead to debate over the extent to which such policies actually influence world markets.

Table 4.1. Tariff Levels for Important WTO Feed Grain Importers

Country	Commodity	Base Duty	WTO Bound Duty	Safeguard[a]	Actual Tariff[b]
Japan	Barley	46¥/kg.	39¥/kg.	SSG	46¥/kg.
Japan	Corn (seed)	0.0%	0.0%		0.0%
Japan	Corn (feed)	0.0%	0.0%		0.0%
Japan	Corn (popcorn)	0.0%	0.0%		0.0%
Japan	Corn (other)	15¥/kg.	greater of 50% or 12¥/kg.		greater of 50% or 12¥/kg.
Japan	Sorghum (seed)	0.0%	0.0%		0.0%
Japan	Sorghum (feed)	0.0%	0.0%		0.0%
Korea	Malting barley	570.0%	513.0%	SSG	30.0% IQ 547.2% OQ
Korea	Barley (other)	333–360%	299.7–361%	SSG	20% IQ 319.7% OQ
Korea	Corn (seed)	365.0%	328.0%	SSG	0% IQ 350.2% OQ

Table 4.1. Continued

Country	Commodity	Base Duty	WTO Bound Duty	Safeguard[a]	Actual Tariff[b]
Korea	Corn (feed)	365.0%	328.0%	SSG	2.6% IQ 350.2% OQ
Korea	Corn (popcorn)	700.0%	630.0%	SSG	2.6% IQ 672% OQ
Korea	Sorghum (seed)	866.0%	779.4%	SSG	3.0% IQ 831.4% OQ
Korea	Sorghum (other)	10.0%	9.0%		3.0%
Mexico	Barley (seed/other)	10%	9.0%	SSG	NA
Mexico	Corn	50.0%	37.0%	SSG	NA
Mexico	Sorghum	50.0%	45.0%	SSG	NA

a. SSG indicates presence of special safeguards.
b. IQ indicates in-quota tariff; OQ indicates out-of-quota tariff. NA indicates "not available."
Source: USDA-FAS WTO Tariff database and APEC Tariff database.

Table 4.2. Actual Tariffs for Important Non-WTO Feed Grain Importers

Country	Commodity	General Duty	MFN Duty[a]
China	Barley	160.0%	912.0%
China	Corn (seed)	180.0%	40.0%
China	Corn (other)	180.0%	114.0%
China	Sorghum	8.0%	3.0%
Taiwan	Barley	2.0%	
Taiwan	Corn (seed)	0.0%	
Taiwan	Corn (other)	2.5%	1.0%
Taiwan	Sorghum	2.5%	1.0%

a. MFN indicates Most Favored Nation tariff level.
Source: APEC Tariff Database.

Countries that are significant importers of U.S. feed grains have high levels of domestic support, although these countries generally do not have large domestic feed grain sectors. An exception exists for Japan, which has a highly protected barley sector. Japan had $69,607 million in total domestic support for agriculture in 1995, 52 percent of which was in the form of amber box policies, which are subject to trade policy reforms. Likewise, Korea had $8,257 million in domestic support for agriculture, of which 33 percent was comprised of amber policies (Nelson et al. 1998). In 1995, Japan's aggregate measure of support (AMS), the policy measurement used as a basis for evaluating the level of support, was over 60 percent of its commitment. In Korea, support levels were over 80 percent of the WTO commitment. Liberalization of policies that support domestic production could have important negative as well as positive implications for U.S. feed grain exports. In particular, although measures that support domestic production of feed grains certainly lower U.S. exports to a market, support of domestic livestock sectors stimulates demand for U.S. feed grains. To the extent that trade policy liberalization reduces the viability of domestic livestock production in these markets, U.S. feed grain demand may suffer. Support of livestock sectors in important feed grain importing markets has been strong. For ex-

ample, domestic producer subsidy equivalents (PSEs) leading into the Uruguay Round were approximately 50–60 percent for beef and pork, suggesting that government support accounted for over 50 percent of the value of the commodity to producers (Nelson et al. 1998).

Export Subsidies

As noted above, considerable debate over export subsidies characterized the Uruguay Round. Favorable market conditions largely obviated the need for export subsidies over the last several years. However, the potential to implement subsidies has existed in the post-URAA period, and such subsidies have remained policy relevant, at least as threats. Debate over export subsidies is again likely to be relevant to the 2000 Round negotiations. It is likely that the EU will oppose further reductions in export subsidies. The EU is a significant exporter of feed grains, and thus debate over export subsidies is relevant to feed grain trade. The United States has not used export enhancement program (EEP) subsidies for more than three years. However, in response to the perceived aggressive use of export subsidies for flour by the EU, the United States recently threatened to reinstate EEP subsidies on wheat flour exports.

In 1996, the EU subsidized 11.8 million tons of feed grain exports. This level of subsidy was 62 percent of the EU's URAA volume commitment (Leetmaa and Ackerman 1998). The 1996 export subsidy rate was only 25 percent of the 2000 bound rate. However, that period was one of relatively strong grain prices, and a period of lower world grain prices may result in increased use of subsidies by the EU—potentially in excess of the URAA commitments. The EU may also face increased pressure on its URAA commitments in light of the potential for EU expansion. Ten central and eastern European (CEE) countries have applied for membership in the EU. As Leetmaa and Ackerman (1998) note, expansion of the provisions of the EU's Common Agricultural Policy (CAP) to include the CEE countries would be costly and would put significant pressure on the EU's URAA commitments.

Several trade policy institutions that are not formally considered to be export subsidies are also relevant to trade policy negotiations. U.S. export credit guarantees have been characterized as implicit export subsidies by some competing exporters and thus may be relevant to trade negotiations. Likewise, as discussed below, the use of export state trading enterprises (STEs) is also often considered to be a mechanism for implicitly subsidizing exports through the actions of single desk sellers.

State Trading Enterprises

One of the more contentious areas of debate following the URAA involved STEs. STEs are government agencies, corporations, or marketing boards that are given authority to regulate and manage international trade. In most cases, as an official arm of the government, state traders are supported and underwritten by government (taxpayer) revenues, though they may compete against private commercial firms in international markets. Ackerman (1998) noted that, as early as 1947, the contracting parties of the GATT acknowledged that state trading enterprises could distort global trade. While recognizing their potential to distort trade, the GATT has generally viewed STEs as legitimate participants in international markets. In the "Understanding and Interpretation of Article XVII" portion of the URA, the WTO defined STEs as "governmental and nongovernmental enterprises, including marketing boards, which have been granted exclusive or special rights or privileges, including statutory or constitutional powers, in the exercise of which they influence through purchases or sales the level or direction of imports or exports" (quoted in Ackerman 1998). Some observers believe that a weakness inherent in multilateral negotiation efforts to liberalize trade has been a general neglect of regulations governing the actions of state traders. Specifically, STEs have often been characterized by a lack of transparency in pricing, funding, and operational practices. In addition, government underwriting may allow STEs to undertake operations not generally available to public commercial traders. In that STEs often have monopoly or monopsony rights, they may be able to exert discriminatory trade practices by favoring imports from certain sources.

Most of the acrimonious debate involving STEs to date has been centered on marketing boards in exporting countries (Ackerman, Dixit, and Simone 1997). Export marketing boards are not as relevant to feed grain exports, which are not generally undertaken through the marketing boards. However, STEs in importing countries are potentially important to feed grain imports, particularly in some of the countries seeking admission to the WTO that utilize STEs to manage their imports of agricultural products. Thus, it is anticipated that the role of STEs, especially on the importing side, is likely to be an important factor in the 2000 Round negotiations.

Perhaps the largest STE involved in food imports is China's National Cereals, Oil, and Foodstuffs Import and Export Corporation

(COFCO). COFCO is involved both in importing and exporting agricultural products. In light of China's efforts to join the WTO, its prevalent use of state trading is an issue of concern to current WTO members. Many of the central and eastern European countries currently involved in the transition to market-based economies also have state trading enterprises. In many cases, these are state-owned or joint-stock trading organizations that are remnants of government agencies that directed international trade operations under central planning. Although the role of such countries in international feed grain markets is modest at present, their STEs may become an issue as many of the countries with transition economies move to ascension into the WTO.

Monopoly importing STEs have the potential to implicitly tax imports by purchasing at a low international price and reselling domestically at a higher price. This behavior emulates an explicit tariff on imports. The STE is able to collect revenues by reselling the imported product at a premium price. Such actions are not currently considered within the context of import tariffs. The 2000 Round negotiations will likely be faced with issues involving such behavior, especially in light of the expected accession of China to the WTO.

Technical Barriers to Trade

Market access is also often limited by technical barriers that prescribe imports. Such technical barriers may include such things as industrial standards, labeling requirements, quality restrictions, and inspection requirements. The URAA included the Agreement on Sanitary and Phytosanitary (SPS) Measures, which granted countries the right to adopt measures necessary to ensure the protection of the health of humans, animals, and plants, as long as such measures were scientifically justified. The agreement was, however, somewhat unclear as to how countries should establish the appropriate level of sanitary and phytosanitary protection (Normile and Simone 1999). Recent debates over the justification of the EU ban on imports of meats treated with growth hormones and labeling requirements for genetically modified crops are examples of the sort of disagreements that may arise.

In light of the many current developments in biotechnology, SPS issues are likely to become even more relevant in the future. Genetic engineering of plants and animals has succeeded in enhancing the quality of products and improving their tolerance to insects, disease, and

chemical treatments. However, such progress has not occurred without considerable suspicion on the part of some consumer groups and environmentalists. These concerns are especially strong in the EU, where resistance to genetically modified organisms and hormone-treated products has been very strong. The United States currently leads the world in regulatory approval and acreage planted to genetically modified organisms (Normile and Simone 1999). Of U.S. acreage planted to major crops, 23 percent was planted to genetically modified crops in 1998 (Sparks Companies, Inc. 1998). Resistance to these products will be an important factor facing future exports of U.S. feed grains. It is clear that the United States will take a strong stand in support of genetically modified organisms (GMOs). In particular, the rapid adoption of GMOs for corn, cotton, and soybeans is likely to heighten interest in preventing regulations blocking these products from foreign markets.

Considerable controversy has recently erupted over EU actions to require labeling of products containing genetically modified ingredients. This controversy has had far-reaching implications, threatening markets for U.S. feed grains. For example, Archer Daniels Midland Co. and A. E. Stanley Manufacturing, important grain merchandisers, have announced that they will reject any GM corn that does not have import clearance in the EU. Japan is often believed to pay particularly close attention to EU actions with regard to food safety and labeling requirements. Discussions with an analyst with a large seed company specializing in GM corn revealed considerable concern that current EU labeling debates will spread to important Asian feed grain markets, including Japan. Although Japanese government interests have undertaken efforts to convince consumers of the safety of GMOs, significant safety concerns have been raised by the public. For example, about one in six Japanese consumers belong to food-buying cooperatives that avoid GM foods (Genetic ID, Inc. 1999c). In addition, a recent survey in Japan indicated that 92 percent of consumers favor mandatory labeling of GMOs (Genetic ID, Inc. 1999b). In August 1990 the Japanese government released a list of 30 products for which it plans to require mandatory labeling, going into effect in the spring of 2000 (Bridges 1999). Concerns regarding GM seeds have also been raised in Latin American markets. China, who is actively involved in the development of GMOs of their own, has announced a series of guidelines governing research on GMOs. Malaysia is also developing legislation that will govern regulation of

GMOs. Concerns have been raised there that Asia may become a "dumping ground" for GMOs (Genetic ID, Inc. 1999a). Finally, a recent survey of Korean politicians, teachers, and civic activists indicated that 90.5 percent of respondents said that GM products should be clearly labeled (Genetic ID, Inc. 1999a). Environmentally active groups such as Greenpeace have also taken strong stands in opposition to GMOs. A great deal of apprehension exists regarding GMOs in foreign markets, and this concern may negatively influence U.S. grain exports, due to government-imposed labeling requirements or other restrictions or lack of demand.

This labeling issue is likely to involve further debate with the EU. In particular, the EU has responded to consumer concerns about GMOs by mandating a labeling requirement for GMOs. The European Commission has also instituted a lengthy and exhaustive regulatory system for approval of GMOs (Kelch, Simone, and Madell 1998). The Foreign Agricultural Service of the U.S. Department of Agriculture estimated that the EU's prolonged approval of GM corn in 1998 resulted in a loss of $200 million for U.S. exporters (Kelch, Simone, and Madell 1998). Labeling of GMOs is not required in the United States as long as there is not a significant difference in the quality of the final product when a GMO is used. The United States has argued that the EU's labeling regulations do not have a scientific basis and thus are discriminatory in nature against U.S. corn.

Under the Uruguay Round SPS Agreement, standards have to be based upon commonly accepted scientific principles. Kelch, Simone, and Madell (1998) note that there currently are not commonly accepted international standards for GMOs. European consumer groups have argued that the long-term effects of such commodities are unknown, whereas the United States and exporting groups have argued that such a stand has no basis in fact. The establishment of common standards and the treatment of GMOs for which such standards do not exist will certainly be an issue for future negotiations.

In short, the advent of genetically engineered products has led to a new consideration in trade policy negotiations. Resistance to allowing access to internal markets for such products may serve to block several historically important export markets for U.S. products. Future trade negotiations should give careful consideration to the extent to which regulations inhibiting trade in such products are based upon scientifi-

cally based criteria rather than consumer preferences and the conventional wisdom of the hour. The 2000 WTO Round will certainly face a number of questions relating to technical barriers to trade that are based upon such regulations and SPS measures.

Outlook and Conclusions

An assessment of the prospects for U.S. feed grain exports was garnered from a review of the Foreign Agricultural Service's "Best Prospects" predictions. Table 4.3 contains projections for feed grains in the major markets for U.S. feed grains. Note especially the large projected increases for China's corn imports and large increases for Mexican corn and other feed grain imports. Clearly, these projections have a large margin of error and depend on a number of assumptions. The future of U.S. feed grain exports will depend upon the outcome of WTO negotiations and a multitude of other world market factors.

The reforms accomplished under the Uruguay Round have set the stage for renewed efforts to achieve liberalized trade. Feed grain exports and prices will certainly be influenced by policy reforms accomplished under the 2000 Round of the WTO negotiations. In this writer's opinion, aside from the usual issues concerning market access, reduced tariffs, and export subsidies, three major factors will be important to the future of feed grain exports and their role in the trade negotiations.

First, the accession of China into the WTO and its ensuing participation in trade talks may have important implications for feed grain markets. China's extensive use of importing marketing boards and its current use of many trade-distorting policies have caused negotiations for accession to be difficult and lengthy. Recent research by Wang (1997) has indicated that the accession of China and Taiwan into the WTO are projected to raise U.S. feed grain exports by 3.98 percent and U.S. feed grain farmer incomes by 1.14 percent.

A second factor of relevance to feed grains in the negotiations are policies restricting imports of genetically modified crops. Strong debate over import restrictions and labeling requirements, especially between the United States and the EU, has evolved over the last few years. No harmonized set of scientific standards for regulating GMOs currently exists—an issue negotiators will have to deal with. The extensive adoption of GM corn in the United States makes this a critical issue for U.S. negotiators.

Table 4.3. USDA-FAS Prospects for U.S. Feed Grain Exports

Country / Commodity	Current Value of All Imports ($ Million)	Projected Rate of Import Growth	Current Value of Imports from United States ($ Million)	U.S. Market Share
Japan / Feed Grains	3,215	1%	2,703	84.1%
Japan / Rice	326	4%	168	51.5%
China / Corn	296	20%	281	77%
Korea / Corn	7,842	2%	7,016	12%
Korea / Rice	106	14%	0	0%
Mexico / Corn	257	5%	256	100%
Mexico / (Other Grains)[a]	408	5%	396	95%
Taiwan / Corn	991	0%	968	97%

a. Grains other than corn and wheat.
Source: Unpublished (on-line) data from USDA-FAS (http://www.fas.usda.gov/cmp/prospects).

Finally, this author believes that previous GATT and WTO agreements have given only limited consideration to the role of STEs in international markets. The extensive use of such operations, especially by important feed grain importers such as China and Japan, is likely to be a factor influencing the trade negotiations and thus worth carefully observing as the negotiations progress.

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Chapter 5

Major Issues for the U.S. Sugar Industry

Won W. Koo

Annually, less than 30 percent of the world sugar production is traded internationally. A substantial share of this trade takes place under bilateral long-term agreements or preferential terms, such as the U.S. sugar quota or the European Union's Lome Convention (Borremans 1999). Only a small proportion of world sugar is traded freely. Most sugar-producing countries use various trade barriers to protect their own sugar industries and/or use export subsidy programs to increase or maintain their world market shares.

Under the Uruguay Round Agreement on Agriculture (URAA), most countries made commitments to reduce their subsidies for sugar (WTO 1998). However, the basic structure of protection for sugar remains unchanged in most countries. A new round of World Trade Organization (WTO) negotiations and negotiations for the Free Trade Area of Americas (FTAA) both start in November 1999. Liberalization of the world sugar industry through the successful conclusion of these two negotiations would affect the U.S. sugar industry.

The objective of this chapter is to analyze major issues the U.S. sugar industry is facing or will face in the near future and the impacts of these issues on the U.S. sugar industry. Special attention is given to regional competitiveness in sugar production in the United States.

Overview of the World Sugar Industry

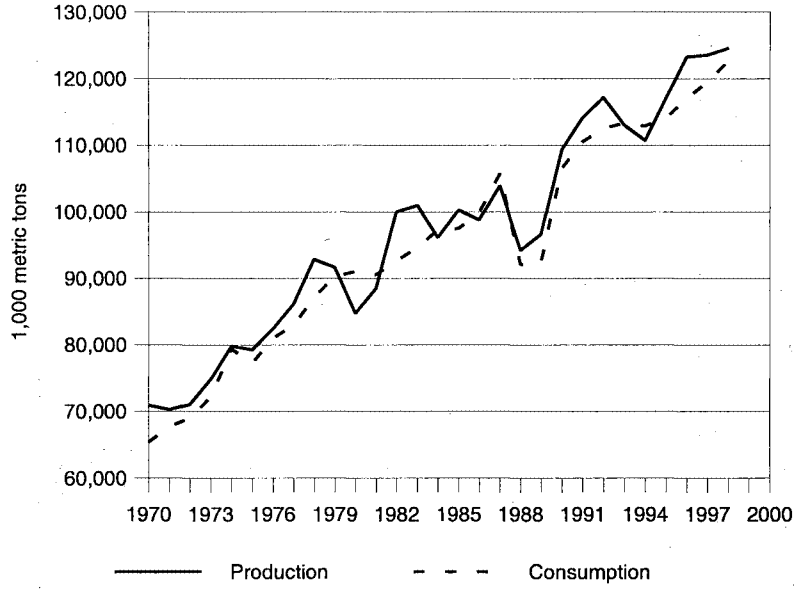
Sugar is produced in over 100 countries worldwide. For the 1994–1998 period, global sugar production was approximately 119 million tons annually with 30 percent of production exported from its country of origin (USDA-ERS 1996). The largest sugar-producing region is the EU, followed by India and Brazil (Table 5.1).

Table 5.1. World Sugar Supply and Utilization, 1995 to 1998 Average

Country	Crop[a]	Production	Consumption	Net Exports	Ending Stocks	Per Capita Consumption
		1,000 metric tons, raw value				pounds
Algeria	B	10	917	-902	96	69
Australia	C	5,252	884	4,293	221	106
Brazil	C	13,256	8,180	5,080	679	114
Canada	B	134	1,243	-1,114	160	91
China	B/C	7,177	8,209	-1,327	2,560	15
Cuba	C	3,970	646	3,300	304	130
Egypt	B/C	1,120	1,735	-665	320	63
European Union (I 2)	B	17,562	14,006	3,721	2,395	85
Former Soviet Union	B	5,708	9,755	-3,795	1,714	73
India	C	15,037	14,808	-242	6,012	34
Indonesia	C	2,226	2,955	-815	537	33
Japan	B/C	815	2,489	-1,662	135	44
Mexico	C	4,576	4,238	421	630	97
South Africa	C	1,958	1,399	552	366	73
South Korea	-	0	1,104	-1,113	134	53
Thailand	C	5,176	1,517	3,673	575	56
United States	B/C	6,897	8,690	-1,744	1,268	72
Rest of the World	B/C	28,950	34,452	-7,662	6,242	40
World Total		119,825	117,228	34,888	24,346	44

a. B = Sugar beet; C = Sugarcane.
Source: USDA, *PS&D View*, 1999.

Figure 5.1. World Sugar Production and Consumption, Raw Sugar Equivalent



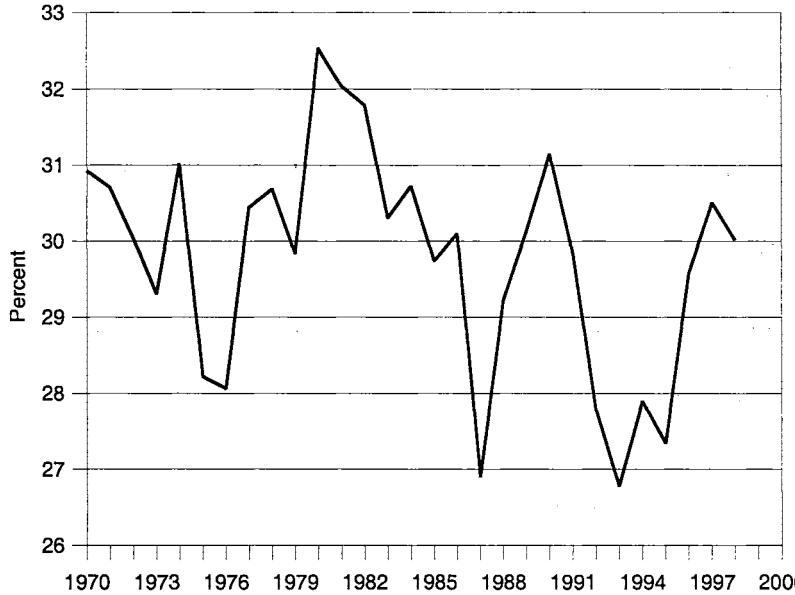
Source: USDA-ERS, *Sugar and Sweetener: Situation and Outlook*, various issues.

Per capita sugar consumption is highest in Cuba (58.89 kg), followed by Brazil and Australia. Per capita sugar consumption in the United States is 32.46 kg, which is above world average per capita consumption (20.03 kg). Per capita sugar consumption is lowest in China at 6.65 kg per capita, but that may increase substantially as per capita income increases. Global sugar consumption for the 1994–1998 period was an annual average of 117 million metric tons.

Figure 5.1 shows world sugar production and consumption for the 1970–1998 period. In most years, total sugar production has been larger than sugar consumption. This has led to a downward pressure on the world price of sugar.

The major sugar-exporting countries are the European Union, Brazil, Australia, Thailand, Cuba, and the Ukraine. These countries account for 73 percent of global exports from 1990 to 1995 (Table 5.1). Relatively few countries dominate world sugar exports, but imports are less concentrated. Major importing countries are the European Union, Rus-

Figure 5.2. World Sugar Exports to Production Ratio

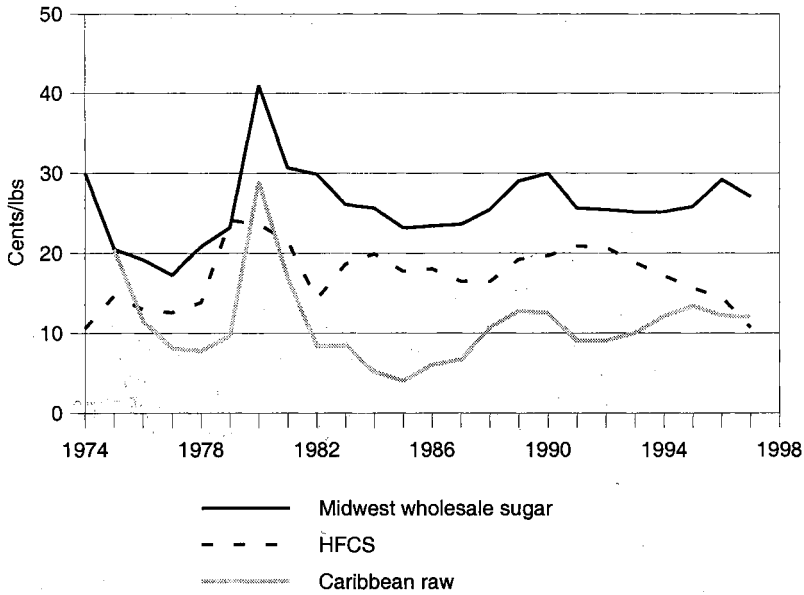


Source: USDA-ERS, *Sugar and Sweetener: Situation and Outlook*, various issues.

sia, China, the United States, Japan, Korea, and Canada. Their imports accounted for about 46 percent of all sugar imports from 1994 to 1998 period. Under the Lome Convention the EU is required to import sugar under preferential terms from certain African, Caribbean, and Pacific countries. Figure 5.2 shows export to production ratios. The ratios fluctuate widely with a gradual downward trend, indicating that a smaller portion of production was traded in the global market.

The Caribbean raw sugar price is usually considered to be the world market price for sugar. The U.S. import price is the price paid by U.S. refineries for imported raw sugar, which includes import duties. Except for years with high world market prices, there is a substantial wedge between the U.S. import price of raw sugar and the world market price (USDA-ERS, various issues). Over the last decade U.S. Midwest prices fluctuated between $0.25 per pound and $0.29 per pound. World market prices represented by Caribbean raw ranged between $0.09 per pound and $0.13 per pound (Figure 5.3). Also, real Caribbean raw sugar prices and U.S. raw sugar import prices have long-term decreasing trends.

Figure 5.3. U.S. Sugar and HFCS Price

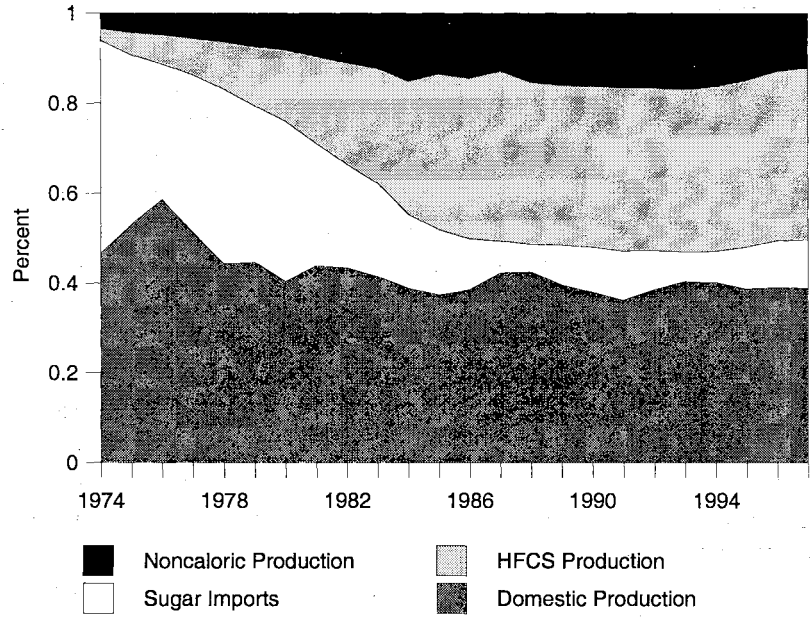


Source: USDA-ERS, *Sugar and Sweetener: Situation and Outlook,* various issues.

The volatility of world sugar prices could be due to the nature of supply response to price changes stemming from high fixed costs of sugar production. An increase in sugar production in response to rising sugar prices requires significant investments in processing facilities, and it takes some time until new production capacity becomes available. Once the facilities are in place, they tend to be used at full capacity to spread the fixed costs. Thus, when prices fall, production remains at full capacity. Sugar production is relatively unresponsive to price in the short run.

The United States produces both beet and cane sugar. Cane sugar is produced mainly in Florida, Louisiana, Texas, and Hawaii. Beet sugar is produced largely in the Great Lakes region, Upper Midwest, Great Plains, and far western states. U.S. total sugar production (Figure 5.4) increased about 34 percent from 6.1 million tons in 1985/86 to 8.2 million tons in 1998/99 (USDA-ERS, various issues). Beet sugar production increased faster than cane sugar production. U.S. consumption of sugar also increased slightly from 8.9 million tons in 1991/92 to 9.8 million tons in

Figure 5.4. Market Shares for Sweeteners in the United States



Source: USDA-ERS, *Sugar and Sweetener: Situation and Outlook*, various issues.

1997/98. The balance was imported from more than forty countries. As high fructose corn syrup (HFCS) production has increased, sugar imports have declined. Production of HFCS has been stabilized since 1995.

The U.S. Sugar Program and Policies

The U.S. sugar program was established by the Food and Agricultural Act of 1981. Several modifications have been made by the Food Security Act of 1985, the Food, Agriculture, Conservation, and Trade Act of 1990, and the Federal Agriculture Improvement and Reform (FAIR) Act of 1996.

The core policy tools in the program are the loan program and import restrictions (Lord 1996). The main purpose of the loan program is to maintain a minimum market price to U.S. producers. Processors use sugar as collateral for loans from the U.S. Department of Agriculture (USDA). The program permits processors to store the sugar rather than sell it for lower than desired prices. Loans can be taken up to nine months.

Processors pay growers for delivered beets and cane, typically about 60 percent of the loan. The final payments are made, and the loan is repaid after the sugar has been sold.

Under the FAIR Act, the sugar loan rate is set at 18 cents per pound for raw cane sugar and 22.9 cents per pound for refined beet sugar. Loans under the FAIR Act become recourse loans if the tariff rate quota (TRQ) is at 1.5 million tons or below, regardless of the price. When the TRQ is set above 1.5 million tons, the loans are nonrecourse. Under the nonrecourse loan, a processor forfeits collateral (sugar) to the Commodity Credit Corporation (CCC) if market prices fall below the loan rates. The processor must pay a penalty of about one cent per pound of sugar, effectively reducing the price support by the same.

Under the FAIR Act, the secretary of agriculture can reduce the U.S. sugar loan rates if major sugar-producing and exporting countries reduce their export and domestic subsidies for sugar more than already agreed upon in the URAA. The new U.S. rates must be at least as high as the level of support in other countries.

Processors who obtain a nonrecourse loan must pay farmers an amount for their sugarbeets and sugarcane that is proportional to the loan value of sugar. The USDA is authorized to establish minimum sugarbeet and sugarcane prices that processors must pay to growers. This is the same as the previous legislation.

The marketing assessment fee was raised by 25 percent in the FAIR Act. Beginning with fiscal year 1997, sellers of domestic sugar must pay an assessment of about one-quarter cent per pound.

The FAIR Act did not change the Harmonized Tariff Schedule of the United States established under the URA on agriculture. This implies that sugar imports are subject to two-tier tariff schedules under TRQ.

The 1985 Food Security Act included a provision mandating the president to use all available authorities to operate the sugar program established under Section 206 of the Agriculture Act of 1949 at no cost to the federal government. However, Section 206 of the 1949 act was repealed by Section 701 of the 1996 FAIR Act, implying that the no-cost provision is no longer effective in the current sugar program.

The URAA made minor adjustments for sugar trade. U.S. import quotas on sugar were converted into TRQs, implying that a specified amount of sugar can be imported at the lower of two alternative duty rates. The amount of raw cane sugar subject to the lower duty rate must

be no less than 1,117,195 metric tons in a fiscal year (Lord 1996). The minimum low-duty import of refined sugar is 22,000 metric tons. The minimum low-duty imports for raw and refined sugar add up to 1.256 million short tons raw value of sugar per year. The high duty (about 17.62 cents per pound) is imposed on the amount of sugar imported over the import quota. The first-tier duty ranges from zero to 0.625 cents per pound.

The second tier-duty for raw cane sugar will be reduced from 17.62 cents per pound in 1995 to 15.82 cents per pound in 2000 under the URAA. Duty for refined sugar will be reduced from 18.6 cents per pound in 1995 to 16.21 cents per pound in 2000. The quota will remain the same level for the 1995–2000 period.

The sugar quota has been allocated among more than forty quota-holding countries, allowing imports of specific quantities of sugar at first-tier duty rates. The quota allocation is based on historical exports to the United States for the 1975–1985 period.

The North American Free Trade Agreement (NAFTA) allows a rapid reduction in the second-tier duty for Mexican sugar over the next several years. The second-tier duty for Mexican sugar will be reduced from 16.11 cents per pound in 1995 to zero in 2008. Duties for most countries will remain at 15.36 cents for raw cane sugar and 16.21 cents for refined sugar (Henneberry and Haley 1998). This implies that Mexico is in a unique position to increase its exports of sugar to the United States above the allocated quota. Mexico produced 5.1 million metric tons of sugar in 1998 and consumed 4.24 million tons in the same year. Its exports were 0.87 million metric tons in 1998. If Mexico starts to use HFCS for beverages, more of its sugar could be exported to the United States.

Foreign Sugar Policies and Practices

Sugar policies and practices used by major sugar-producing and consuming countries are presented in Table 5.2. The basic tools of the EU's sugar policies are (1) import restrictions with limited free access for certain suppliers; (2) internal support prices that ensure returns to producers for fixed quantities of production and permit the maintenance of refining capacity; and (3) export subsidies for a quantity of domestically produced sugar (Borremans 1999).

EU member states allocate an "A" quota and a "B" quota to each sugar-producing operation, each isoglucose-producing operation, and

Table 5.2. Foreign Policies and Practices Affecting Sugar Trade

Countries	Practice/Policy
EU, South Africa, Mexico	Internal support, export subsidies
Australia, Brazil, China, India	State trading enterprises (STEs)
Developing Countries	High tariffs, lower labor costs and standards, weak environmental standards
Non-WTO Members	Independence from WTO rules on market access, internal support, and export subsidies

Source: U.S. GAO, *Sugar Program: Changing the Method for Setting Import Quotas Could Reduce Cost to Users*, GAO/RCED-99-209, 1999.

each inulin syrup-producing operation established in their territory. Current quota levels have been placed since the accession of Austria, Sweden, and Finland to the EU and are currently legislated at these levels until 2000/01.

The total EU sugar production quotas for A and B sugar are 11.98 million and 2.61 million, respectively. Any sugar that is produced by any member of the EU that is in excess of its yearly quota is considered "C-sugar." A and B sugar production is used for domestic consumption and for subsidized exports. C-sugar must be exported into the world market without subsidy or carried over into the next marketing year. In general, EU's target price for white sugar is about ECU 30 cents per pound, and its intervention price is ECU 28.72. The export subsidy was ECU 20.0 cents per pound for the 1995 to 1998 period. The EU's internal support is about 30 percent higher than that in the United States.

Since marketing year 1995, EU subsidized exports of sugar to third world countries have been limited, in volume and value, under the Uruguay Round commitments of the EU (Table 5.3). However, the EU did not make an export subsidy commitment on its subsidized exports of a quantity of sugar equal to its preferential imports under the Lome Convention (Borremans 1999; Steel 1999). Thus, the cost and volume of those export subsidies, averaging 1.6 million metric tons in the period 1986–1990, are not included in the table.

South Africa has both internal price supports and export subsidies. South Africa is reducing its quantity of subsidized exports by 200,000 tons to 702,208 tons by the year 2000 under the URAA (Steel 1999).

Table 5.3. EU Export Subsidy Limits, 1995/96–2000/01

Year	Volume (1,000 tons)	Budget (million ECU)	Budget/Ton (ECU)
1995/96	1,566.6	733.1	21.3
1996/97	1,499.2	686.3	20.4
1997/98	1,442.7	639.5	20.1
1998/99	1,386.3	592.7	19.4
1999/00	1,329.9	545.9	18.6
2000/01	1,273.5	499.1	17.8

Source: European Communities, *Schedule CXL: Part IV Agricultural Products,* 1995.

Mexico also has subsidized exports and is subsidizing raw sugar storage (Steel 1999).

Australia's sugar exports are handled by the Queensland Sugar Corporation (QSC), a statutory authority established under the Sugar Industry Act, 1991 (Boston Consulting Group 1996). The QSC is responsible for the domestic marketing and export of 100 percent of the raw sugar produced in the state of Queensland, which produces 95 percent of the sugar produced in Australia. The QSC supports domestic producers through buyer-seller arrangements, marketing quotas, dual pricing arrangements, and other quasi-government mechanisms that isolate domestic producers from foreign competition. State trading enterprises (STEs) were not included in the URA. Other countries, including Brazil, China, and India, handle their sugar trade through STEs similar to the QSC.

Major Issues

Issues related to the U.S. sugar industry for the 2000 Round of WTO agricultural trade negotiations include further reduction in internal supports and export subsidies, state trading enterprises, and agricultural biotechnology. These issues are not unique to the U.S. sugar industry but are fairly common for most agricultural commodities produced in the United States. Issues more directly related to the U.S. sugar industry are expected changes in U.S. sugar programs and policies, mainly loan rates and TRQs.

Internal Support and Export Subsidies

Although WTO members have made commitments to reduce internal supports and export subsidies, levels of these subsidies differ among countries. For instance, the EU's internal supports (producer support prices) for sugarbeet growers are about 30 percent higher than those in the United States (Table 5.4). Although the EU will reduce its subsidies on the basis of the committed schedule, the EU's export subsidies will remain at about 18 cents per pound in 2000/01 and subsidized exports will remain at 1.3 million tons. These subsidies have stimulated sugar production in the region and lowered sugar prices in the world market.

State Trading

Many countries, including Australia, Brazil, and China, use STEs for sugar trade. As an example, the QSC in Australia handles 100 percent of sugar exports by that country (Boston Consulting Group 1996). It practices price discrimination and receives various subsidies from the government.

State trading will likely be an important issue in the 2000 Round of WTO negotiations, primarily because STEs have the capacity to distort trade flows (Ingco and Ng 1998). Although the agenda of the 2000 Round of WTO negotiations is uncertain with respect to STEs, it is clear that restrictions on STE operations will be needed to promote fair trade. To not distort trade, STEs must be (1) transparent in terms of their operation and marketing practices; (2) subsidy-neutral, that is, should not circumvent domestic and export subsidies; and (3) restricted in their ability to exercise market power through price discrimination.

Biotechnology

Agricultural biotechnology has significant potential for consumers and producers. Genetically modified organisms (GMOs) are a leading edge of this technology; examples of GMOs include sugarbeets, corn, and soybeans that are insect resistant and herbicide tolerant. Biotechnology can also increase sugar content in beets. However, GMO beets have not yet been produced in the United States mainly because of expected import restrictions on beet pulp produced from GMO sugarbeets in major foreign markets, including the EU and Japan. In 1998, the U.S. sugarbeet industry exported 555 thousand tons of beet pulp at $124 per ton, mainly to the EU and Japan (USDA-ERS 1998). Differences in

Table 5.4. U.S.-EU Sugar Policy Comparison

Item	United States	European Union
Trade Status	Net importer	World's largest exporter
Producer Support Price (refined sugar)	22.90¢/lb	30-31¢/lb[a]
Future Support Price	Effective 6% reduction, 1996–2002	Frozen through 2001
Retail Price[b] (refined sugar)	41¢/lb	61¢/lb
Producer Tax on All Sugar Marketed	$41 million/yr[c]	No
Export Subsidies	No	Yes
Production or Marketing Controls on Sugar	No	Yes
Production or Import Controls on Corn Sweeteners	No	Yes
Storage Payments to Producers	No	Yes
National Aids to Producers[d]	No	Yes
Refiner Subsidies	No	Yes
Subsidy for Nonfood Uses of Sugar	No	Yes

a. Weighted average of "A," "B," and "C" quotas; dollar value rises with exchange rates.
b. LMC International, *World Retail Sugar Price Survey*, June 1997.
c. Projected revenues of $288 million during 1996/97–2002/03 for federal deficit reduction.
d. Italy and Spain pay their producers additional subsidies.
Source: Landell Mills Commodities, *U.S. and EU Sugar Policy Comparison*, 1997.

GMO regulations across countries pose potential barriers to exports. Clearly there is a need for harmonization of existing regulations among countries or negotiation of an international standard (Normile and Simone 1999).

U.S. Sugar Programs and Policies

The 2000 Round of WTO agricultural trade negotiations may require TRQs to be converted to a tariff system. If the United States con-

verts TRQs to tariffs and reduces the tariffs gradually, U.S. imports of sugar will also gradually increase. As a result, the U.S. domestic sugar price may fall and also may become more volatile. Even if the United States is able to maintain its TRQ on sugar, the United States might have to raise its quota over the given time period and lower its second-tier duty, implying that more sugar would be imported into the United States. In addition, the United States would import more sugar from Mexico under NAFTA. The increased sugar imports may result in lower sugar prices in the United States. If the United States maintains the nonrecourse loan program, producers' minimum prices would be the loan rate set by the U.S. government. The difference between the market price and loan rate would be the per-unit government cost under the program.

Regional Competitiveness under Free Trade Scenario

A major concern is what is going to happen in the U.S. sugar industry if the U.S. government eliminates the sugar program, mainly loan rates and TRQs, while other countries maintain their subsidies. There is strong opposition to the U.S. sugar program from food processors and consumers, and the elimination of the sugar program has been debated publicly for the last decade. To address this question, Benirschka, Koo, and Lou (1996) developed a world sugar simulation model to analyze the impacts of policy alternatives on the world sugar industry.

Under a free trade scenario employed in the world simulation model, U.S. imports of sugar would increase substantially. The U.S. domestic sugar price would decline by about 15 percent, from 23.3 cents per pound to 19.7 cents per pound. The world sugar price would increase by about 61 percent, from 9.2 cents per pound to 14.8 cents per pound. The gap between the U.S. domestic and world prices is equal to the sum of FOB prices at exporting countries, transport cost from exporting countries to the United States, plus handling charges in U.S. ports and destinations.

Haley (1998) used a simulation model to examine the impacts of U.S. sugar program elimination on the U.S. sugar industry. He found that refined sugar prices would fall by 17 percent and wholesale sugar prices would fall by 13 percent under a free trade scenario. Raw sugar price would fall about 23 percent. This study also indicates that sugar production would be expected to decrease the most in Louisiana and Hawaii and the least in the Great Plains and the Red River Valley.

Both studies indicate that reductions in beet sugar production would be smaller than those in cane sugar production. Beet sugar production in the United States would be expected to be more competitive than cane sugar production under the free trade scenario.

Figure 5.5 shows production and processing costs of refined sugar in major U.S. sugar-producing regions. Production and processing costs are the highest in Hawaii, followed by Texas (McElroy and Ali 1995). Cane sugar-producing regions have higher production and processing costs than most beet sugar-producing regions, except in Florida. Production and processing costs in Florida are similar to those in beet sugar-producing regions. The Red River Valley has the lowest production and processing costs in the United States followed by the Northwest. These two regions appear to have a competitive advantage in producing sugar in the United States.

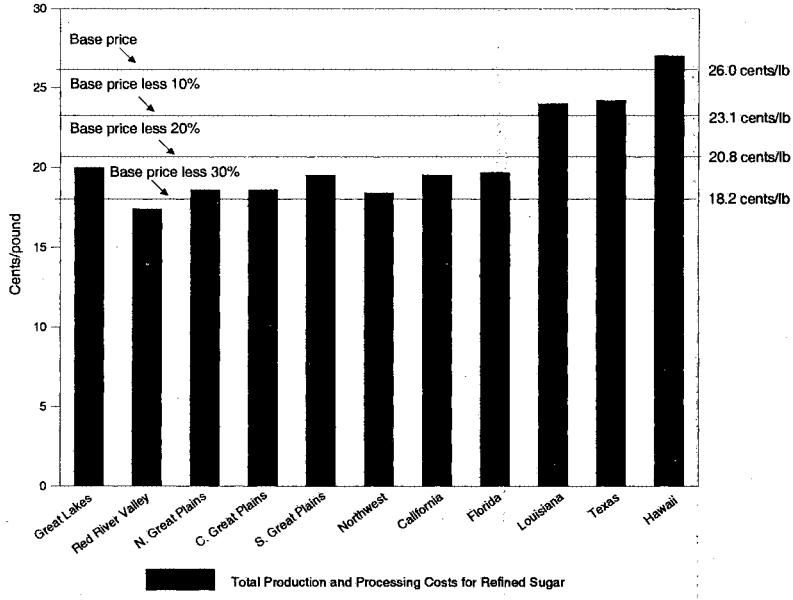
At a market price of 26 cents per pound, all areas except Hawaii are covering production and processing costs. When the price is lowered 10 percent, Louisiana, Texas, and Hawaii are not covering their costs, indicating that these three regions may not be able to fully cover costs at a market price of 23 cents. The situation is the same when the price is lowered 20 percent. When the price is lowered 23 percent or to a price of 20 cents per pound under the free trade scenario, only a few regions, including the Red River Valley and the Northwest, are covering their production and processing costs at current asset values.

These studies indicate that not all segments of the U.S. sugar industry may be able to survive at current costs and asset values if U.S. sugar programs are eliminated, while sugar subsidies remain in other countries. If the WTO eliminates sugar subsidies, restricts the activities of STEs, and regulates biotechnological and environmental standards, world sugar production would likely be reduced substantially. Reduced production would be expected to raise the world price of sugar above 15.8 cents per pound.

Concluding Remarks

The U.S. sugar industry has been protected by the U.S. sugar program in the 1996 FAIR Act and by the TRQ under the URAA. As a result, the domestic sugar price is about 23 cents, whereas the world sugar price is 9 cents per pound. Of concern is what the U.S. sugar industry will face with the expected changes in the U.S. sugar programs in the 2000 Round of WTO negotiations on agriculture.

Figure 5.5. Break-even Point for North American Sugar-Producing Regions



Source: USDA-ERS, *Sugar and Sweetener: Situation and Outlook*, various issues.

The United States may not be able to maintain the TRQs on sugar. The new WTO negotiations may require member countries to convert TRQs to a tariff system and to reduce the tariff rates over the given period. Even if the United States is able to maintain its TRQ on sugar, the United States will likely be expected to raise its quota on sugar and lower its second-tier duties over the given period. In addition, Mexico has the potential to export sugar to the United States under NAFTA. The United States will likely import much more sugar, and consequently, the U.S. domestic sugar price will likely fall substantially. If the domestic sugar price is lower than loan rates, U.S. producers would get a price equal to the loan rate under the current sugar program. The difference between the market price and the loan rate will be the government subsidy per unit of sugar. Producers would receive the market price, which could be lower than loan rates, if the United States eliminates the sugar program.

The U.S. sugarbeet industry is more competitive than the sugarcane industry. Florida is the most competitive sugarcane-producing region.

The Red River Valley is most competitive in producing beet sugar. Only a few regions, including the Red River Valley and the Northwest, will remain competitive, at current costs and asset values, if the domestic price decreases to 19.7 cents per pound as a result of the elimination of the U.S. sugar program, while other countries maintain their subsidy programs.

Aside from addressing further reductions in subsidies, the 2000 Round of WTO negotiations will likely deal with issues involving the restriction of activities of STEs and the standardization of regulations on biotechnology. Progress on these issues would lead to further liberalization of world sugar trade and would have significant impacts on the U.S. sugar industry in the near future.

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Chapter 6

Growing Opportunities: U.S. Interests in Agricultural Trade Agreements

Daniel A. Sumner

Ever since Adam Smith wrote *The Wealth of Nations*, more than two hundred years ago, economists have had one clear and straightforward answer to questions about international trade. Open markets are good for producers in exporting nations, good for consumers in importing nations, good for each economy individually, and good for the world economy overall. In virtually every practical case, expanding access and removing barriers to imports contributes to the economic well-being of the importing country. Economists typically support unilateral liberalization, and certainly economists have supported the general thrust to open markets that has been a part of multilateral international trade agreements over the past five decades. Here I will spend little time on the goal of more open markets (see Smith 1776; Johnson 1950; Johnson 1991; Vousden 1900; and Sumner 1995). Instead I will direct my remarks to how the international community might use the World Trade Organization (WTO) and the 2000 Round of trade negotiations to move toward that goal. Josling (1997) presents another view that is not inconsistent with the thrust of the arguments here.

Oddly, the same trade agreements that successfully opened markets in the past label promises to provide additional access as "concessions." There is almost no thoughtful, practical economic reason for a nation as a whole to favor exports over imports. Access to imports is a strong and proven stimulus of economic success. Yet, it is almost universally true across all industries that those nations that tend to export a class of goods push for more open markets for those goods, whereas importing nations tend to resist liberalization. In politics, of course, industries that compete with potential imports tend to frame the discussion of trade policy

and trade negotiation. Trade policy discussions tend to be organized around industries that produce similar outputs and not around consumers or industries that use inputs that might be imported. This may lead politicians to be overly concerned about imports.

Even before Adam Smith wrote the *Wealth of Nations*, people knew that a focus on exports to the exclusion of imports was nonsense. Importing and exporting on an unrestricted basis almost always enhances national wealth and well-being. This is backed up by several centuries of evidence and by some pretty straightforward common sense. I do not have the space needed to build the argument and evidence, but the basic proposition that trade is good for agriculture, and for the economy generally, underlies the arguments presented, and so it is important to state this principle up front.

In fact, the United States is a natural agricultural exporter of most major commodities, so some have assumed that since we are exporters, agricultural trade is positive for the nation. Since the United States has comparative advantages in many agricultural commodities, the special interests of agriculture and the general interests of our whole economy overlap. But open markets would be good for the United States even if we were a net importer of food. This chapter discusses what international trade negotiating positions are in the interest of U.S. agriculture and the U.S. economy more generally. For the most part these are the same.

The domestic market in the United States is by far the largest market in the world. It may seem less obvious to the casual observer just how important import access and open markets have been for the general economy and, as a consequence, for agriculture. When we consider what features of trade agreements are good for agriculture as an industry, we must not neglect the importance of economic health in general, both in the United States and in other, especially importing, countries.

This chapter is developed against a background that includes the state of agricultural markets and policies, both within and outside the United States. Let me state my broad assumptions in those areas: (1) agricultural productivity will continue to improve in the United States and in other countries; (2) demand for farm goods will rise slowly with population and income growth, and the composition of consumption will continue to evolve toward higher quality; (3) market prices will continue to be variable against a long-term downward trend in real terms for most farm commodities. I do not predict prices for commodities for any spe-

cific years and have little confidence in the specific predictions of others; (4) government policies for agriculture in the United States will continue on the path of recent years. This suggests less mandatory idling of land, fewer planting restrictions, and generally less production subsidy. Recent changes in the United States were included in 1996 farm legislation (USDA-ERS 1996; Young and Westcott 1996). Reforms may include less income transferred to agriculture. Further, we may have some periods of reversion during which farm programs that directly regulate markets and prices reemerge. But I expect those periods to be relatively short-lived; and (5) most of the world is on the same broad policy path as the United States. Some countries, including Australia, New Zealand, Argentina, and a few others, are further along this path. Others, such as Japan, Korea, and most of Europe, are lagging. Nonetheless, the general direction of policy reform is quite clear.

The URAA as a Starting Point

The Uruguay Round Agreement on Agriculture (URAA) began a gradual reduction of export subsidies and an increase in market access for agriculture. (For more details on the GATT and the URA see Josling, Tangermann, and Warley 1996; Josling et al. 1994; Sharma, Konandreas, and Greenfield 1996; Tangermann et al. 1997; and Sumner and Tangermann, forthcoming.) Although the rate at which markets open may seem slow, if this progress were simply to continue, the world would have (almost) free trade in agriculture by September 1, 2010. Agricultural tariffs, including the newly created ones, and outlays for export subsidies are being reduced by an average of 6 percent per year, starting in 1995. At this pace, with no delay, no change in the base period, and no change in the rate of reduction, agricultural tariffs and export subsidies in developed member countries will be zero after sixteen years and eight months from January 1995. For poor countries, the elimination of tariffs happens much later. This is one feature of the URAA that needs reconsideration and is discussed below. Thus, what may seem like a relatively modest pace of liberalization has the potential to transform world agricultural trade if member nations can simply stay on the course. Given this backdrop, the new 2000 Round of negotiations could do much worse than simply extending the URAA for another decade. In fact, it is probably optimistic to think that the 2000 Round could do any better than continuation.

The greatest risk in the new round is that protectionist forces will delay further liberalization. The worst possible negotiating strategy for the United States and for those looking for open markets would be to complicate the negotiations by raising new issues and additional demands. The most important policy position of the United States and its allies is a commitment to continue the pace of URAA reforms during the process of negotiation. Such a commitment would eliminate the strategy of delay as a tool for protection.

Naturally and unavoidably there are many specific concerns about this agreement and about how it has been implemented in particular instances. Further, in some cases some WTO members may not have lived up to the letter or spirit of the agreement in the implementation process. There are real and legitimate concerns, but it is my assessment that they do not reflect fundamental flaws in the Uruguay Round Agreement on Agriculture. Thus the path from here is to build on what has already been accomplished and to supplement those agreements where the opportunity arises.

Market Access

Tariff reductions have long been central to trade agreements (Smith 1776; Josling, Tagermann, and Warley 1996). This should also be true in the next round of multilateral negotiations on agriculture. The URAA (almost) eliminated nontariff barriers. The 2000 Round can continue the process and reduce tariff duties as quickly as possible. Such reductions would apply to within-quota and to overquota tariff rates. Many agricultural tariffs are now zero or very low, but the average rate of agricultural tariffs remains well above that of industrial tariffs. Further, many of the newly created tariffs that replaced nontariff barriers are quite high.

All tariffs must be reduced, but there are reasonable arguments for reducing the highest tariffs most. Tariff dispersion creates distortions relative to uniform tariffs. However, one measure of a tariff is how much trade it blocks. For example, the U.S. tariff on beef is currently a bit below 30 percent while the new tariff for Japanese rice is about 450 percent. But, given their current domestic policies and production costs, a tariff of 250 percent would allow a significant import of rice into Japan, whereas very little beef would enter the United States (or Canada) over a tariff of 25 percent. The reason is that the domestic price of rice in Japan is about four times the potential import price of rice, whereas the

price of beef in the North American market is only slightly if any higher than the international price of potential imports.

The case for lowering high tariffs first is not that high tariffs necessarily restrict trade most, but rather that they reflect the situations where production costs are most out of line and where gains from trade may be greatest. Of course, the most protected industries tend to be those industries with the most to lose and enough political clout to maintain their protection.

It would be easy to skip over issues of tariff cuts in favor of more complex issues that have dominated the news recently, but that would be a mistake. In agriculture, there are numerous important product categories for which tariffs are important sources of trade distortion. If tariff protection were eliminated, many other problems in agricultural trade would be either significantly reduced or exposed to more internal or international pressure.

Tariff rates are not the only topic. When tariffs start from prohibitively high rates, tariff cuts may not increase trade flows much in the short run. Certainly, many of the initial set of tariff cuts implemented over the past five years have had little impact for some particularly important commodities. Dairy stands out in this regard. Unless tariffs are cut dramatically and immediately, new access over the next few years would require expanded quantitative access. In a continuation of the two-pronged approach used in the URAA, minimum access could be expanded rapidly so that economically meaningful trade quantities are available in all markets.

The quota-quantity feature of tariff rate quotas is a temporary measure that is important only while out-of-quota tariffs remain high. Nonetheless, the administration of quotas is important for access during this period. The concern is that governments may manipulate access to favor certain trading partners or to limit competition with domestic products. The appropriate principle is that access for limited quantities should be allocated across suppliers in a way that mimics commercial market outcomes. The problem is that the "commercial" outcome may remain unobserved, and therefore governments take wide latitude in setting quota rules. The challenge is to place the burden of proof on importers by requiring governments to document how their quota allocation procedures do not violate this market test.

The issue of quantitative access is linked directly to the use of state trading enterprises (STEs) for managing agricultural trade. The WTO

does not outlaw STEs. STEs remain important in many socialist and formerly socialist countries (Abbott and Young, forthcoming; Young 1999). However, import (and to a lesser degree export) STEs do pose a direct challenge to implementing and enforcing trade agreements. STEs are usually government-related organizations that operate, in part, as commercial firms (Dixit and Josling 1997; USDA-ERS 1998). The central problem is separating the government policy measures from the commercial activities. The problem is made more severe when the importing activities of the STE are not transparent. This makes it difficult to demonstrate that import (or export) decisions are not influenced by government policy in ways that violate WTO rules. This problem will diminish when tariffs fall to very low levels, but so long as an arm of government manages trade, it will be difficult to assure trading partners that protectionist considerations do not affect the transactions.

Export Measures

The URAA provided for a gradual reduction in the use of explicit export subsidies over the implementation period. A huge literature has evolved around targeted export subsidy programs, and for the most part these are seen as reducing welfare in subsidizing countries (Ackerman, Smith, and Suarez [1995] describe U.S. export subsidy programs, while Alston, Carter, and Smith [1993] and Alston et al. [1995] provide some evaluations.) Remaining agricultural programs are exceptions to the rule that export subsidies are generally forbidden under the GATT/WTO. Beginning in 1986, the United States argued for elimination of export subsidies but had to settle for gradual reduction in both the volume subsidized and the value of subsidy. For the most part, the United States has made relatively little use of export subsidy provisions that were allowed under the URAA. Export subsidies can seem appealing to combat export subsidies of other nations, but the evidence is clear that they generally do little to improve the bottom line for farmers growing products exported with subsidy. This is why the USDA has not used its authority under the Federal Agriculture Improvement and Reform Act of 1996 (FAIR Act) and under the WTO agreement to subsidize wheat exports even in the face of low domestic prices.

Canada eliminated its export subsidies for wheat following the URAA. There are now only a few countries that practice export subsidies, and even in these countries most commodities have no export sub-

sidy allowed under the URAA. Elimination of remaining export subsidy measures would reduce one factor that continues to destabilize world markets and frustrate competitors that have already reduced reliance on government subsidy programs in general. Elimination of export subsidies would also increase the chances that access improvements could be obtained, because one reason countries list for keeping out imports is that world markets are distorted by subsidies.

For the 2000 WTO negotiations it again seems obvious that the best course is a rapid elimination of export subsidies. The path of elimination started in 1995 is relatively slow and will leave subsidies in place for more than a decade. Elimination by 2006 (six years from the year 2000 end of the URAA phase-out period) seems an achievable and reasonable goal, given that immediate elimination is likely to be resisted by the European Union (EU).

Internal Support

The Uruguay Round Agreement on Agriculture devotes more space to internal support than to border measures. Despite the attention given to internal supports, the URAA did not impose serious commitments on any of the largest agricultural traders. This was not accidental, nor is it something that can or should be easily changed in the 2000 Round of WTO negotiations. The problem is fundamental. Domestic subsidy programs occur with such variety and have such complex effects (many of which have very little to do with trade) that it is impossible in practice, if not in theory, to create effective, enforceable policy commitments on internal supports in the context of a multilateral agreement. There are just too many individual policies to discipline each trader, and the idea of using an index of trade effects of policies has proved chimerical. For example, there is no policy index that measures trade impact exclusive of changing market conditions that are beyond the control of the country making a commitment. Further, aggregation of policies into an index, such as the aggregate measure of support, tends to ignore their differential trade impacts and may encourage more trade-distorting policies in preference to less-distorting policies. For example, some U.S. crop insurance subsidy or disaster payments can be classified into a "green" category when they have encouraged planting on marginal land and thus increased U.S. production and exports. Alternatively, the deficiency payment program, which probably reduced production and export of grains

because of the link between deficiency payments and acreage reduction, was not considered green and faced some, though loose, restrictions.

One might argue that the problem with the internal support provisions was a failure of the negotiators of the URAA and that problems associated with internal support can be repaired with a better set of rules for dispute settlement or nullification and impairment. We may have the opportunity to find out, but I am inclined to argue that the problem is fundamental. Therefore, it is counterproductive to devote negotiator time and other resources to devising schemes to regulate internal subsidy policy.

Internal subsidy reforms have occurred in the United States, but URAA commitments were irrelevant to this process. Budget pressure, pressure to reduce regulatory burdens, and desires to increase productivity were the driving forces behind reduction in trade-distorting domestic subsidies for U.S. program crops.

In some cases, reform of domestic price policy may be influenced by multilateral negotiations, but usually it is pressure from lowered import barriers, not commitments on internal support, that is effective. For example, in the EU, high domestic prices for grains are possible only because trade barriers limit imports and export subsidies are used for any output in excess of that taken in high-priced domestic markets. If the import barriers and export subsidies were severely limited or eliminated, high domestic market prices simply would not be feasible except at prohibitively high budget costs.

International negotiations and agreements on internal support are not irrelevant; they are positively harmful to progress in agricultural liberalization. One reason is that they interfere with the operation of other GATT principles and provisions. In general, WTO members may not use policies, such as internal subsidies, to reduce the effectiveness of lowered import barriers or other trade policy commitments. But by including text on internal supports in the multilateral agreement, the effectiveness of an appeal to this "nullification and impairment" provision is weakened. Countries can argue that they are complying explicitly with the written agreement when they introduce subsidies that impair border measure concessions. In a sense, previously suspect policies now have a kind of WTO acceptance that they did not have before the URAA.

Further, including internal support in the negotiating process reduces the amount of progress made on the policies that block imports or subsidize exports directly. Therefore, I argue for a focus on border measures

in future multilateral trade negotiations (see also Tangermann et al. 1997, chapter 2; Sumner and Hallstrom 1997).

Sanitary and Phytosanitary Regulations and Technical Trade Barriers

The Sanitary and Phytosanitary (SPS) provisions of the URAA have been used to expand access while allowing countries to protect against scientifically plausible risks. Every nation and region has vital and legitimate interests in protection against human, animal, and plant health risks. There is no question that the WTO should help countries to protect themselves. One advantage of developing international standards is to provide some international security to the imports and related SPS regulations that a country may adopt. That said, we all know that phony trade barriers can easily hide behind legitimate concerns.

A number of complex issues remain to be adjudicated in this area, but the basic thrust is that countries can use human health, animal health, or plant health concerns to restrict trade only if they have reasonable scientific backing. In particular, trade in goods can be restricted only if the goods themselves pose a legitimate threat. There seems little reason to reopen these issues in new negotiations.

A number of issues have arisen recently related to new products, such as crop seeds that have been developed using new scientific procedures or tools. So far, the claim that some consumers do not like the process used to develop a product is not an accepted reason to block trade. It is important for agricultural productivity that these issues become settled as soon as possible.

Every WTO member has occasionally been tempted to use technical rules or import protocols as indirect barriers to protect domestic interests from foreign competition. It is also natural for this tendency to expand as nontariff barriers are converted to tariffs and tariffs are reduced with implementation of the Uruguay Round Agreement on Agriculture. The SPS agreement was designed to place limits on this abuse of legitimate reasons to regulate market access. Although they are not a part of the agricultural agreement itself, these provisions are clearly important to agriculture.

The SPS agreement seems clearly to be one area where there is full congruence between the interests of U.S. agriculture and the interests of the United States more generally. In this concern, the SPS agreement is

a remarkable achievement of common sense and practical economics. The essence of the agreement is that individual nations can set their own human, animal, and plant health standards and have full liberty to engage in trade measures to assure protection of those standards. However, the only trade measures that can be used are ones that actually contribute to the demonstrable protection of health. Thus, if trade measures are challenged, WTO members are required to back up their claims with analysis and evidence that shows a clear linkage from the trade measure to the protection of human, animal, or plant health. This can be accomplished by using internationally accepted standards or, where member rules are different than those generally accepted in the international bodies, members are required to provide acceptable scientific evidence.

The application and implementation of the SPS agreement have been as complex as the concepts are simple. The essence of the agreement is to apply science in a commonsense way, allowing countries to set their own rules, so long as they have some plausible claim to be other than purely protectionist and do not impose one member's internal nontrade standards on another member. One of the key principles is that importation of a product can be restricted only if it somehow harms the health or safety of the human, animal, or plant population in the member state. Broad preferences over how production is carried out by the exporting member is not a legitimate justification for limiting trade. Generally, this means that trade measures can be undertaken based only on characteristics of the product being traded, not on characteristics of the production process.

Without these rules it would be easy for any nation to block access for imports from any other nation by claiming such imports were, for one reason or another, unpopular. If no evidence were required to back up technical trade barriers or if no product differences were required, national sovereignty would be directly challenged by trade barriers based on preference by citizens of one country over internal regulations in another country.

For the past several years, WTO observers have been watching the combination of commonsense SPS rules and dispute settlements that allows resolution of disagreements based on evidentiary procedures. During this period, a number of technical trade barriers have been removed voluntarily before they were challenged, others have been modi-

fied during consultation, and still others have been modified under the direction of WTO panels. However, the headline dispute over importation of beef from the United States and Canada into the EU has not yet been resolved. EU import restrictions on agricultural goods with some connection to biotechnological processes, including genetically modified organisms (GMOs) have not yet become a formal WTO case, but the prospects of this dispute are looming in Geneva.

The SPS agreement itself has weathered the pressure of WTO disputes quite well. Naturally the agreement does not provide specific guidance on exactly what evidence is sufficient to justify technical trade barriers, but the basic points of the SPS agreement remain well understood. Member states that have attempted to base import barriers on vague claims with little or no evidence have been frustrated. Also it is clear that popular opinion and political pressure have not been acceptable substitutes for empirical evidence about human, animal, or plant health consequences. Those who would like to weaken the WTO and allow members more latitude for blocking market access have been frustrated by the agreement.

The SPS agreement is under considerable pressure in the EU and by antitrade lobbies in several countries. Given this state of affairs, it seems that the appropriate course for the United States in the 2000 Round of WTO negotiations is simply to leave the SPS agreement off the table and to let "case law" proceed to set appropriate specifications for further implementation.

Less-Developed Country Issues

In previous negotiations less-developed countries have been allowed to delay implementation or use a slower phase-in of tariff reductions. Such an approach generally penalizes less-developed countries. Consequently, many developing countries have adopted rapid liberalization unilaterally. The next round of trade negotiations should engage less-developed nations fully and offer more rapid access to developed country markets, not delayed liberalization. In addition, technical assistance and other aid can help the bargaining effectiveness of less-developed countries and make the negotiations more balanced. There is no reason to enter the new 2000 Round of WTO negotiations by perpetuating the myth that agricultural trade barriers or export subsidies or taxes promote food security or economic development.

Improving the World Food System and Improving the Chance for Reform

Food security is one of the most commonly stated rationales used to support import protection in agriculture. The argument for this linkage is weak. Theory and fact suggest that food security is enhanced, not reduced, by open markets. Comparing North Korea to Singapore or Hong Kong dramatically demonstrates the tragedy of blocking import access in agriculture. Nonetheless, countries from South Korea to Switzerland have pursued trade barriers under the guise of food security. One claim is that international markets are "unstable" or "unreliable." These claims do not pass empirical muster in general, but there is a real concern.

In times of high prices or other problems, traders may impose export taxes or export embargoes. This issue was not addressed in the Uruguay Round Agreement on Agriculture. Export restrictions are relatively rare in agriculture, but that does not satisfy the concerns of food importers. Importers have a strong and legitimate case that the WTO should explicitly and clearly ban the use of export taxes and embargoes in agriculture. Such a provision would help make world food markets more secure.

Concluding Remarks

The 2000 Round of trade negotiations in agriculture can build on the solid foundation established in 1994. For those favoring more open markets and more liberal trade, the most important goal for the 2000 Round of WTO negotiations is to keep the process moving, keep tariffs coming down as rapidly as possible, expand quantitative access, and apply vigilance to block schemes that circumvent the rules.

The strategy of those who want to keep markets closed will be to delay and minimize. Indeed, one problem with the Uruguay Round Agreement on Agriculture is the lack of a strong continuation clause. This means those who delay may be rewarded with a suspension of annual tariff cuts and access expansion while the negotiations proceed. Solutions to this concern include early agreement that market access provisions be retroactive or that the URAA rates of tariff reduction and access expansion continue during the negotiation process.

Finally, with all the contentious issues in international trade, it is easy to be caught up in the complexities. That would be a mistake. Focus on the border and on the rapid elimination of tariffs and export subsidies.

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Chapter 7

The European Union: Agriculture under the CAP in the 2000 WTO Negotiations

Vincent H. Smith

The European Union's Common Agricultural Policy (CAP), despite some substantive reforms in the 1990s, continues to be characterized by relatively high guaranteed domestic prices that are supported by large tariffs and the use of export subsidies to dispose of surplus production. The CAP programs are targets for reform under the World Trade Organization (WTO) for agricultural exporting countries such as the United States, Australia, and Canada, who seek improved access to the European Union's domestic market and reduced competition in third markets from subsidized European Union (EU) agricultural exports. At the same time, the EU is eager to seek adjustments in other countries' policies that would improve world markets for its agricultural exports, as higher world market prices reduce budgetary costs and political burdens associated with the export subsidy components of the CAP (European Commission 1999). Thus, for several reasons, the EU will be a major participant in the 2000 WTO Round agricultural trade negotiations. However, at the outset it should be recognized that the EU implemented some substantial changes to the CAP in the spring of 1999, and given recent sharp declines in EU farm incomes, EU policy makers are unlikely to be willing to make major concessions on trade and other agricultural policy issues, at least in the near term.

The EU plays a key role in international trade with respect to wheat, barley, sugar, and beef and veal, commodities that provide substantial proportions of farm and ranch incomes in Montana and the Northern Great Plains. Table 7.1 shows total EU production, internal use, exports, and the EU's share of world exports for these commodities. The EU is a major exporter of all these commodities. Exports by the EU to non-EU countries were over 18 percent of EU domestic wheat production, over

Table 7.1. EU Production, Exports, and World Trade in Selected Commodities for the Production Year 1996/1997

	Production	Use	Exports	EU Exports as Share of World Exports
	thousands of metric tons			
Ordinary Wheat	91,300	75,825	16,457	18.0%
Durum Wheat	8,416	7,400	1,446	
Barley	52,405	41,913	12,910	27.01%
Beef and Veal	7,934	7,113	971	20.5%
Sugar	14,396	12,726	3,325	26.1%

Source: Directorate General VI, European Commission. *Agricultural Statistics.* (http://europa.eu.int/comm/dg06) September 1, 1999.

20 percent of domestic barley production, more than 12 percent of domestic beef and veal production, and 20 percent of domestic sugar output in 1997. For each of these commodities, EU exports also represented a substantial proportion of world trade, ranging from 18 percent for wheat to over 27 percent for barley in 1997. Agricultural producers and agribusinesses in the Northern Great Plains clearly have a major interest in domestic and trade agricultural policy developments that affect production and marketing decisions for these commodities within the EU.

This chapter examines key issues associated with the EU under the 2000 WTO negotiations, with special emphasis on small grains (in particular, wheat and barley) and cattle. The chapter begins with a brief review of the origins and key elements of the CAP and then examines current patterns of agricultural production, consumption, and trade within the EU and the relative importance of different subsectors (cereals, beef cattle, dairy products, etc.) in terms of EU budgetary outlays. The major reform initiatives of the 1990s—the 1992 MacSharry Reforms and the much more recent 1999 reforms related to the EU Commission's Agenda 2000 proposals (Directorate General VI, European Commission 1997)—are then examined in some detail in the context of the 1994 GATT agreement. The chapter concludes with an assessment of the potential for further reforms of the EU CAP in the 2000 WTO negotiations.

The Origins of the CAP

Agriculture and the CAP have served both as cornerstones of European economic union and a flashpoint for controversy within the EU since its inception as the European Economic Community (EEC). During the fifteen years following World War II, agricultural policy in many European countries was conditioned by substantial food shortages and near famine conditions in the 1940s. In the 1950s, the six original European governments (Belgium, France, Germany, Holland, Italy, and Luxembourg), at least in part because of national food security concerns, were willing to pursue agricultural policies that encouraged domestic production by guaranteeing substantial returns to farmers. These guarantees were frequently implemented through minimum price support programs in which domestic producer prices were set well above world market levels and domestic producers were protected from foreign competitors through extensive tariff barriers and export subsidies.

These general principles were incorporated in the initial Common Agricultural Policy, which was introduced in 1962 and fully implemented in 1969. As long as the EU remained a net importer of most commodities, policies based on these principles were relatively inexpensive. Export subsidy outlays were modest, and import tariffs generated revenue flows. For some individual commodity subgroups, such as dairy products and wine, for which the EU as a whole was a net exporter, the CAP proved expensive. When the EU became a persistent net exporter of cereals in the late 1970s and early 1980s, the CAP became even more expensive. It is also worth noting that the CAP was always subject to severe criticisms from the perspective of economic efficiency because of the costly distortions it introduced between world markets and EU internal markets for both imported and exported agricultural commodities (Buckwell 1982; H.G. Johnson 1958; D.G. Johnson 1991).

Between 1969 and 1999, the CAP has been subject to regular annual reviews and periodic extensive evaluations. Pressures for reform have usually been much greater during periods of budgetary crisis, and some EU members have been more concerned with budgetary issues than others (Swann 1990). Since the late 1970s, for example, successive United Kingdom (UK) governments have typically argued for substantial reductions in the farm subsidies built into the CAP. In large part, this has been because the UK has generally been a net importer of food, paying higher EU prices rather than lower world prices for their imports

and funding subsidies that benefited producers in other EU countries out of tax revenues. The UK's concerns have been received more favorably when CAP budgetary costs have been large, as in 1980, 1984, and 1991. However, despite frequent modifications, the CAP has been subject to major revisions only twice. The first was in 1992 when, partly because of budgetary pressures and partly because of the Uruguay Round GATT negotiation process, the EU Council of Ministers implemented the reform package proposed by the EU Commission, now known as the MacSharry Reforms (named after Ray MacSharry, then the EU Commissioner for Agriculture).

Under the 1992 CAP reform package, the major changes involved cereals. The guaranteed minimum price for cereals (wheat, barley, oats, rye) was to be reduced by 36 percent over a three-year adjustment period (1993–1996), and mandatory planted area set-asides were introduced for cereals, protein, and oilseed crops. After the 1995 drought year, however, these set-asides were set at very low (often zero) levels. Farm income losses were offset by compensatory payments based on historical production areas and historical yields that conformed to the amber, blue, and green box provisions of the 1994 GATT for internal supports. The second major reform took place in March 1999. At the Berlin meeting of the Council of Ministers, cereals intervention prices were further reduced, and adjustments were made to beef and several other programs. These adjustments are discussed below in more detail.

There is speculation that expansion of the EU over the next decade will provide incentives for further reform of the CAP, including significant reductions in EU agricultural subsidies. Currently, the EU consists of fifteen member countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom. Thirteen countries, with applications at different stages, are also seeking EU membership. They include Turkey, Malta, Cyprus, and ten central European countries: the Czech Republic, Estonia, Hungary, Poland, Slovenia, Bulgaria, Latvia, Lithuania, Romania, and the Slovak Republic. Several of these countries, including Poland and Hungary, are major producers of agricultural commodities. Extending the current CAP provisions to farmers in these countries would involve substantial budgetary costs for the EU.

EU Agricultural Production, CAP Expenditures, and Trade

Output

In 1997, as shown in Table 7.2, the total value of agricultural sector output produced by the fifteen member countries of the EU was ECU 217,538 million (equaling $239,281 million at the December 1997 average exchange rate between the U.S. dollar and the ECU of U.S.$ 1.11 per ECU). This compares with a U.S. aggregate agricultural output of $216,160 million in 1997 (as measured by USDA estimates of cash receipts from farming). Table 7.2 also presents the shares of the value of total agricultural output in 1997 for broad commodity aggregates. Livestock products (including beef, veal, pigs, sheep, poultry, and dairy products) accounted for the largest share (49.7 percent); major crops (including wheat, barley, oilseeds, vine products, fresh fruits, and fresh vegetables) had the next largest share (36.7 percent); and other crops (including rice, hops, tobacco, and other products such as wool) accounted for 13.6 percent. Among individual commodities of particular interest to the Northern Great Plains region, wheat accounted for 5 percent, barley for 1.9 percent, beef and veal for 9.8 percent, sugar beet for 2.6 percent, oilseeds for 1.4 percent, and maize (corn) for 1.9 percent of the total value of EU agricultural production. However, commodities such as dairy products, pigs, fresh vegetables, poultry and eggs, and wine and other vine products all provided larger shares of total EU farm incomes than individual cereals and oilseeds crops; dairy products and pigs also provided more revenues than beef and veal.

CAP Expenditures and Trade

A somewhat different picture emerges when agricultural commodities are evaluated in terms of direct EU agricultural support payments. This picture is of particular importance in relation to policy reform. As noted above, major changes in the CAP have most often been considered during periods of budgetary crisis and, almost inevitably, have focused on big EU budget items.

Figure 7.1 presents data (measured in nominal or current prices) on total EU Commission expenditures on all EU programs (including agriculture) and total EU Commission expenditures on agriculture through the European Agricultural Guidance and Guarantee Fund, which ac-

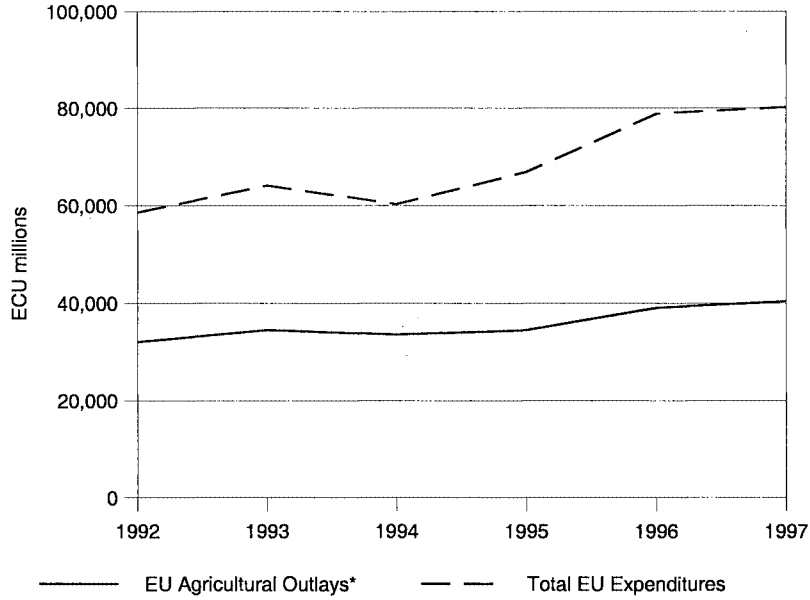
Table 7.2. Values and Shares of 1997 EU Agricultural Output, by Commodity

Commodities	Value of Output (ECU millions)	Commodity Shares Value of Total Output (percent)
Major Crops	79,836	36.7
Wheat	10,877	5.0
Barley	4,133	1.9
Other Cereals	1,088	0.5
Maize (corn)	4,133	1.9
Sugar Beet	5,656	2.6
Oilseeds	3,046	1.4
Olive Oil	4,786	2.2
Fresh Fruits	8,919	4.1
Fresh Vegetables	19,578	9.0
Wine and Other Vine Products	13,053	6.0
Potatoes	4,133	1.9
Livestock	108,116	49.7
Dairy Products	38,287	17.6
Beef and Veal	21,319	9.8
Pigmeat	26,540	12.2
Sheepmeat	4,568	2.1
Poultry and Eggs	11,965	8.0
Other Products	29,585	13.6
TOTAL OUTPUT	217,538	100.0

Source: Directorate General VI, European Commission. *Agricultural Statistics.* (http://europa.eu.int/comm/dg06), September 1, 1999.

counts for most EU Commission expenditures related to agriculture. The total EU budget is only for programs managed for all the countries in the EU by the EU Commission. Individual countries have substantial government expenditures of their own for the normal range of federal, state, and local government programs, including defense, health, income security, scientific research, police, education, and other programs.

Figure 7.1. Total EU Expenditures and European Agricultural Guidance and Guarantee Fund, 1992–1997



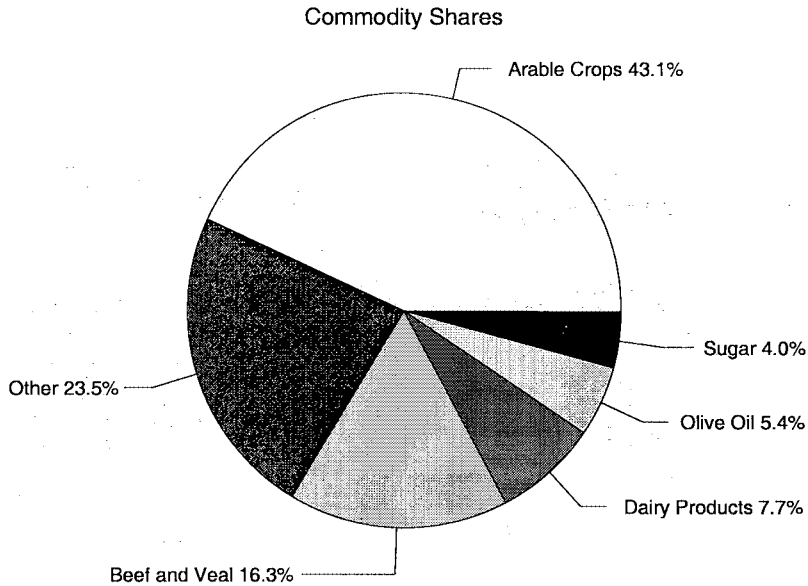
*These are the EAGGF outlays that account for most agricultural expenditures.

Source: Directorate General XIX, European Commission. "Financing the European Union: Commission Report on the Funding System." Brussels, 1998.

During the period 1992 to 1997, when inflation was generally quite modest, in nominal terms the EU's total budget for all programs increased by 37 percent (see Figure 7.1). Over the same period, expenditures on agriculture grew a little more slowly (by 26 percent), and the share of agricultural expenditures in the total EU budget correspondingly declined but, in 1997, still accounted for around 50 percent of EU expenditures. In the 1990s (as in previous decades), agricultural programs were clearly the most important item in the EU Commission's program budget and are likely to remain so for at least the next five to ten years.

Figure 7.2 provides a breakdown of EU agricultural expenditures by major commodities for 1997. In 1997, arable crops received ECU 17,414 million in total payments, more direct government payments than were received by the entire U.S. agricultural sector in the same year, accounting for 43.1 percent of total EU agricultural outlays. Figure 7.3

Figure 7.2. European Union EAGGF Expenditures in 1997, by Major Commodity Groups

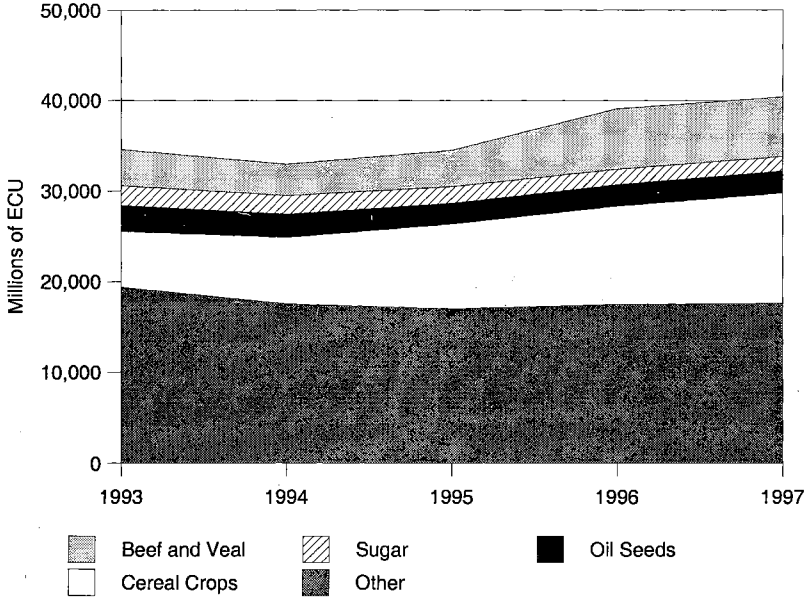


Source: Directorate General XIX, European Commission. "Financing the European Union: Commission Report on the Funding System." Brussels, 1998.

shows that 29.5 percent of these payments were made to cereals producers and 5.9 percent to oilseed producers. Thus the shares of total EU support payments received by cereals and oilseed producers were much greater than their shares of total agricultural production (5 percent for wheat and 1.9 percent for oilseeds). Similarly, in 1997 EU sugar producers, with a value share of total output of 2.6 percent, received 4 percent of total EU direct subsidies. EU beef and veal producers, with a value of output share of 9.8 percent, also did relatively well, receiving 16.3 percent of total EU direct agricultural subsidies.

Figure 7.3 also shows total EU direct payments to cereals (wheat, barley, oats, and rye), oilseeds, sugar, and beef and veal between 1993 and 1997. Over this five-year period, direct subsidy payments to cereals producers almost doubled, and the share of total EAGGF payments received by cereals producers increased from 17.7 percent to 29.5 percent, largely because of increases in direct compensatory payments. In con-

Figure 7.3. EU Expenditures on Cereals, Oilseeds, Sugar, Beef and Veal, 1993–1997



Source: Directorate General XIX, European Commission. "Financing the European Union: Commission Report on the Funding System." Brussels, 1998.

trast, direct payments to oilseed producers and sugar producers declined quite substantially, largely because of changes to the CAP oilseeds and sugar programs introduced in 1991 and 1992. Direct payments for beef and veal increased by about 45 percent. In part, this was because of bovine spongiform encephalopathy (BSE) related problems in the UK that resulted in the widespread slaughter of cattle.

Total direct subsidy payments to individual commodities in the EU are generally more closely related to a product's trade status than to its relative importance in total output. In 1997, total world exports of all agricultural products amounted to $421 billion of which EU exports accounted for $62.3 billion or 14.8 percent. The EU also imported $80.8 billion of agricultural products and, unlike the United States, had a net agricultural trade deficit of $18.5 billion. Although, in the aggregate, the EU is typically a net importer of agricultural commodities, Table 7.3 shows that with respect to many important individual commodities in-

Table 7.3. The Value of EU Exports, Imports, and Net Trade Balance by Selected Major Commodity Groups, 1996 and 1997 (millions of ECU)

	1996			1997		
	Exports	Imports	Net Trade Balance[a]	Exports	Imports	Net Trade Balance[a]
Cereals	5448	1851	+3597	5283	1956	+3867
Oilseeds	200	4980	-4780	225	5093	-4868
Meat Products	4603	731	+3872	4931	803	+4128
Sugar and Honey	2184	1797	+387	2460	1632	+828
Animal Feed	1468	5331	-3863	1789	5068	-3279
Dairy Products	4603	731	+3872	4931	803	+4128

a. A negative sign indicates that the EU is a net importer of the commodity, and a positive sign indicates that the EU is a net exporter of the commodity.

Source: Directorate General VI, European Commission. *Agricultural Statistics*. (http://europa.eu.int/comm/dg06), September 1, 1999.

cluding cereals (wheat, barley, rye, and oats), sugar, meat products, and dairy products, the EU is a net exporter. These are commodities that also receive relatively large shares of total EU subsidy payments. The EU is a net importer of oilseeds (including soybeans) and animal feed for which direct government payments are relatively large but have been declining in the 1990s.

Recent Changes in the CAP

Policy initiatives for agriculture are proposed by the European Commission but are not implemented until approved by the European Union Council of Ministers. The Council of Ministers consists of the political leadership of each member country. Within the EU Council of Ministers, individual countries can exercise vetoes of major proposals for policy change. The European Commission serves as the civil service bureaucracy for the Council of Ministers. However, all major policy decisions are made by the Council of Ministers, which has frequently rejected the European Commission proposals.

Since 1960, the EU, through the CAP, has generally provided producers with farm gate prices for many commodities (cereals, dairy products, wine, livestock products, sugar, etc.) well above world market prices through a system of support or intervention prices and/or quotas on production. EU intervention prices are minimum guaranteed prices at which the government will purchase many agricultural commodities (including cereals and oilseeds). The resulting high domestic prices have been protected by import tariffs and export subsidies.

The 1992 CAP Reforms

In 1992, in response to EU and national budgetary pressures and concerns about obligations to reduce trade barriers and export subsidies under the Uruguay Round GATT, the EU implemented the MacSharry reforms. The central feature of these reforms was a series of changes in EU cereals policy. Intervention prices for all cereals (wheat, barley, oats, and rye) were reduced by 36 percent over a three-year transition period (1993 to 1995). Farmers were compensated for subsequent decreases in market revenues by large compensation payments based on historical production levels. Regional restrictions on areas planted to cereals (similar but not identical to the base areas that constrained U.S. producer planting decisions prior to the 1996 FAIR Act) were also introduced

together with a mandatory 15 percent set-aside program for land planted to cereals, protein, and oilseed crops. However, planted area constraints applied only to the total area to be planted to all of these crops, not to individual commodities such as wheat or barley.

The reforms were intended to reduce EU cereals production and to increase domestic cereals use, especially for animal feed. The volume of subsidized cereals exports was to be reduced by discouraging domestic production and encouraging domestic consumption through lower market prices. The value of export subsidies was also to be decreased by lowering both average subsidies per unit of exports and the quantity of exports. Achieving these reductions became crucial in the context of the Uruguay Round of GATT negotiations (Josling, Tangerman, and Worley 1996). In November 1992, under the Blair House Accord, a bilateral agreement between the EU and the United States, the EU agreed to export subsidy provisions to be included in the 1994 GATT. Under these provisions, member countries would reduce volumes of subsidized exports by 22 percent and expenditures on export subsidies by 36 percent for each subsidized commodity. In some respects, the reforms were initially successful. Land area planted to cereals did initially decline (largely because of the set-aside provisions), animal feed consumption did increase, and outlays on export subsidies moderated as a result of the reductions in intervention prices (Rayner et al. 1999).

Recent Policy Developments

Since the 1994 GATT, however, EU wheat production has expanded for two reasons. First, yields per acre have grown at a rate of about 3 percent per year. Second, planted areas have increased, partly because wheat yield improvements made wheat a relatively more attractive crop than barley and other cereals and partly because, in response to a poor crop in 1995 and high world prices in 1995 and 1996, the EU reduced mandatory area set-asides for the 1997 and 1998 crop years. Domestic use increased, mainly because lower prices encouraged increased use of wheat as animal feed. However, total domestic consumption did not expand as rapidly as domestic production. In 1997 the European Commission expressed serious concerns about the EU's ability to continue to meet its wheat export subsidy reduction commitments under the 1994 GATT.

Responding to concerns about the GATT and the cost of current CAP provisions under proposal to expand the EU to include major agri-

cultural-commodity-producing countries such as Hungary, Poland, the Czech Republic, Slovenia, Estonia, and Cyprus, the European Commission developed extensive proposals for CAP policy reform. These were published in the *Agenda 2000* white paper in May 1997 (Directorate General VI, European Commission 1997) and included recommendations for substantial cuts in price supports and other policy adjustments with respect to cereals, beef, dairy, and other commodity programs. The proposals were controversial and by January 1999 had been rejected by political leaders in all the larger member countries (including France, Germany, and the United Kingdom) mainly because net farm incomes in EU member countries fell sharply between 1996 and 1998 (for example, by 48 percent in the United Kingdom).

This did not mean that the European Commission's proposals for CAP reform had no implications for future policy developments. Proposals very similar to those eventually adopted in the 1992 MacSharry reform package were floated by the European Commission in 1991 and received a very lukewarm initial response from the Council of Ministers. However, they were adopted within eighteen months because of budgetary concerns and pressures resulting from the Uruguay Round of GATT trade negotiations. Similarly, in late March of 1999, despite having rejected the *Agenda 2000* proposals two months earlier, at the annual meeting of the EU Council of Ministers in Berlin, the Council of Ministers did in fact introduce important changes to the CAP with respect to cereals, beef, and oilseeds, but not with respect to sugar.

The Agenda 2000 Proposals and the 1999 Council of Ministers Reforms for Cereals, Beef, and Oilseeds

The *Agenda 2000* white paper recommended specific CAP policy adjustment proposals for cereals and beef—commodities that are of major importance for Montana farm incomes. The following changes, which were generally less severe than those proposed by the European Commission, were implemented by the Council of Ministers in March 1999 (European Union Council of Ministers 1999).

Cereals

In European Currency Units (ECU), the 1999 intervention prices for wheat and barley are both 119.9 ECU per metric ton (mt). At an exchange rate of $1.11 to one ECU, the current wheat intervention price is $3.78 per bushel of wheat. *Agenda 2000* recommended that cereals

intervention prices be cut by 20 percent and that, to offset losses in market revenues, compensation payments should be increased by 22 percent. Through the actions of the Council of Ministers, the cereals intervention price will be reduced from its 1999 level by 15 percent in two equal annual steps to 101.3 ECU per mt ($3.13 per bushel) in 2001, and compensation payments will be increased to 63 ECU per hectare. In contrast to the zero set-aside recommendation in *Agenda 2000,* a compulsory area set-aside rate of 10 percent will be imposed over the period 2000 to 2006. These policy changes will increase the likelihood, but will not guarantee, that the EU will meet its current GATT obligations.

The future behavior of world prices is important in this regard. The EU generally produces and exports medium-quality soft white wheat that is frequently priced between $3 and $4 per bushel on world markets (USDA-FAS 1999a). Under the new intervention prices, the EU will probably subsidize wheat exports less frequently, but if world prices continue to decline over the longer term, the EU will be faced with relatively large subsidy expenditures at the new intervention prices. In the short term, the intervention price cuts will also probably increase domestic feed demand and may reduce domestic output. As a result, the EU will probably have less wheat available for export.

Oilseeds

The effects of the 1999 cereals policy reforms on EU production and EU exports of wheat and barley will depend, to some extent, on the consequences of the simultaneous changes introduced to the EU's oilseeds program. There is no intervention price for oilseeds, but oilseeds per-hectare payments are to be reduced in three steps to those for cereals. In addition, the reference price system for oilseeds, under which oilseeds per-hectare compensation payments are reduced if world prices are relatively high, will be abolished in 2000. Limitations placed on the area planted to oilseeds under the Blair House Agreement with the United States will also no longer be binding after the 2002/2003 crop year as a result of the reductions in oilseed compensation payments (USDA-FAS 1999b). The likely effects of these changes on oilseed production within the EU are unclear. At current prices, these adjustments make oilseed production less attractive relative to cereals. However, the removal of some restrictions on planted areas may encourage expanded production.

Beef

The Council of Ministers agreed to reduce the beef intervention price by 20 percent, instead of the 30 percent recommended in *Agenda 2000,*

and approved correspondingly smaller increases in compensation payments. The Council of Ministers also required the European Commission to follow market developments closely and, possibly, to enter the market on an *ad hoc* basis to prop up beef prices through intervention buying. In effect, the Council of Ministers chose to keep their options open with respect to changes in the CAP beef program.

Reductions in beef intervention prices may decrease domestic production within the EU to some extent. However, it is not clear that these effects will be very large, as many beef producers in the EU are small-scale operators who will be compensated for the price cuts by substantial increases in direct compensation payments. Decreases in EU beef consumption are projected over the next ten years for a variety of health and economic reasons. Thus it seems likely that the net trade balance for beef within the EU will worsen.

Compensation payments are an integral component of the current CAP policy reforms. An important issue for the GATT is the extent to which these payments are decoupled, that is, whether they influence current production decisions or are simply payments unrelated to current production. Compensation payments are limited for beef to a relatively small number of animals (the European Commission proposed a limit of 90 animals per farm). However, many producers in the EU have operations involving less than 90 animals, and therefore compensation payments do affect their production decisions at the margin. A similar situation exists with respect to several crops.

Tariff Policies within the EU

Prior to the 1994 GATT the EU utilized a system of variable import levies—tariffs that increase when world prices decrease, and *vice versa*—to ensure that imports could not enter the region at less than the predetermined prices for many agricultural commodities, including cereals and other products. Under the 1994 GATT agreements on tariff rates, the EU was required to replace its extensive system of variable import levies with a set of fixed tariff and tariff rate quota arrangements. Tariff rate quota mechanisms, including bounded and base tariff rates, are described in Chapter 1.

Like many other WTO member countries, the EU was able to set tariffs at relatively high rates on imports in excess of tariff rate quota (TRQ) levels. Bounded and base tariff rates or arrangements for selected agricultural commodities are presented in Table 7.4. Base rates are the

Table 7.4. European Union 1999 Base and Bounded Tariff Rates

	Bound Rate of Duty	Base Rate of Duty
Wheat other than Durum	12.8%/ECU 93 per mt[a]	ECU 145 per mt[b]
Durum Wheat	12.8%/ECU 93 per mt[a]	ECU 231 per mt[b]
Wheat Gluten	ECU 512 per mt[b]	ECU 800 per mt[b]
Barley	12.8%/ECU 93 per mt[a]	ECU 145 per mt[b]
Fresh Cheese	ECU 1852 per mt[b]	ECU 2893 per mt[b]
Beef (fresh or chilled)	12.8%[b]	ECU 2962 per mt[b]
Roasted Coffee	8.3%	13%
Bananas	16.0%	20.0%
Oranges[c]	10.4% + ECU 71 per mt	13% + ECU 89 per mt
Beet Sugar	ECU 339	ECU 424 per mt[b]
Wine of fresh grapes[d]	ECU 32 per h.l.	ECU 40 per h.l.

a. For durum and non-durum wheat and barley, when port of entry import prices exceed the stated price a simple *ad valorem* tariff of 12.8 percent is levied on within-quota imports. When the world price falls below the stated price, an additional tariff is levied under the special industry safeguard provisions of the GATT.
b. Tariffs are levied when world prices fall below these levels under the special safeguard provision of the 1994 GATT.
c. These tariffs consist of a mixture of specific (fixed amount per unit of import) tariffs and also have an *ad valorem* component. They are levied only during domestic harvest periods within the EU.
d. These are specific tariffs charged on each hectoliter of wine.

Source: USDA, Foreign Agricultural Service, (http://www.fas.usda.gov), 1999.

initial tariff rates permitted in 1995. Bounded rates are the final tariff rates to be achieved by 2000. The arrangements for commodities such as wheat (both non-durum and durum wheat), fresh and chilled beef, butter, and cheese are similar to those under the variable import levy program. When prices at port of entry fall below prespecified levels, under the special safeguard provisions of the 1994 GATT, the EU can impose tariffs to prevent entry at prices below those levels. For wheat, on underquota imports, if pretariff import prices are more than 93 ECU per mt, a 12.8 percent tariff is charged. If, however, those prices decline below 93 ECU per mt, then additional tariffs may be charged even on underquota imports. In the case of fresh wine, fixed or specific tariffs (32 ECU per hectoliter for underquota imports and 40 ECU per hecto-

liter for overquota imports) are levied. In the case of roasted coffee and bananas, standard differential proportional or *ad valorem* bound tariff rates are utilized. The EU was allowed to utilize a wide range of tariff instruments to restrict the entry of agricultural commodities under the 1994 GATT accords. An important set of issues for discussion in the 2000 WTO negotiations is therefore the structure and size of EU agricultural import tariffs. In this context, it is worth noting that in a May 19, 1999, memorandum to the WTO prior to the Seattle meeting of ministers, the EU identified improved market access as a key objective for the 2000 WTO negotiations.

Implications for the 2000 WTO Negotiations

The EU's CAP regimes for many commodities—including wheat, barley, beef, and sugar— are widely regarded as trade distorting. With respect to *market access*, reductions in EU bound tariff rates and the conversion of the safeguard tariff arrangements for some major agricultural commodities to specific or *ad valorem* tariff rates would represent progress. Changes in trade policies often require adjustments in internal support policies (Sumner 1995). For many commodities, the EU relies on minimum guaranteed price policies to provide farmers with enhanced incomes. These policies can be maintained only if lower-priced imports are restricted. For several commodities, important market access trade liberalization initiatives would require modifications in internal support programs. The European Commission is well aware of the problem and in both the 1992 and 1999 reform initiatives proposed cuts in minimum price supports for both cereals and beef. These reductions have also had the effect of reducing the value of export subsidies and the volume of subsidized exports for these commodities (as well as sugar and dairy products) that typically are in excess supply within the EU. Lowering EU intervention prices is also a means of responding to *export subsidy* reduction obligations.

The EU, however, has consistently increased direct per unit of area or per animal compensation payments to farmers when it has reduced intervention prices. Moreover, for many small-scale livestock and cereals operations, compensation payments are not decoupled from farm-level production decisions. As a result, higher compensation payments are likely to stimulate production. In addition, in recent years the EU has increased the amount of direct payments to producers associated with

environmental programs that it claims are GATT legal under the "green box" provisions of the 1994 GATT. The EU has also claimed that some existing programs that clearly transfer incomes to farmers should be GATT compatible because of their multifunctionality; that is, the programs may serve to enhance farm incomes and even encourage production, but they also provide environmental amenities. However, there may be good reason for other countries to be concerned about trade-distorting effects associated with these types of policies in the 2000 WTO negotiations.

In relation to sanitary and phytosanitary issues, as is discussed in other chapters, the EU has taken strong positions with respect to the import of agricultural commodities that utilize genetically modified organisms (GMOs). Influential environmental and certain consumer lobbies in Germany, France, and the United Kingdom have been effective in limiting or preventing imports of beef and some crop-based commodities on these grounds. It is not clear whether there will be any effective resolution of these issues under the current sanitary and phytosanitary provisions of the 1994 GATT.

Although there is clearly an extensive agenda for the United States and other countries in the 2000 WTO negotiations with respect to the EU, it is important to consider whether the EU will be willing to make any major concessions with respect to the CAP in the short term, medium term, or long term. Three facts are worth remembering with respect to the more immediate future. First, farm incomes in many EU countries declined precipitously in 1998. Second, because of the increasingly widespread view in western Europe of farmers as custodians of the countryside, farm and rural communities' lobbies are relatively influential in France, Germany, and the United Kingdom. Third, in response to the recent farm income crisis in the EU, in March 1999 the Council of Ministers was unwilling to implement the reforms proposed by the European Commission's *Agenda 2000* and instead made a generally more modest set of changes to the CAP. Thus, in the short term, the EU's political leaders may be unwilling to make any further substantial adjustments to their agricultural trade and internal support policies.

In the medium to longer term, over the next three to five years, it is conceivable that the EU may be willing to further reduce market access barriers, export subsidies, and internal supports. The CAP arrangements implemented by the Council of Ministers in March 1999 are currently scheduled to remain unaltered until 2006. However, the door for future

changes in the EU beef program was clearly left open. Also, in March 1999, the Council of Ministers mandated that the European Commission present a detailed report on developments in EU expenditures on agricultural programs in 2002. This report is to be accompanied by appropriate proposals for agricultural policy adjustments if such adjustments are needed for budgetary purposes. This suggests that at least some EU governments would like to see further reductions in EU agricultural subsidies but also believe that currently such reductions are politically infeasible.

In summary, in the 2000 WTO negotiations, producers in the Northern Great Plains should be concerned about the following issues. First, there should be continued pressure on the EU to reduce both its import tariffs and export subsidies. However, it seems unlikely that much progress will be made over the next two years with respect to export subsidies. Second, the EU should be encouraged to structure domestic beef, cereals, and oilseeds policies that fully decouple payments from production incentives. Third, efforts by the EU to permit environmentally targeted multifunctionality policies to be GATT compatible should be strenuously resisted when those policies also provide production incentives.

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Chapter 8

The Cairns Group: Negotiating Priorities and Strategies

William M. Miner

The Cairns Group of agricultural exporting countries exerted a strong influence on the negotiations that resulted in the Uruguay Round Agreement on Agriculture (URAA). Despite differences in their individual domestic farm policies and stages of economic development, members of the group have been united in their commitment to achieve a market-oriented trading system for agriculture. Since the World Trade Organization (WTO) was formed in 1995, the Cairns Group has continued a persistent campaign to extend the trade reforms embodied in the URAA through public policy statements and advocacy in the WTO Committee on Agriculture. The focus of their activity coincides with the trade interests of farmers and processors in the Northern Plains and Rockies region of North America.

A Successful Coalition

The Cairns Group was organized in 1986 by fourteen agricultural-export-oriented countries led by Australia. The Cairns Group aggressively pursued improvements in the trading environment for agriculture throughout the Uruguay Round. Current members of the Cairns Group are Argentina, Australia, Brazil, Canada, Chile, Colombia, Fiji, Indonesia, Malaysia, New Zealand, Paraguay, Philippines, South Africa, Thailand, and Uruguay (Australian Department of Foreign Affairs and Trade 1999). Hungary left the group in 1998 following its application to join the European Union. Paraguay and South Africa are recent members. Other countries from Latin America and elsewhere are currently considering membership.

The Cairns Group accounts for about 20 percent of total world agricultural exports (Cairns Group 1999b). The Cairns Group has focused

on improving the conditions for trade in agricultural commodities and their products and is a proponent of strengthening the rules-based trading system and eliminating subsidy interventions that distort trade. Although there is broad support among the member countries of the Cairns Group to expand access to import markets and to reduce internal supports that affect production and use, their individual interests diverge somewhat on these issues. Most of the Cairns Group countries provide support to their farmers and intervene directly in the market to achieve various food objectives. Canada and, to a lesser extent, Australia provide considerable support through subsidies and administered prices. Several Cairns Group countries have state trading enterprises and marketing boards, or other enterprises with state authority, for purposes of market organization and trade.

The agricultural trade interests of the Cairns Group range from tropical to temperate-zone agriculture. Processing for export is fairly common across the Cairns Group. Agricultural producers in the member countries are becoming increasingly dependent on the exportation of manufactured foods, food components, and services. The exportation of farm commodities and processed foods is important to the agricultural economies of all members. The composition of their temperate-zone exports has many similarities to the exports of producers in the Northern Plains and Rockies region, including grains, livestock, and meats. Furthermore, although the group's interests are focused on agricultural exports, with the increasing integration of world markets and improvements in incomes and diets, many of the Cairns Group countries represent expanding import markets.

With this mix of trade interests, and given the different stages of economic development within the Cairns Group, there are wide variations in farm and food policies. The Latin American members were in the process of opening their markets and deregulating their economies when the Uruguay Round began in 1986. To encourage investment and economic expansion, most of Latin America had discontinued policies of import substitution and had lowered border protection. The Asian members were following a similar path. Most Asian members are dependent on the import of some basic temperate-zone foods to complement their substantial agricultural export activities. Their interests also encompass food security goals. Developing-country members cannot afford to provide substantial income support to agricultural producers. New Zealand moved rapidly down the reform path in the 1980s with the

removal of most agricultural support, protection, and market regulation. Australia was adjusting its policy regime to reduce subsidies and improve its ability to compete. The agricultural reform process was occurring more slowly in Canada, as farm support levels had risen in the 1980s, but policy adjustments were underway in a similar direction, at least for the export-competitive sectors.

Most Cairns Group countries were also involved in moves toward formal market integration with their regional neighbors. Argentina and Brazil were members of Mercado Común del Sur (MERCOSUR). Subsequently Chile and Uruguay developed agreements with MERCOSUR for mutual reductions in trade barriers. Colombia is a member of the reinvigorated Andean Group (other members are Bolivia, Ecuador, Peru, and Venezuela). Canada negotiated a free trade arrangement with the United States, became a member of the North American Free Trade Agreement (NAFTA) during the Uruguay Round, and later entered a free trade agreement with Chile. Australia and New Zealand negotiated a free trade area, and several other Pacific region members of the Cairns Group were in the Association of Southeast Asian Nations (ASEAN) group. Many members of the Cairns Group are also working within Asia Pacific Economic Cooperation (APEC) toward freer trade. Thus despite considerable variation in trade, policies, and regional trade arrangements, the various members of the Cairns Group share many common trade objectives and are moving down similar policy paths.

Uruguay Round Influences

Through regular meetings among high-ranking officials, ongoing liaison between capitals and continuing coordination around General Agreement on Trade and Tariffs (GATT) agriculture activities, the Cairns Group was extremely influential in helping to shape the agenda and framework for agricultural negotiations in the Uruguay Round. In the early stages, Cairns Group members presented position papers and negotiating options to move the talks forward. In most cases, their approach coincided with the U.S. position and pressed the European Economic Community (EEC), Japan, and other European and Asian countries to be more forthcoming. Although the Cairns Group members submitted their own individual requests, offers, and proposals, they also made joint presentations, which undoubtedly increased their individual impacts on the course of negotiations. The Cairns Group operated on the basis of consensus in

developing positions but did not prevent members from advancing their own interests or working with other like-minded countries and groups. For example, at the Montreal GATT Mid-Term Review, the Latin American countries, including Cairns Group members from the region, blocked progress in specific areas in order to ensure that agriculture was advanced as part of a midterm result.

Although the Agreement on Agriculture fell well below its expectations, it was lauded by the Cairns Group for bringing agriculture more fully under the rules and disciplines of the GATT. The influence of the Cairns Group was most evident in the export subsidy rules and internal support commitments. On access, the Cairns Group's impact was greatest in the development of the rules for the tariffication of nontariff measures, the magnitude of reductions, and the minimum access commitments. The specific commitments, including tariff and subsidy reductions, are contained in individual country schedules to the GATT and reflect some divergence between the members of the Cairns Group, particularly with respect to access to sensitive sectors. The Cairns Group was also influential in shaping the related Agreement on the Application of Sanitary and Phytosanitary Measures (SPS).

In the closing phases of the Uruguay Round, the influence of the Cairns Group was overtaken by the bilateral negotiations between the EEC and the United States. Thus the leverage of the Cairns Group was insufficient to avoid the two largest negotiators settling several important elements of the final agreement between themselves. However, the Cairns Group welcomed the Uruguay Round result as providing a rules-based framework for agricultural trade and a first significant step in reducing protection and trade-distorting activity. The Cairns Group has continued to meet at the ministerial level to press for full implementation of the agreement commitments and to coordinate policy statements and participation in WTO ministerial conferences.

Recent Developments and Trends

Global and regional developments will influence the role of the Cairns Group in the 2000 Round of WTO negotiations (Miner 1998). The trend toward greater integration of food markets and the shift away from trade in traditional commodities toward semi-processed and fully manufactured foods is continuing. Domestic policy reforms are being maintained by most countries, and the URAA is being implemented with

few difficulties. However, in the stronger agricultural markets that prevailed in the mid-1990s, the subsidy and support commitments had limited direct effects on domestic programs. The conversion of nontariff measures to tariff equivalents eliminated many barriers and created a more transparent and predictable trade regime, but the manner of the conversion allowed countries to maintain substantial import protection. The levels of protection vary significantly among countries, commodities, and products. There are problems of unbalanced protection and tariff escalation, even among Cairns Group countries. The shift in the composition of trade toward further processing aggravates the access issues. Furthermore, as markets for many agricultural commodities have turned sharply downward recently, the issues of subsidies and access limitations have become more severe. There have been a number of agricultural trade disputes, some involving differences between members of the Cairns Group. Although the crisis atmosphere facing agricultural trade in the mid-1980s has not reemerged, farm incomes are under pressure in most agricultural exporting countries.

The unfolding trade situation has been further complicated by the monetary crisis in Asia and the economic instability in some Latin American countries. These developments have not prevented policy reforms from being continued, but there appears to be less enthusiasm and urgency for further trade liberalization among some Cairns Group countries. Despite overwhelming evidence that freeing up markets is an essential ingredient of almost any successful policy of economic growth and improved public welfare, the financial difficulties of Asia and Latin America appear to be undercutting the trade liberalization agenda. These concerns are being linked to issues concerning the flows of technology, corporate investment, and food safety. Often public concerns over the effects of more open economies are associated with the newer issues of safeguarding the environment, biotechnology, and industry concentration. The developments have differential impacts across the Cairns Group and have increased the difficulties in gaining public support for further trade liberalization.

The impact of the Cairns Group on the WTO negotiations may be affected by the emergence of new and stronger regional groupings and the changing WTO membership. As the MERCOSUR countries and the Andean Group coordinate their policies and work toward a full common market, there is likely to be a greater coalescence of interests and positions among them and with other Latin American states. These coun-

tries have relatively low bound tariffs, few tariff rate quotas, and limited agricultural support. Since their access objectives are directed primarily toward the U.S. and EU markets, they may seek to exploit their relationships in several directions. The Asian members of the Cairns Group may be more reluctant to open their markets in current economic circumstances, and hence they may adopt a less supportive stance. Economic integration has advanced more slowly in the Asia-Pacific region. Asian members of the Cairns Group will be conditioned by the approaches adopted by Japan and China.

The membership of the GATT increased during the Uruguay Round. In 1995 more than one hundred countries and the European Union became founding members of the WTO. More than thirty countries are currently seeking to accede, including China, Russia, and a number of the New Independent States (NIS) of the former Soviet Union. China may gain membership before a new round of negotiations begins and is likely to become a significant player in multilateral trade negotiations. Although China may share many of the Cairns Group objectives, such as the reduction of subsidies and the improvement of access, it is likely to operate on its own in the 2000 Round of WTO negotiations to retain flexibility and influence. Since a majority of the WTO membership consists of developing countries, separate groupings may emerge, such as recent initiatives led by India, Egypt, and Bangladesh. It is possible that China may champion developing-country concerns rather than actively support the objectives of an exporting group. The accession process for Russia and most of the NIS is at an early stage (the Kyrgyz Republic concluded negotiations in July 1998). Hence these countries are less likely to become active players in the 2000 Round. Of the Baltic States, Estonia and Latvia have been accepted into the WTO. Lithuanian negotiations are underway. Because these countries wish also to join the European Union (EU), they will probably adopt the stance of their western European neighbors.

A review of recent economic developments demonstrates that the objectives that led to the formation of the Cairns Group have only been partially fulfilled, as the main issues have become more complex. However, the trend toward regional and global integration of markets and the changing structure of trade create pressures for further domestic policy reforms. The directions of recent policy adjustments lean toward more open markets and greater harmonization of policies, standards, and regulations. Although the emergence of more and stronger regional trade

groupings may detract from the influence of the Cairns Group, they may help to advance the agenda of trade liberalization, and their activities should conform with the Cairns Group agenda. Latin American countries, in particular, may become stronger players within the Cairns Group, and they may even exert a collective influence themselves. All of the countries of the Americas could use their negotiations toward a free trade area (FTAA) as a basis for cooperating in the 2000 Round of negotiations. The difficult agricultural markets and the newer concerns that are coming forward will complicate the negotiations but should not undercut the impact of the Cairns Group countries.

Implementation Issues and Goals

The Cairns Group has developed joint policy statements aimed at specific events and developments in the post-Uruguay Round period. Its position for the 1996 WTO Ministerial Conference in Singapore focused on ensuring that the work program provided a sound basis to launch new negotiations in 1999. The Cairns Group countries indicated their commitment to playing an active role to achieve the goal of negotiations, "which will lead to agriculture becoming fully integrated into the WTO rules on a comparable basis to the industrial sector, including disciplines on agricultural export credits and the elimination of export subsidies." They pressed for a focused work program to prepare for the negotiations mandated in Article 20 of the Agreement on Agriculture (Cairns Group 1996). At the WTO Ministerial Conference in Geneva in 1998, the Cairns Group again emphasized the importance of preparations for further negotiations in agriculture. Their stated aim was to achieve a clear, ambitious, and balanced negotiating mandate for a further round to maintain the momentum of agricultural reform.

Cairns Group ministers held their eighteenth meeting in Sydney in April 1998 and issued a strongly worded "vision statement" setting out their broad objectives and strategic approach for the 2000 Round of WTO negotiations (Cairns Group 1998). The statement reaffirmed their commitment to completing the task of achieving a fair and market-oriented agricultural trading system and called for the elimination of all trade-distorting subsidies and a substantial improvement in market access. It stated that food security would be enhanced by removing subsidized competition, enabling poorer farmers to respond to markets. More open trade would also provide for more diversified and reliable sources

of food. The statement supported reductions in export restrictions, which disrupt the supply of food, and endorsed the principle of special and differential treatment for developing countries.

In February 1999, the Cairns Group released a policy statement focused on the importance of agricultural trade liberalization for developing countries (Cairns Group 1999a). It was critical of the high levels of protection and subsidized production in some developed economies, which adversely affect the access of nonsubsidizing countries to investment, new technologies, and markets. The statement identified the need to make progress on a number of issues to advance the economies of developing and least-developed countries, including the following:

- tighter disciplines on trade-distorting domestic support and the elimination of export subsidies,
- global improvement in market access for agricultural products,
- removal of tariff escalation,
- improvements in the trading environment to enhance food security and to reduce rural poverty and environmental problems.

In another example of recent policy coordination, the Cairns Group issued a "ministerial statement" in April 1999 expressing disappointment with the package of agricultural policy reforms agreed to by the European Union following the Agenda 2000 debate. The statement was critical of the cutbacks in the proposed reforms in the beef and cereals sectors and the delay of dairy reform. The Cairns Group ministers noted that "many highly distorted sectors, including sugar, olive oil, fruits and vegetables, rice, sheepmeat, tobacco, and dried fodder, remain untouched by the ... reforms." They emphasized that all WTO members made a commitment "to achieve fundamental reform of international trade in agriculture" and that the EU reforms would not provide for a sufficient West European contribution (Cairns Group 1999b).

The members of the Cairns Group have developed their own country positions in the WTO implementation activities and the preparatory work underway in the Committee on Agriculture. The implementation issues of greatest concern to various members of the group have been the access commitments, particularly the tariff rate quota (TRQ) system, and the continuing level of EU and U.S. farm subsidies. These include complaints that the minimum access undertakings did not measure up to the agreed modalities of the negotiations. In many cases, the tariff rate

quotas are not administered openly or on an equitable and uniform basis, and the access may not be meaningful. There were also complaints that the overquota tariffs are often at prohibitive levels.

Cairns Group members have criticized various aspects of the export subsidy commitments, particularly their continued use by the European Union. The products identified as harmed by export subsidies include beef, cereals, dairy products, and fruits and vegetables.

Concerns are also expressed by members of the Cairns Group over the continuing disruption of commodity markets due to domestic subsidy programs, including some that are covered by the "blue" and "green" box criteria (see Chapter 1 for a discussion of these criteria). The goal is the elimination of support programs that distort production and trade, to clarify the green box criteria so that programs do not affect trade, and to work toward reductions in total domestic support. The Cairns Group opposes the EU efforts to use the multifunctionality of agriculture to justify current production-linked support.

Positions, Priorities, and Strategies

As an opening position in the 2000 Round of WTO negotiations, the Cairns Group is likely to propose a comprehensive negotiating framework to encompass all issues affecting agricultural trade (Cairns Group 1999c; Anderson 1998). Based on the Cairns Group's vision statement, the following are expected to be the basic elements:

- exceptional treatment for agriculture under the trade rules should be progressively removed;
- all subsidy interventions that distort prices, production, and trade should be eliminated;
- a major expansion of market opportunities is to be achieved through tariff reductions, the removal of tariff escalation, and an increase in tariff rate quotas;
- all income and other domestic support measures must be targeted, transparent, and fully decoupled;
- special and differential treatment for developing countries, including least-developed nations and small states, is to be an integral part of the agriculture negotiations (Cairns Group 1998).

This approach reflects the export orientation of the members and is broadly consistent with the directions being pursued in their policies. It is consistent with the objectives of encouraging economic growth and

food security and safeguarding the resource base and the environment. Since developing countries cannot afford to subsidize their producers and the poorer countries must strengthen their rural economies, reduced competition from subsidized production and better markets are their only means to improve welfare on a sustained basis. This is also consistent with most of the goals of commercial agriculture in other exporting areas, including the Northern Plains and Rockies region.

Priority will be given by the Cairns Group to the elimination and prohibition of agricultural export subsidies, as is the case for all other goods under the WTO trade rules. Clearer rules to avoid the circumvention of export subsidy commitments will also be pursued. This relates to concerns about the flexibility of the rules, which allows commitments to be aggregated among products within a category and permits subsidies to be concentrated on specific products. There is also the issue of carrying over unused allowed subsidies from one crop year to another. The Cairns Group advocates effective international discipline of agricultural export credits to remove all elements of government subsidy.

Although compliance with the existing export subsidy commitments is regarded as acceptable, there have been disputes over alleged abuses, two involving Cairns Group members. Hungary was challenged for exceeding permitted quantities of subsidized exports, and a settlement was negotiated. A panel dispute launched by the United States and New Zealand over Canada's use of a multiprice system for dairy product exports was found in favor of the initiators, although Canada has appealed the decision.

The use of export subsidies is concentrated among relatively few countries and commodity sectors. The EU is the dominant user. Most export subsidies are applied in the cereals, meat, and dairy sectors. Although some Cairns Group countries utilize export subsidies, they have much to gain through their total elimination. Producers and exporters from the Northern Plains and Rockies region, including those in western Canada, would benefit from the elimination and prohibition of all forms of export subsidization. Although some U.S. producers and companies may benefit from the Export Enhancement Program and U.S. export credit facilities, these potential gains are marginal when compared with the costs and income effects on commodity markets of a continuation of subsidized export competition given the importance of grains and livestock to the North American Plains region.

The Cairns Group position on the use of internal agricultural supports that distort prices, production and trade will likely be similar: Only nondistorting forms of support should be allowed. The group will pursue a clearer and tighter definition of permitted (green) programs and they will advocate the elimination of the blue box category. The Cairns Group is likely to press for commitments to reduce the aggregate level of non-green support and may seek to apply the commitments by product subsector to strengthen the disciplines on domestic support. Their position is likely to be unambiguous with respect to cereals, oilseeds, sugar, peanuts, and red meats, but there will be differences for dairy, eggs, and poultry. Canada will continue to defend its supply management programs for those products. Some other Cairns Group members may also wish to safeguard specific internal programs, including the operations of farm marketing boards and multipricing and price-pooling systems. However, with the exception of Canada's extreme sensitivity over the use of supply management, the Cairns Group countries are likely to push relentlessly for solid commitments that result in substantial reductions and tighter disciplines for domestic supports.

The U.S. producers in the Northern Plains and Rockies regions may demonstrate some ambivalence over the merits of the Cairns Group approach to cuts in internal support. The U.S. levels of support for most crop sectors are much higher than in the Cairns Group countries. The U.S. sugar and peanut programs would be particularly vulnerable to reduction commitments based on subcategories of agriculture. However, there is a strong case for pursuing substantial reductions in farm supports to benefit export-oriented sectors and competitive commercial farm operations across American agriculture. The economy of the North American Plains and Rockies region is so dependent on production agriculture and the grains/livestock complex is so important that the balance of advantage in subsidy-free agriculture and more open markets clearly favors this region.

A related issue for the region is the status of the Peace Clause and the protection from countervail and other trade remedy actions accorded domestic support programs that meet the green box criteria. Canada and possibly some other Cairns Group countries are likely to press for a continuation of the Peace Clause with respect to the use of countervail. This provides a basis of confidence for maintaining decoupled farm safety-net programs. Since most Cairns Group countries cannot afford these programs and attach a high priority to reducing overall agricul-

tural support, the position on a continuation of the Peace Clause is likely to be mixed. On the U.S. side, the record demonstrates that northern-tier producers want to retain a strong capability to exercise countervail and antidumping actions and will use their political influence to apply them. However, agricultural trade is continuing to diversify and specialize toward greater product differentiation and added value. Since these trends can be expected to continue as the integration of the North American market proceeds, producers on both sides of the border will benefit from more efficient and open markets. But the change is gradual, and most areas are in transition; consequently the differences over the use of contingency protection and the merits of continuing the Peace Clause are likely to persist in North America and among Cairns Group countries.

The opening position on market access is likely to be aggressive and fairly consistent across the Cairns Group. The aim is to place access rules for agricultural products on the same basis as other goods, using tariffs as the only form of import protection. With some exceptions, the Cairns Group will pursue a general cut in tariffs, a reduction in tariff escalation from commodities toward products, and a curtailment of tariff peaks. For TRQs, the group will push for substantial increases in the volume of trade at lower tariff rates and the removal of country allocations and other forms of unfair administration. A special effort will be made to improve access for products of special interest to developing countries. In addition to pursuing a major expansion of market access opportunities for agricultural products, the Cairns Group will advocate the removal of export restrictions that may disrupt the supply of food to world markets.

Again, Canadian supply-managed dairy and poultry producers will find themselves out of step with their counterparts in Cairns Group countries. Although member countries accept the objective of reducing and eliminating all agricultural tariffs on a reciprocal basis, exceptional treatment will be pursued on overquota tariffs for supply-managed products. Some Cairns Group countries have sensitive sectors for which they may insist on a level of protection. This will also be the case for U.S. producers of sugar, dairy products, and peanuts and for many other WTO members.

A strong push can be expected from producers and industry groups across the Northern Plains and Rockies region for a major improvement in access. This largely surplus-producing region needs export markets to sustain production and expand. As usual, the market access result will

be a balance of give and take, but the majority of producers in western and central North America would benefit from a strong access result in the 2000 Round of negotiations.

The use of state trading enterprises (STEs) is an area of contention within the Cairns Group and between some Canadian and U.S. producers. Several Cairns Group countries, notably Australia, Canada, Indonesia, and New Zealand, use STEs for trade in agricultural products. Most member countries maintain marketing boards and para-statal entities, and some operate price-pooling and multipricing mechanisms for internal and trade purposes. Argentina shares the U.S. concern that these forms of market activities may distort pricing and trade. The operations of STEs and para-statals will become issues in the negotiation of export subsidy and access rules and commitments. A unanimous position among Cairns Group countries is unlikely. Some Canadian and U.S. producers will differ. The outcome is uncertain, particularly since there is no consensus on the impact of these enterprises on trade.

Assessment

The Cairns Group was remarkably successful in helping to shape the agricultural negotiations in the Uruguay Round and in pushing for a successful outcome. Since then, the Cairns Group has maintained a coherent public policy stance in seeking to extend and deepen the trade reforms initiated in the Uruguay Round. Although its members have pursued their individual goals and issues during the implementation period and in the preparations for continuing negotiations, they have developed a common "vision" to complete the task of agricultural trade reforms.

The emergence of regional trading groups, particularly in the Americas, may dilute the Cairns Group's efforts in the 2000 Round of negotiations, but their goals should be consistent with the Cairns Group's push for further trade liberalization. The groups are united in their advocacy of a strong rules-based trading system. They share the common goals of the removal of subsidies and support mechanisms that distort markets and trade and the expansion of market access opportunities.

As trade becomes more diversified and specialized and as market integration proceeds in most regions, the challenge to adopt a common position on specific issues will increase. It does appear that the impact of the Cairns Group will again be most effective in the early stages of

the renewed negotiations. It is likely to persist in many aspects of the negotiations, given the common goals that are shared within the Cairns Group. Since most regional groupings outside Europe share these goals, the combined strengths of the Cairns Group countries and the new coalitions may exert sufficient leverage to remain a force at the table in the final stages of negotiations.

The Cairns Group countries should be successful in their efforts to further curtail export subsidies and to obtain a significant improvement of market access for their principal export commodities and products. Some progress in strengthening the disciplines on domestic supports should also be possible, although binding commitments on internal policy authorities are difficult to achieve. Working with other coalitions, the Cairns Group may achieve a further tranche of agricultural trade liberalization. In most trade areas, the producers and industries of the Northern Plains and Rockies region have common cause. If, as seems likely, these shared trade objectives are reflected in positions adopted by both the United States and the Cairns Group, a stronger result may emerge. This would bode well for the export-oriented agriculture of the Northern Plains and Rockies region.

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Chapter 9

Land Use in the Northern Plains: What Does the Future Hold?

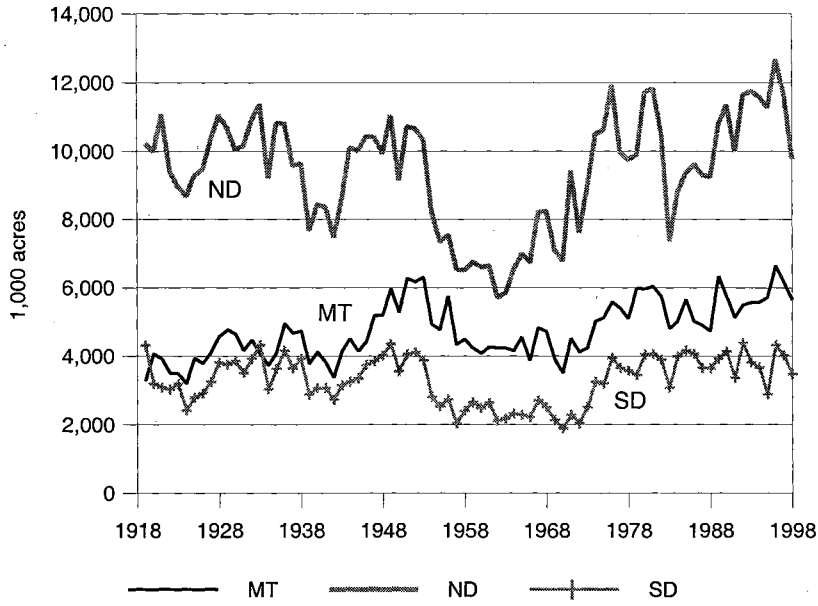
Myles J. Watts and David E. Buschena

Northern Plains agriculture has been buffeted by trade liberalization, major changes in government price support programs, high levels of production of crops elsewhere, and a volatile international economic situation. The crucial issue is how the area planted to wheat in the Northern Plains will change with freer trade. The potential for freer trade to affect prices is particularly important due to the historic export-dependence of the commodities produced in the Northern Plains. Furthermore, government program incentives, which maintained historical cropping patterns, were recently relaxed.

The influence of the many factors affecting agriculture in the Northern Plains from 1948 to 1998 is shown in Figure 9.1 for wheat acreage in Montana, North Dakota, and South Dakota (USDA 1920–1999, 1999). First, the trends for acreage in these states are quite different, with Montana following a clear upward trend and both North and South Dakota exhibiting a significant decrease in planted wheat acreage from the late 1950s through the early 1960s, followed by a return to the wheat acreage levels of the early 1950s by the mid-1980s. In the 1950s, a period of widespread drought in the Northern Plains, the region was also affected by a number of government programs that to some degree explain these trends in planted wheat acres in North and South Dakota.

A critical issue for our analysis of these patterns is the degree of flexibility in cropping systems in the Northern Plains. Many producers in these states have large areas of relatively low rainfall where the production norm is a rotation using some combination of wheat, barley, and fallow. These three states also have areas of extensive livestock production using land for either grazing or harvested forage production. However, eastern South Dakota and eastern North Dakota have different natu-

Figure 9.1. Planted Wheat Acres



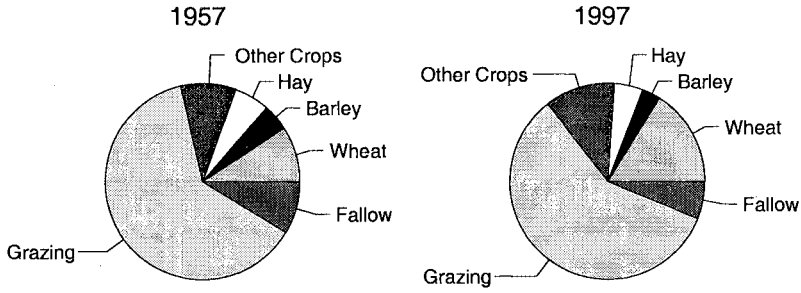
Source: USDA, *State Information,*(http://www.usda.gov/nass/sso-rpts.htm), 1999; USDA, *Agricultural Statistics,* 1920–1999.

ral resource endowments including higher rainfall levels and soil and climatic conditions that are less dependent on summer fallow, and are more conducive to the production of corn, soybeans, sunflowers, and rain-fed sugar beets.

Crop Revenue and Cropland Use: Snapshots

How do current crop revenues and land use patterns in the Northern Plains compare with those of yesteryear? Figures 9.2 and 9.3 reflect total use of cropland and sources of revenue, respectively, in the Northern Plains states for 1957 and 1997 (USDA 1997; U.S. Department of the Census 1959). These two years differ in the technology available, the types of agriculture practiced, and market structures. Substantial restrictions due to government programs on wheat and, to some extent, barley acreage in 1957 were effectively absent in 1997 (USDA 1995a).

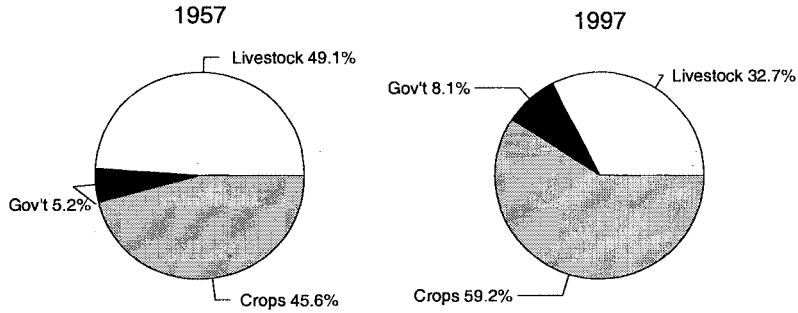
Figure 9.2. Cropland Use, Northern Plains States



Note: The grazing and fallow percentages in the 1957 figure are the levels reported in the 1959 Census of Agriculture, all other values in the figure are for 1957. "Other crops" include corn, oats, soybeans, sunflowers, sugar beets, dry edible beans, alfalfa seed, and potatoes.

Source: U.S. Department of Census, *1959 Census of Agriculture,* 1959; USDA, *1997 Census of Agriculture,* 1997.

Figure 9.3. Farm Receipts, Northern Plains States



Source: U.S. Department of Census, *1959 Census of Agriculture,* 1959; USDA, *1997 Census of Agriculture,* 1997.

Comparisons of farm receipts (Figure 9.3) show that crop receipts were more important in 1997 than in 1957, demonstrating a shift to more specialized crop farms in many cases and a shift away from some livestock commodities such as fed cattle production and dairying in the region. Government payments as a percentage of total farm receipts were

larger in 1997 than in 1957, reflecting disaster and crop insurance payments and relatively low commodity prices.

Wheat acres were a substantially larger proportion of all cropped acres in 1997 than in 1957, with much of this increase coming from reduced acres in barley, hay, fallow, and grazing (Figure 9.2). Much of the decrease in fallowed acres took place in North Dakota. Notably, although the percentage of cropped acres devoted to crops other than wheat, barley, and hay increased, actual acreage allocated to these crops changed very little in these states.

Wheat Yields, Prices, and Government Programs

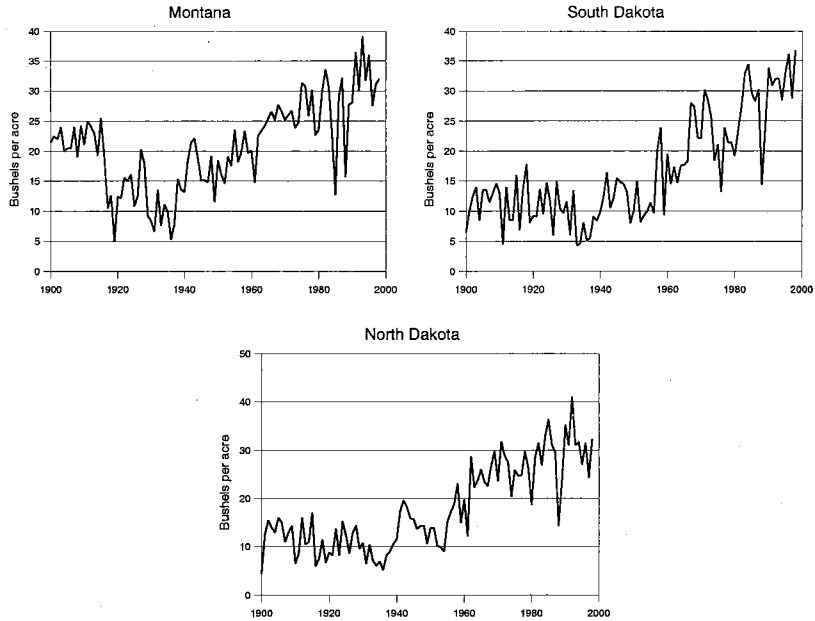
Wheat Yields and Prices over Time

Annual average wheat yields over the period 1920 to 1998 exhibit upward trends in all three states (Figure 9.4), reflecting crop variety and management improvements (USDA 1999). There is also significant variability around yield trends in each state from droughts in the 1930s, in 1985, and in 1988 in all three states; drought conditions in North and South Dakota in the 1950s; and recent floods, disease, and adverse growing conditions in North Dakota.

Wheat prices in the Northern Plains (Figure 9.5) over the same period exhibit a negative trend that, with respect to per acre revenues, offsets the advances in yields illustrated in Figure 9.4 (USDA 1999). When prices and yields are combined, per acre gross revenues are fairly constant, with some small decline over time. A notable exception to the negative price trend is the upward spike in the mid-1970s, a period of high worldwide demand.

These states' prices are closely related. Spring wheat from Montana competes with spring wheat from North and South Dakota in both export and domestic markets. Winter wheat in Montana also competes with spring wheat in the Northern Plains and with winter wheat from other areas. Absent freight bottlenecks (which are usually short term and centered around harvest), the price for wheat in Havre (Montana), Dickinson (North Dakota), and Pierre (South Dakota) is the price in Portland, Minneapolis, or elsewhere (whichever destination nets the highest price for the grain elevator) less freight and handling. Taking this a step further, under free trade, the price for wheat in Havre, Dickinson,

Figure 9.4. Wheat Yield per Acre



Source: USDA, *State Information,*(http://www.usda.gov/nass/sso-rpts.htm), 1999; USDA, *Agricultural Statistics,* 1920–1999.

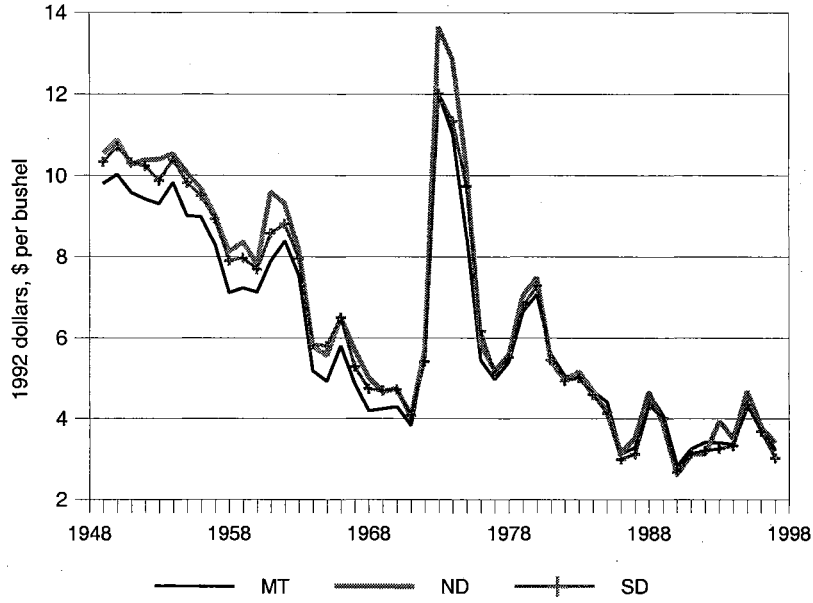
and Pierre would likely reflect the price in Japan or Taiwan less total freight and handling.

Under freer trade between countries, market price differences more closely reflect differences in freight and handling costs. Therefore, freer trade between the United States and wheat-importing countries (such as those in Asia) has the potential to raise wheat prices in the Northern Plains. Because additional trade liberalization has the potential to affect wheat prices worldwide (and thus in the Northern Plains), we will more thoroughly evaluate the effects of prices on wheat acreage.

A Brief Overview of Relevant Government Programs

It is useful both to review in general some of the most important effects of government wheat programs over time and, more specifically, to consider recent changes in U.S. wheat programs in order to understand historic, current, and future wheat acreage in the Northern Plains.

Figure 9.5. Prices Received by Farmers, All Wheat



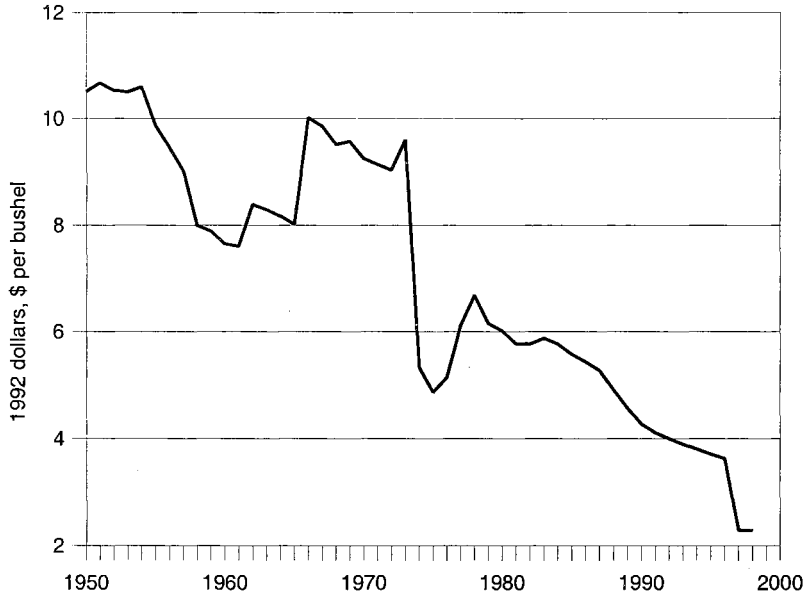
Source: USDA, *State Information,*(http://www.usda.gov/nass/sso-rpts.htm), 1999; USDA, *Agricultural Statistics,* 1920–1999.

General Trends in Government Programs Affecting Wheat Producers

The nationwide wheat target price (Figure 9.6) trends downward in real terms (1992 dollars throughout), although increases in the target price occurred in the late 1960s to the early 1970s (USDA 1995a). Target prices were the primary method for income support to wheat producers from 1982 until 1995.

Nationwide short-term wheat set-aside or diverted acres (Figure 9.7) have been highly variable, peaking in the early 1970s and again in the mid- to late 1980s when set-aside as a percentage of wheat base was as high as 27.5 percent (USDA 1995a). Because of the importance of summer fallow and rotational constraints in many areas of the Northern Plains, a given increase in set-aside acres (for example, 5 percent) had a considerably smaller impact on total planted wheat acres (for example, 2.5 percent). This "slippage" was in large part due to farmers having wheat base acres that exceeded the acres they usually wanted to plant to wheat.

Figure 9.6. Wheat Target Price



Source: M.C. Hallberg., *Policy for American Agriculture: Choices and Consequences,* 1992; USDA, *General Farm Commodities,* 1995.

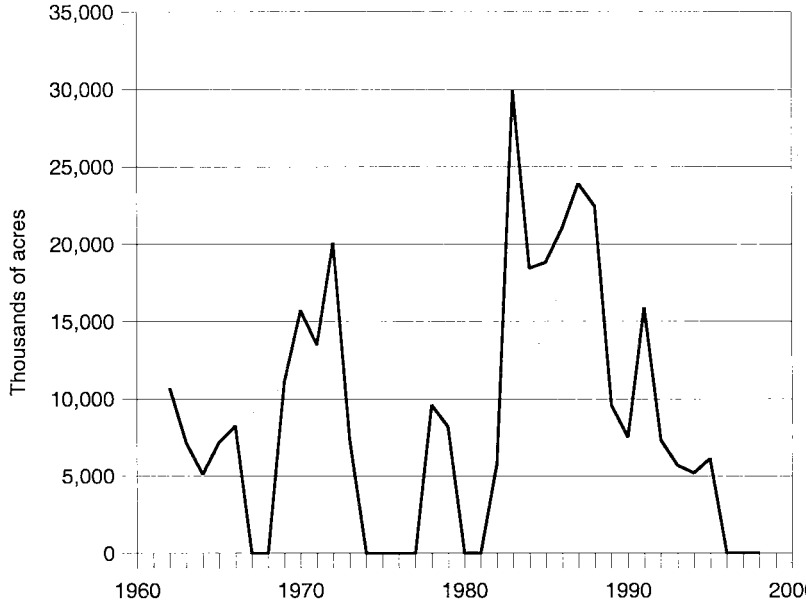
Two major long-term land reserve programs affected the Northern Plains during this century (Hargreaves 1993; USDA 1920–1999). The Great Plains Conservation Program (these acres later moved into the Soil Bank) put 4 million crop acres into conserving use in the Northern Plains using contracts of varying length in Montana, North Dakota, and South Dakota during sign-up periods from 1956 to 1958. The Conservation Reserve Program (CRP), introduced in 1986, resulted in approximately 7.5 million acres in the Northern Plains entering conserving uses from 1986 to 1998. Producers could enroll all or part of their farm into the CRP program, with part farm enrollments most common.

Recent Farm Legislation

Recent farm programs have undergone far-reaching changes, with the result that much income support to wheat producers is now independent (or "decoupled") from planting decisions.

The Agriculture and Food Act of 1981 established farm programs from 1982 to 1985 (U.S. Senate 1981). The primary change for Northrn Plains wheat producers was that clearly established target prices on base

Figure 9.7. Acres Set Aside or Diverted, Wheat Nationwide



Source: M.C. Hallberg, *Policy for American Agriculture: Choices and Consequences,* 1992; USDA, *General Farm Commodities,* 1995.

acres and farm program payment yields served as the primary method of income support through deficiency payments (target price less the higher of the loan rate or the national market price). Target prices were high in real terms, ranging from $5.88 in 1983 to $5.58 in 1985 (1992 dollars). Set-aside requirements were also high, ranging from 15 percent of base acreage in 1982 and 1983 to 20 percent in 1984 and 1985.

The Food Security Act of 1985 was applicable for 1986 to 1990 (U.S. House of Representatives 1985). It had three important components. First, the farm program payment yield component of the deficiency payments was fixed after 1985, calculated as the five-year average of yields from 1980 to 1984 after deleting the highest and the lowest yield years in this period. Second, the 1985 act established a two-tiered loan rate to allow increased wheat movement from storage into the market. Finally, this act made increasing barley and other program crop base acres much more expensive. Target prices, in real terms, decreased from $5.44 in 1986 to $4.27 in 1990. Set-asides were quite variable, from

high levels of 22.5 percent in 1986 and 27.5 percent in both 1987 and 1988 to much lower requirements of 10 percent in 1989 and 5 percent in 1990.

The Food, Agriculture, Conservation, and Trade (FACT) Act of 1990 (U.S. Senate 1990) introduced provisions to reduce the government's budget expenditures on income transfers. Deficiency payments were capped to apply on only 85 percent of the wheat base. In exchange, farmers were given some increased planting flexibility on 25 percent of their base acres. For the 15 percent of a program crop's base acreage delineated as "normal flex acres" ineligible for deficiency payments, farmers could plant wheat or another crop (including other program crops) without penalty. An additional 10 percent of a program crop's base could be planted to other crops as "optional flex acres," with deficiency payments forfeited on them. Likewise, producers could plant wheat on the normal flex and optional flex acres of other program crops. Real wheat target prices in 1992 dollars decreased from $4.11 in 1991 to $3.71 in 1995. Set-aside requirements were 5 percent of base in 1992, but zero after 1993.

The Federal Agriculture Improvement and Reform (FAIR) Act of 1996 made sweeping changes to wheat and other commodity programs (U.S. House of Representatives 1996). This act decoupled income support from planted acres; Northern Plains farmers were essentially free to plant what they wanted on all their acres with no impact on their scheduled income transfers. Loan rates were lowered and limited to $2.58 in nominal terms for wheat. Producers were given scheduled and declining "market transition payments" using contract acres (formerly base acres). Target prices and set-aside acres were discontinued.

A Closer Look at Planted Acreage, 1982–1998

Because of the importance of prices, government policy, weather, and other factors in farmers' planting decisions, we will address more extensively patterns in planted wheat acreage from 1982 to present. This period includes large price swings, critical weather events, and substantial changes in government policy for wheat and other program crops.

General Discussion

Table 9.1 presents planted wheat acreage in the Northern Plains states from 1982 to 1998 (USDA 1999). The table also shows the pre-planting wheat real futures price for spring wheat, calculated as the average dur-

Table 9.1. Wheat Acres Planted in the Northern Plains and Pre-Plant Futures Price, 1982–1998

Year	Planted Wheat Acres				Futures Price, Pre-Plant ($/bushel in 1992 dollars)
	Montana	North Dakota	South Dakota	Total	
1982	5,750	10,525	3,900	20,175	5.75
1983	4,810	7,370	3,080	15,260	5.01
1984	5,015	8,820	3,995	17,830	4.38
1985	5,660	9,350	4,170	19,180	4.25
1986	5,015	9,620	4,065	18,700	3.27
1987	4,895	9,300	3,660	17,855	3.06
1988	4,730	9,250	3,650	17,630	3.85
1989	6,340	10,800	3,930	21,070	4.58
1990	5,745	11,350	4,140	21,235	3.77
1991	5,130	10,000	3,370	18,500	2.90
1992	5,500	11,650	4,385	21,535	4.00
1993	5,565	11,750	3,820	21,135	3.16
1994	5,580	11,590	3,675	20,845	3.29
1995	5,720	11,290	2,883	19,893	3.70
1996	6,640	12,680	4,325	23,645	4.17
1997	6,150	11,625	4,020	21,795	3.15
1998	5,650	9,770	3,475	18,895	3.46
Average, 1982–1998	5,523	10,396	3,797	19,716	3.87

Source: USDA, *State Information,* (http://www.usda.gov/nass/sso-rpts.htm), 1999; USDA, *Agricultural Statistics,* 1920–1999.

ing February for the Chicago Board of Trade's September wheat contract. We have conducted a detailed statistical analysis to sort out the effects of government programs and prices on these planted acres (see Appendix A) and discuss the general results of that analysis here. The average total area planted to wheat during this period amounts to just under 20 million acres and was quite variable in each state. Approximately 53 percent of this total was planted in North Dakota, 28 percent in Montana, and 19 percent in South Dakota.

The statistical results presented in Appendix A indicate that the potential price effects from free trade are likely to have moderate effects on wheat acreage. In 1996, 1997, and 1998, we found limited statistical evidence that Montana wheat producers responded to prices by increasing acreage; there is less statistical evidence of price response in North and South Dakota in these years. In percentage terms, the estimates indicate that a 10 percent increase in the wheat price will increase planted area by 2.4 percent in Montana, 4.0 percent in North Dakota, and 2.1 percent in South Dakota. However, with only three years of data under the new government policy, it is very difficult to reach clear conclusions about these price effects, especially given that semi-arid rain-fed agriculture using a rotation including wheat, barley, and fallow is common in these states.

Period 1: 1982–1985

Although real futures prices were high in this period (from $5.75 in 1982 to $4.25 in 1985), the relatively large (15 percent in 1982 and 1983 and 20 percent in 1984 and 1985) government set-asides and weather conditions limited acreage responses to price. In 1983, a very important factor in wheat acres planted was drought conditions. In addition, the 1983 "payment-in-kind" program allowed producers who did not plant wheat the opportunity to retrieve wheat grown in prior years from storage at minimal cost.

Period 2: 1986–1990

The impacts of high set-aside requirements for wheat (22.5 percent in 1986, 27.5 percent in 1987 and 1988) are evident in this period. When set-aside requirements were reduced in 1989 and 1990, Northern Plains wheat acreage jumped 19 percent from 1988 levels. Large acreage increases were particularly evident in Montana and North Dakota. In addition to the set-aside effects, 1988 was a drought year in Montana and the western Dakotas. It is difficult to distinguish a clear effect of the CRP program on wheat acreage, which suggests that most CRP acres were from the "escrow" of barley base rather than wheat base.

Period 3: 1991–1995

Planted wheat acreage increased in total and within each state during this period, with particularly high levels in 1992–1994. Only in 1991 (15 percent) and 1992 (5 percent) were set-aside requirements imposed. The normal flex acres introduced in the Food, Agriculture, Conserva-

tion, and Trade Act of 1990 gave a relatively level playing field for wheat with other crops (no deficiency payments were involved) on the normal flex acres. However, very few normal flex wheat acres (7 percent) were planted to other crops in Montana, although some acres in North Dakota (20 percent) and particularly in South Dakota (48 percent) were planted to crops other than wheat (USDA 1995b). Some producers did plant wheat on the normal flex acres of other crops. For instance, in Montana in 1994, producers planted 88 percent of normal flex and optional flex acres to program crops besides barley, primarily wheat (USDA 1995b).

The increased planting flexibility through flex acres and the reduction in set-aside requirements were coupled with a relatively low real price of wheat during this period, particularly in 1991. When prices increased somewhat in 1992–1994, a period of fairly stable weather conditions, planted wheat acreage increased.

Period 4: 1996–1998

Government restrictions on wheat acreage, set-asides, and target rates were removed in this period under the FAIR Act. Under this act, the net revenues from wheat competed equally with the net revenues from other crops.

The large increase in acreage in 1996 and the subsequent reductions in 1997 and 1998 are particularly important since these were the first three years of production under the FAIR Act that completely decoupled planted acres from income support payments. In total, planted wheat in the Northern Plains in 1996 was 15 percent higher than the average for the previous five years (1990 to 1995). In 1996, in Montana, planted wheat acres were 25 percent higher than the 1990–1995 average, 12 percent higher in North Dakota, and 15 percent higher in South Dakota. As listed in the table and also as illustrated in Figure 9.5, real prices for wheat in 1996 were higher than those in 1997 and 1998. The acreage price response during this post-FAIR Act is apparent; when wheat producers in the Northern Plains were allowed complete flexibility in planted crop acreage, wheat acreage peaked when prices peaked (1996) and declined as prices declined (1997 and 1998). However, additional factors influencing producers in this period included severe weather and disease problems in North Dakota in 1997 and 1998, high soil moisture in 1996 in the Northern Plains and low soil mositure in 1997 and 1998 in Montana and in the western Dakotas.

A Closer Look at Set-Aside Acres

The results of our statistical evaluation as reported in Appendix A show varied effects of set-aside programs on actual planted wheat acres. The estimates predicted that a 10 percent increase in set-aside requirements would have resulted in a 6 percent decrease in planted wheat acreage in Montana, a 10 percent decrease in planted wheat acreage in North Dakota, and a 2.4 percent decrease in planted wheat acreage in South Dakota. These differences in the effects of wheat set-aside requirements are consistent with the cropping systems and the characteristics of government programs in each state during the period 1982–1998. Wheat producers in eastern and central North Dakota primarily continuously crop using a wheat-based rotation and have few profitable alternatives to wheat. Thus, they were relatively constrained by set-aside requirements. Wheat producers in Montana and in western North and South Dakota had considerable flexibility in using base acres under summer fallow to satisfy set-aside requirements. These producers historically had more base wheat acres than they planted to wheat (excess base). Producers in eastern South Dakota had more complicated crop rotations using a number of profitable alternatives to wheat and were therefore also less constrained by set-aside requirements.

Set-aside requirements can mean very different things for total wheat production for a rotational system using fallow as compared to one without fallow. Consider a wheat producer in Montana in a simplified example that is summarized in Table 9.2. With no set-asides, the producer following a common rotation would have 40 percent of the acreage in wheat following summer fallow, 40 percent of the acreage in summer fallow, and 20 percent of the acreage in wheat following a crop (recrop). Recrop wheat yields are assumed to be 25 percent lower than yields following fallow in these areas due to soil moisture constraints.

Suppose that this farm has 1,000 cropland acres, a wheat base of 630 acres and that the expected wheat yield is 30 bushels per acre for wheat following fallow and 22.5 bushels per acre for recrop wheat. Absent set-asides, 600 acres will be planted to wheat (400 on summer fallow and 200 to recrop) and 400 acres will be summer fallowed. This farm has 30 acres of excess base.

A 10 percent set-aside requirement, idling 63 acres of the base would give 567 acres of wheat planted (a 5.5 percent reduction from the 600 acres previously planted). Suppose that a new and stable wheat-fallow

Table 9.2. Crop and Fallow Acreage and Production Example with Set-Aside

	No Set-Aside		10% Set-Aside, Excess Base		10% Set-Aside, No Excess Base	
Crop	Planted Acres	Production	Planted Acres	Production	Planted Acres	Production
Wheat on Fallow	400	12,000	443	12,990	460	13,800
Wheat Recrop	200	4,500	134	3,015	80	1,800
Summer Fallow	400		443		460	
Total Wheat	600	16,500	567	16,005	540	15,600
Total Cropland	1,000		1,000		1,000	

Source: Authors' calculations.

rotation is reached. Of the 567 wheat acres, the best a producer can do is to place 433 acres of wheat on previously summer fallowed land and 134 will be recrop wheat. There will be 433 acres of land summer fallowed. Although wheat acreage is reduced by 5.5 percent, wheat production would drop by only 3 percent because the producer has a higher percentage of wheat planted on the more productive previously fallowed acres.

Alternatively, if the farm had no excess wheat base (600 acres of base) and if the 10 percent set-aside requirement were 100 percent effective for this farm, planted wheat acreage would decrease by 60 acres (a drop of 10 percent), while total wheat production would decrease by 5.5 percent. Of the 540 planted acres of wheat, 460 are planted on previously fallowed land, 80 acres are recrop wheat, and 460 acres are summer fallowed. The yields in this table assume no increase in inputs after this program and otherwise equally productive land.

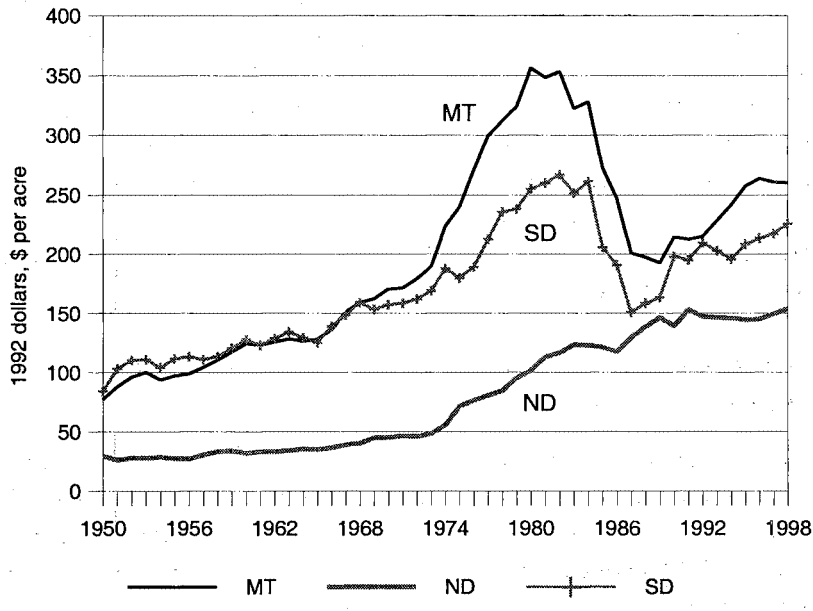
Contrast these results with an eastern North Dakota wheat producer planting crop every year without fallow and with a 100 percent effective set-aside history. A 10 percent increase in set-aside decreases wheat acreage and wheat production by 10 percent. Therefore, the effectiveness of set-aside programs in reducing wheat production depends on farming practices and on the historical base, which differs by geographic region.

Implications for the Future

An important consideration for Northern Plains producers is how trade liberalization will affect cropping patterns. Freer trade has great potential to affect the prices received by farmers in these states. However, rotational constraints reduce producers' flexibility in planting acreage.Government farm programs have had important effects on planted wheat acreage. Set-aside requirements for wheat in particular reduced the planting flexibility of farmers. However, long-term rotational considerations and weather conditions tempered these set-aside effects substantially. Long-term acreage retirement programs, such as the CRP program, had modest effects on planted wheat acreage in the Northern Plains.

Current payments to farmers for wheat and other commodities are not tied to commodity programs, relying instead on more direct market transition payments, crop insurance, and disaster payments. Although the door remains open to a return to commodity programs, the requirements of both the World Trade Organization (WTO) and North Ameri-

Figure 9.8. Average Farmland Values, Northern Plain States



Source: USDA, *Agricultural Land Values: Final Estimates, 1994–1998*, 1998.

can Free Trade Agreement (NAFTA) have placed constraints on the form they may take. The form that government programs will take is uncertain, but redefined government support to farmers through conservation programs, crop insurance subsidies, and disaster payments appears to be more likely than effective price supports with acreage controls.

It appears that commodity trade is becoming freer in the long run, with trade flows in North America growing considerably. To the extent that the WTO negotiations result in improved access into importing countries, Northern Plains producers can benefit from stronger prices than would have otherwise been the case. It is important for producers in the Northern Plains to recognize that the benefits of freer trade also may come with some costs; trade agreements must be viewed as a two-way street.

A useful indicator of producers' price expectations is land prices shown in Figure 9.8 (USDA 1998). Land prices in North and South

Dakota reflect the large price increases from the mid-1970s until the early 1980s. After the 1996 FAIR Act, land prices in South Dakota and Montana show an upward trend. Land prices in North Dakota first rose after the 1996 FAIR Act but have recently dropped after a series of adverse weather and disease events. These patterns in farmland prices are not very different from those for farmland prices in the Midwest, where agriculture also depends on export markets. Although some of these uptrends in land prices may be due to other factors, it appears that farmland buyers in these states do not anticipate a long-term reduction in returns to farmland.

Appendix A: Ordinary Least Squares Regression Results

The dependent variable for the regression analysis in each state is planted wheat acreage. The sample is statewide data for the years 1974–1998. We carried out a comparable analysis for a longer time period (1952–1998), giving qualitatively similar results. The regression results are presented in Table 9.A1, with t-values in parenthesis.

The explanatory variables include the set-aside requirements as an integer percentage (not as a decimal), the premium offered by the target price (the larger of the target rate—futures or zero), the wheat futures price at planting (February average for the Chicago Board of Trade's September wheat contract), and for North Dakota an indicator for the CRP that has the value 1 for the period 1986–1995. The influence of the futures price on planted acres was estimated using both an overall effect and an additive effect to evaluate changes in the price effect after the FAIR Act (1996–1998).

We also evaluated other variables but did not find them to be significant in our regressions. These variables included a policy indicator for the period following the 1990 FACT Act to evaluate the effects of flex acres, an indicator for the period following the 1996 FAIR Act, the prices of alternative crops (corn and barley), the price of cattle, a weather proxy (hay yields and harvested acreage), and price lags. The CRP indicator variable was insignificant for Montana and South Dakota, but significant for North Dakota.

Table 9.A1. Ordinary Least Squares Regression Results: Planted Wheat Acreage, 1974–1998

Variable	Montana	North Dakota	South Dakota
Constant	5249*** (9.89)	8478*** (3.60)	.3413*** (6.51)
Set-Aside %	-33.23** (-2.62)	-99.7*** (-3.53)	-9.07 (-.724)
Target Price Premium	180.9 (1.31)	394.9 (.927)	144.38 (1.05)
Wheat Futures Price at Planting, Full Period	106.0 (.945)	444.5 (1.05)	81.19 (.732)
Additive Wheat Futures Price Effect, 1996 to 1998	149.2* (1.83)	367.4 (1.33)	69.68 (.863)
CRP Program Indicator		1390* (1.84)	
R-squared	.441	.54	.12
Sample Size	25	25	25

*** indicates significance at the 1% level.
** indicates significance at the 5% level.
* indicates significance at the 10% level.

Source: Authors' calculations.

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Glossary

aggregate measure of support (AMS) A measure of the support given by government to all commodities through policies that are deemed to have the largest impact on production and trade. The AMS includes actual or calculated amounts of direct payments to producers, input subsidies, the estimated value of revenue transferred from consumers to producers as a result of policies that distort market prices (market price supports) and interest subsidies on commodity loan programs.

amber box Policies agreed to have the largest potential impact on production and trade. Amber box policies are included in the Aggregate Measure of Support and are listed below.

base tariff The level of a tariff before reductions are made.

blue box Includes policies that are production limiting (but not fully decoupled). These policies are exempt from the aggregate measure of support if they meet the following criteria: (a) payments are made on fixed areas and yields; or (b) such payments are made on 85 percent or less of the base level of production; or (c) livestock payments are made on a fixed number of head.

bound tariff The maximum tariff rate that a WTO member has agreed to apply.

Commodity Credit Corporation (CCC) A federally owned and operated corporation within the U.S. Department of Agriculture. All money transactions for agricultural price and income support and related programs are handled through the CCC.

decoupled support Support for producers that is not linked to variables currently affecting market production, prices or input use.

Federal Agriculture Improvement and Reform Act of 1996 (FAIR Act) The omnibus food and agriculture legislation of 1996 that provides a 7-year framework (1996–2002) for U.S. agricultural and food programs. The FAIR Act made important changes to the operation of wheat, corn, grain sorghum, barley, oats, rice, and upland cotton programs.

Free Trade Area of the Americas (FTAA) A proposed free trade agreement for all countries in the Western Hemisphere.

General Agreement on Tariffs and Trade (GATT) The agreement that began the current multilateral trading system in 1948. Twenty-three countries negotiated the first GATT agreement, which reduced tariffs on manufactured goods.

genetically modified organisms (GMOs) Organisms that have been altered through genetic engineering by the introduction of new genetic material. Bt corn and Roundup Ready products are examples.

green box Includes policies that countries can apply without restriction and that are viewed as having a minimal impact on trade. The green box includes policies such as advisory services, domestic food aid, income insurance and safety net programs, set-aside payments, environmental programs, and decoupled income support.

implementation period The period over which the provisions of an agreement are put into effect. For the Uruguay Round, the implementation period for developed countries is six years, from 1995 through 2000. For developing countries the implementation period is 10 years,1995–2005.

loan deficiency payments A provision introduced in the 1985 farm bill to provide direct payments to producers who, while eligible for price support loans, agree not to obtain them. Applies to wheat, feed grains, upland cotton, rice, and oilseeds.

marketing loan program Allows producers to repay nonrecourse price supports at less than the announced loan rates whenever the country posted price is less than the commodity loan rate.

minimum access A minimum quantity of imports that is allowed access to a market.

multilateral trade agreements Trade agreements that are jointly signed by a large number of countries. The term is often used in the context of the GATT/WTO, which now covers 90 percent of world trade.

nonrecourse loans Farmers (of wheat or feed grains) or processors (or sugar) participating in government commodity programs may pledge a quantity of a commodity and obtain a loan from the CCC at a commodity-specific per unit loan rate. The borrower may repay the loan with interest within a specified period of time and regain control of the commodity or may forfeit the commodity to the CCC in full settlement of the loan.

recourse loans The borrower may obtain a loan as described above, but the loan must be repaid with interest, and the commodity cannot be forfeited as payment for the loan.

regional trade agreement (RTA) A free trade agreement among members of a region. NAFTA is an example.

sanitary and phytosanitary (SPS) agreement An agreement negotiated in the Uruguay Round that establishes criteria for the application of national measures to protect against pest and disease risks to animal, plant, and human life.

state trading enterprises (STEs) As defined in the URA, STEs are "governmental and nongovernmental enterprises, including marketing boards, which have been granted exclusive or special rights or privileges, including statutory or constitutional powers, in the exercise of which they influence through purchase or sales the level or direction of imports or exports" (Understanding on the Interpretation of Article XVII).

tariff A duty levied on imports. Tariffs can be calculated on a percentage basis (ad-valorem tariffs) or set at a particular level.

tariff rate quota (TRQ) Under a TRQ, a fixed amount of imports are allowed subject to a low tariff. Imports beyond that quota are subject to a higher tariff.

technical barriers to trade (TBT) Standards (including packaging, marking, and labeling requirements), testing and certification procedures, and other regulations used to ensure that products meet the health, quality, safety, or environmental standards of importing countries. These regulations can be used to create obstacles to trade.

Uruguay Round (UR) The Uruguay Round was a round of multilateral trade negotiations conducted under the GATT between 1986 and 1994. It was named after the country where negotiations began.

Uruguay Round Agreement (URA) The Uruguay Round Agreement includes 29 individual legal texts covering a wide range of issues, including trade in services and manufactured goods, the Agreement on Agriculture, dispute settlement procedures, and agreements on technical barriers and sanitary and phytosanitary measures.

Uruguay Round Agreement on Agriculture (URAA) The Legal Text of the Uruguay Round includes the Agreement on Agriculture, which includes provisions on market access, domestic support, export subsidies, and a number of other provisions.

World Trade Organization (WTO) The WTO replaces GATT as the legal and institutional framework of the multilateral trading system. It was established by the Uruguay Round Agreement. It now has 134 members and another 32 have applied for accession. The WTO has a permanent staff and is located in Geneva.

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