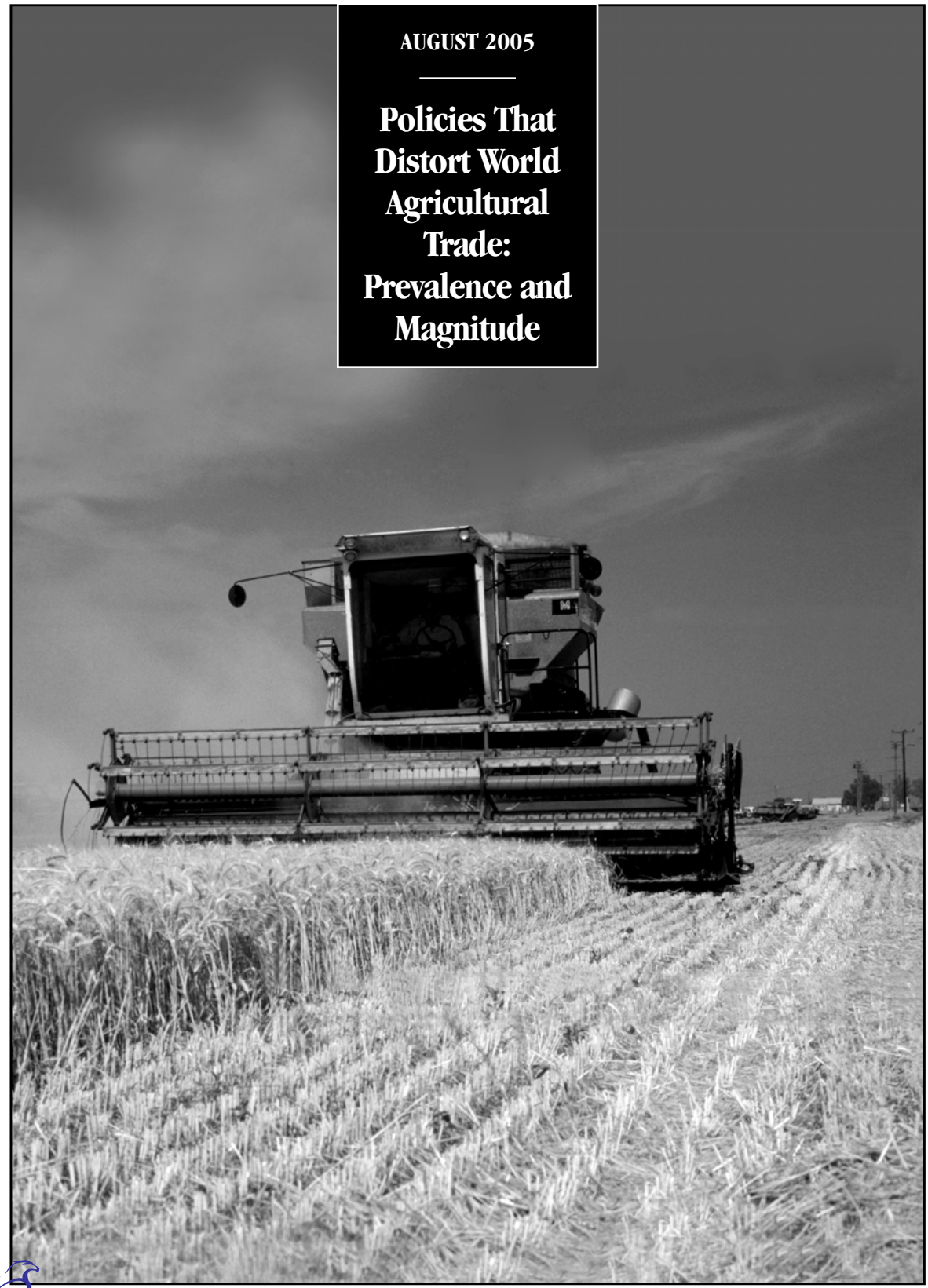
CONGRESS OF THE UNITED STATES
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AUGUST 2005

Policies That Distort World Agricultural Trade: Prevalence and Magnitude



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PAPER

Policies That Distort World Agricultural Trade: Prevalence and Magnitude

August 2005

The Congress of the United States ■ Congressional Budget Office

Notes

Numbers in the text and tables of this report may not add up to totals because of rounding.

The European Union, or EU, refers to the 15 member states constituting the EU until 2004, when 10 additional countries were admitted. References to the 25-member EU are indicated as European Union (25), or EU (25).

The cover photograph of wheat harvesting in El Centro, California, is by Tim McCabe, courtesy of the U.S. Department of Agriculture.

Preface

A major issue on the agenda of the ongoing Doha Round of multilateral trade negotiations by members of the World Trade Organization concerns how and to what extent policies that affect agricultural trade should be liberalized. For most of the postwar period, the series of multilateral negotiating rounds under the auspices of the General Agreement on Tariffs and Trade allowed policies that distort agricultural trade to continue in large part while tariffs and other policies distorting trade in other sectors were progressively reduced or eliminated. The Uruguay Round, which took place from 1986 through 1994, began the liberalization of agricultural trade; yet tariffs remain much higher, and the use of subsidies much more prevalent, in agriculture than in other goods-producing industries.

This Congressional Budget Office (CBO) paper, which responds to part of a request by the Chairman of the House Ways and Means Committee, presents statistics on policies around the world that distort agricultural trade. In keeping with CBO's mandate to provide objective, nonpartisan analysis, this paper makes no recommendations.

Bruce Arnold of CBO's Microeconomic Studies Division prepared this paper under the supervision of Roger Hitchner, Joseph Kile, and David Moore. (Roger Hitchner has since left CBO.) Gregory Hitz of CBO's Budget Analysis Division wrote the two boxes. Menzie Chinn served as CBO's internal reviewer. Ufuk Demiroglu, Gregory Hitz, Arlene Holen, and Elizabeth Robinson provided comments on early drafts of the paper. Cathy Jabara of the U.S. International Trade Commission staff and John Wainio of the Economic Research Service at the U.S. Department of Agriculture also provided comments. (The assistance of external reviewers implies no responsibility for the final product, which rests solely with CBO.)

Janey Cohen edited the paper, and Christine Bogusz proofread it. Maureen Costantino prepared the paper for publication and designed the cover. Lenny Skutnik printed copies of the paper, and Annette Kalicki and Simone Thomas produced the electronic version for CBO's Web site (www.cbo.gov).



Douglas Holtz-Eakin
Director

August 2005

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Summary

A central objective of the World Trade Organization's (WTO's) Doha Round of trade negotiations, initiated with the Doha Ministerial Declaration on November 14, 2001, is to liberalize world agricultural markets. To illuminate that issue, this paper presents statistics on current policies around the world that distort agricultural production and trade. In the rubric of WTO negotiations, such policies and the talks to liberalize them fall into three major categories: (1) market access, which refers to policies that restrict or regulate imports; (2) domestic support, which refers to domestic subsidies and other forms of support to domestic producers; and (3) export subsidies (often referred to as export competition).

In broad terms, the statistics indicate that:

- Policies that distort agricultural trade remain much more pervasive and substantial around the world than policies that distort trade in other goods.
- High agricultural tariffs are most prevalent in East Asian countries. The United States has a low average agricultural tariff, and the European Union's (EU's) average is in the middle.
- The European Union provides the largest amount of the most trade-distorting category of domestic support (so-called *amber-box* support) as measured by dollar value, with the United States a distant second and Japan a distant third. The highest *rates* of such support, measured as a percentage of total agricultural output value, are those of the members of the European Free Trade Association, or EFTA (Iceland, Norway, and Switzerland-Liechtenstein), followed by the European Union. The United States is further down the list.
- The European Union is by far the dominant provider of export subsidies, providing 85 percent to 90 percent of the world's total.

Market Access

Whereas distortions and barriers to trade in the manufacturing sector have been progressively reduced in a succession of multilateral trade negotiating rounds extending over more than half a century, such policies in the agricultural sector were largely unaddressed until the Uruguay Round Agreement on Agriculture that went into effect on January 1, 1995. That agreement required the conversion of all nontariff barriers to imports into tariff-rate quotas (TRQs); placed upper limits, or "bindings," on all agricultural tariffs of all signatories to the agreement; and required reductions in agricultural tariffs (implemented through those bindings).[1] Notwithstanding those reductions, tariffs on agricultural goods remain substantially higher than those on manufactured goods almost everywhere around the world. For the world as a whole, the trade-weighted average tariff for agricultural products in 2001 was more than three times the average for all merchandise trade, with almost all countries having higher tariffs for agricultural trade than for all merchandise trade. For the United States, the agricultural average was 1.3 times the all-merchandise average.

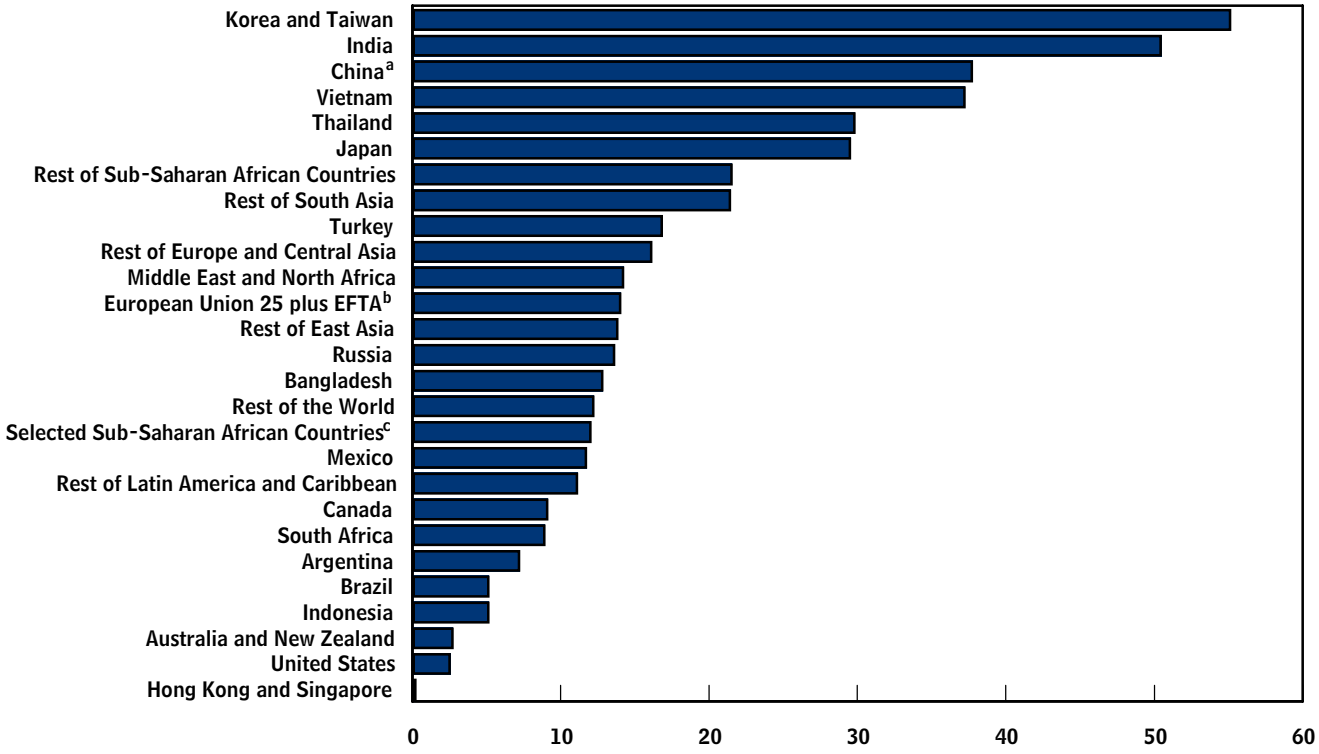
Tariffs actually applied to agricultural products are substantially lower for most countries—especially for developing countries—than the tariff bindings agreed to in the Uruguay Round. The average applied tariff is 50 percent lower than the average bound tariff for developing countries in Asia, 42 percent lower for those in Africa, 65 percent lower for the Middle East, 64 percent lower for Latin America, 62 percent lower for the rest of the developing world, and 19 percent lower for developed countries (although a majority of individual developed-country tariffs

1. A TRQ consists of a low tariff on imports up to a given quota level and a higher tariff on imports above that level.

Summary Figure 1.

Countries Ranked by Trade-Weighted Average Applied Tariff Rates in the Agriculture and Food Sector in 2001

(Percent)



Source: See Figure 1 on page 9.

Notes: See Figure 1 on page 9 for additional notes and Table 2 on page 6 for an ordering of countries that clarifies the meaning of country groupings.

a. China joined the World Trade Organization in December 2001, and its accession agreement required significant reductions in tariffs. Therefore, if its tariff averages were calculated using more recent data, they would be lower.

b. The European Free Trade Association (EFTA) comprises Iceland, Norway, and Switzerland-Liechtenstein.

c. Botswana, Malawi, Mozambique, Tanzania, Zambia, Zimbabwe, Madagascar, and Uganda.

are equal to their bounds). Hence, the Doha Round tariff-reduction negotiations, which are based on bound tariffs, will have to achieve substantial reductions to have even a small effect on actual applied tariffs.

Extreme tariffs—tariffs of over 100 percent—and tariff-rate quotas, which typically have very high over-quota tariffs, protect a substantial portion of agricultural production from international competition. Fifty percent of Eastern European production is protected by TRQs, as is 39 percent of European Union production and 26 percent of U.S. production. On average, 28 percent of production in members of the Organization for Economic Cooperation and Development (OECD), which consists primarily of the major industrialized countries of the world, is protected in this way.

On average, U.S. agricultural tariffs—along with those of Australia and New Zealand—are low in comparison with those of most other countries (see Summary Figure 1). The trade-weighted U.S. average in 2001 was 2.4 percent. By comparison, the EU (25) and the European Free Trade Association together averaged 13.9 percent; and most developing countries had higher aver-

ages.[2] Mexico and Canada averaged 11.6 percent and 9.0 percent, respectively.

The tariff structures of many countries are complicated and difficult to summarize in a single number, such as an average tariff. Although they are useful in documenting the protection of agriculture around the world, such averages are only rough indicators of countries' protective policies. For particular countries, products, and policies, more-detailed analysis is required.

Domestic Support

Subsidies by different countries can be compared in two key ways. One is to compare their absolute value when converted to some common currency, such as the dollar. That comparison is best for assessing which countries' policies most distort the total world market (although all subsidies are not equally distortionary). The other way is to calculate the subsidy rate of each country—that is, the subsidy as a percentage of the value of agricultural output—and compare such subsidy rates. That approach is better for measuring the competitive advantage a country attempts to confer on its farmers and exporters through subsidies.

The Uruguay Round Agreement on Agriculture focuses future subsidy reductions on only the most trade-distorting domestic support. It divides domestic agricultural subsidies into five categories, or "boxes": the green box, the blue box, the special and differential box, de minimis support, and the amber box. The *green box* is for measures, defined in some detail in the agreement, that were deemed by the negotiators to have little or no distorting effects on trade—that is, to have little, if any, effect on the prices and quantities of goods exported or imported (or produced, since increased production affects the prices and quantities of traded goods). The *blue box* is for certain direct payments under production-limiting programs. Such payments, while more distorting than green-box payments, are not as distorting as others and are a means some countries use to reduce the distortionary effect of their income-support programs for farmers. The *special and differential box* is for certain development subsidies granted by some developing countries. *De minimis support* consists of subsidies that are below specified percentages of the value of production that the agreement's negotiators deemed low enough so as not to be a cause for concern. The *amber box* consists of all support not falling into the other four categories. Amber-box support is generally the most distortionary of the five categories, and it is limited and reduced by the agreement. The other four categories are exempt from reduction requirements.

The agreement requires countries to report their domestic agricultural subsidies to the WTO along with the categories into which they fall. Thus, the accuracy and timeliness of the resulting data depend on the effort, judgment, and care taken by the various reporting countries.

Domestic subsidies for agriculture are substantial. Such subsidies of all kinds total more than $200 billion per year worldwide. Value added in the agricultural sector worldwide is roughly $1.2 trillion, so domestic subsidies are equivalent to roughly one-sixth of value added. The subsidies also are pervasive around the world: 64 out of 76 countries have reported to the WTO that they granted subsidies of some kind in at least one of the years from 1998 through 2004. Nevertheless, a few countries dominate the total dollar value of subsidies granted. The EU and the United States each grant about one-third of the world's total—the EU a little more than the United States because its agricultural sector is a little larger—and Japan grants a little less than 15 percent. Hong Kong and Singapore provide no such subsidies, and Australia grants less than one-half of 1 percent of the world's total.

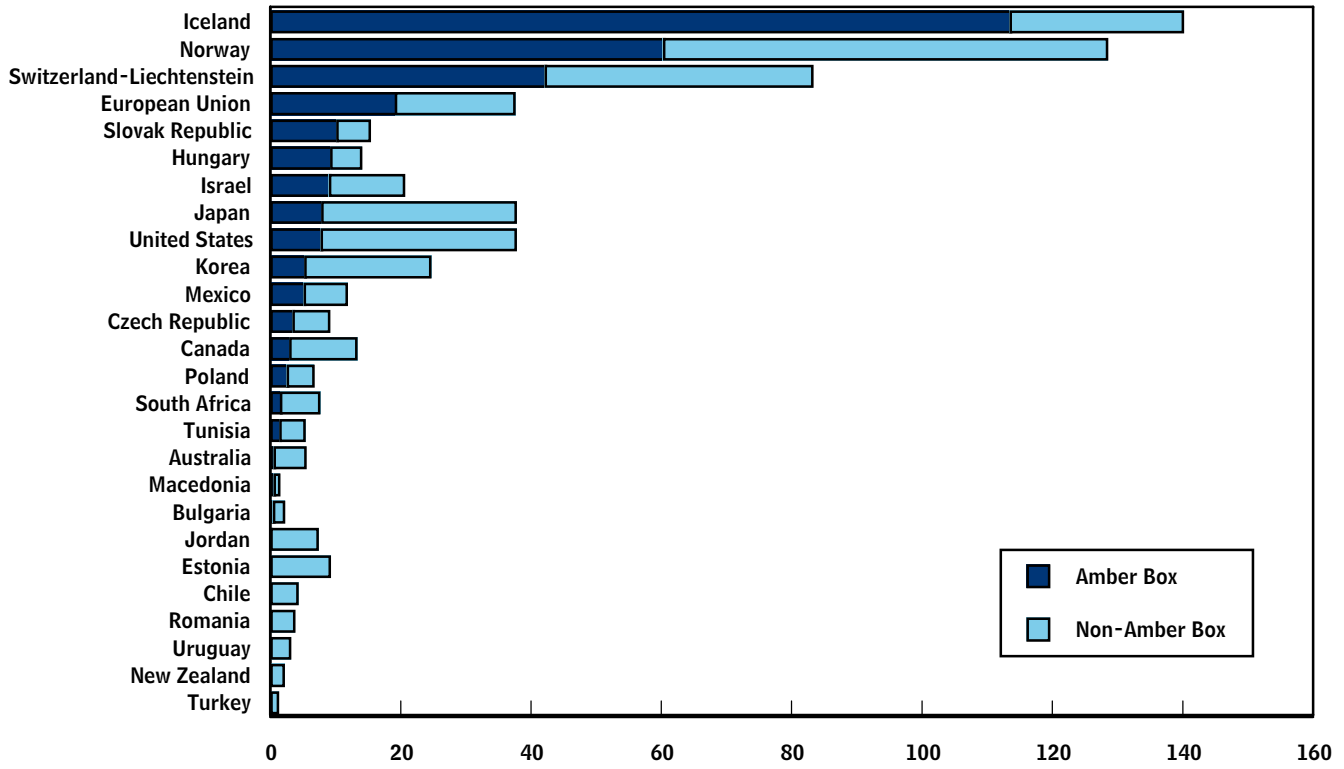
The United States and the EU have such large subsidy totals in part because they and their agricultural sectors are so large. Even a small subsidy rate can result in a large total subsidy if applied to a large output. The ranking by subsidy rates paints a different picture, although the United States still ranks relatively high. Among countries for which such rates can be calculated, members of the EFTA—Iceland, Norway, and Switzerland-Liechtenstein—top the ranking, with average reported subsidies ranging from 140 percent down to 83 percent of the values of their respective agricultural outputs since 1998 (see Summary Figure 2). Japan, the United States, and the EU each have had subsidies averaging 37 percent of their agricultural outputs over that period. The rates for U.S. neighbors Canada and Mexico are 13 percent and 11 percent, respectively (although the most recent numbers for those countries are for 1998 and 1999). Australia and

2. Averages of tariff bindings suggest that the members of the EFTA (Iceland, Norway, and Switzerland-Liechtenstein) have substantially higher tariffs than does the EU.

Summary Figure 2.

Average Annual Rates of Reported Domestic Support, 1998 to Present

(Percentage of agricultural output value, countries ranked by amber-box subsidies)



Note: Numbers are based on subsidy data reported to the World Trade Organization by the countries in question as of June 30, 2005. The most recent reports by most countries are for 2002 or earlier. Availability of output data further restricts the years and countries for which rates can be calculated. The average for Iceland is based only on rates for 1998 and 1999, and the "average" for Switzerland-Liechtenstein is based only on the rate for 1998. See Table C-1 on page 50 for sources, additional notes, and more-detailed numbers, including numbers for each year.

New Zealand averaged 5 percent and just under 2 percent, respectively.

About one-half of all domestic subsidies fall into the green box; 10 percent fall into the blue box; 5 percent are de minimis; and one-half of 1 percent fall into the special and differential box (see Summary Figure 3). That leaves one-third that are the most distortionary subsidies that fall into the amber box and are limited by the Agreement on Agriculture.

Although the United States and the EU provide comparable amounts of total subsidy, much more of the U.S. total falls into the green box and much less—roughly one-third as much—falls into the amber box. The EU provides over half of the world's amber-box subsidies, the United States about one-fifth, Japan about 8 percent, and every other country substantially less.

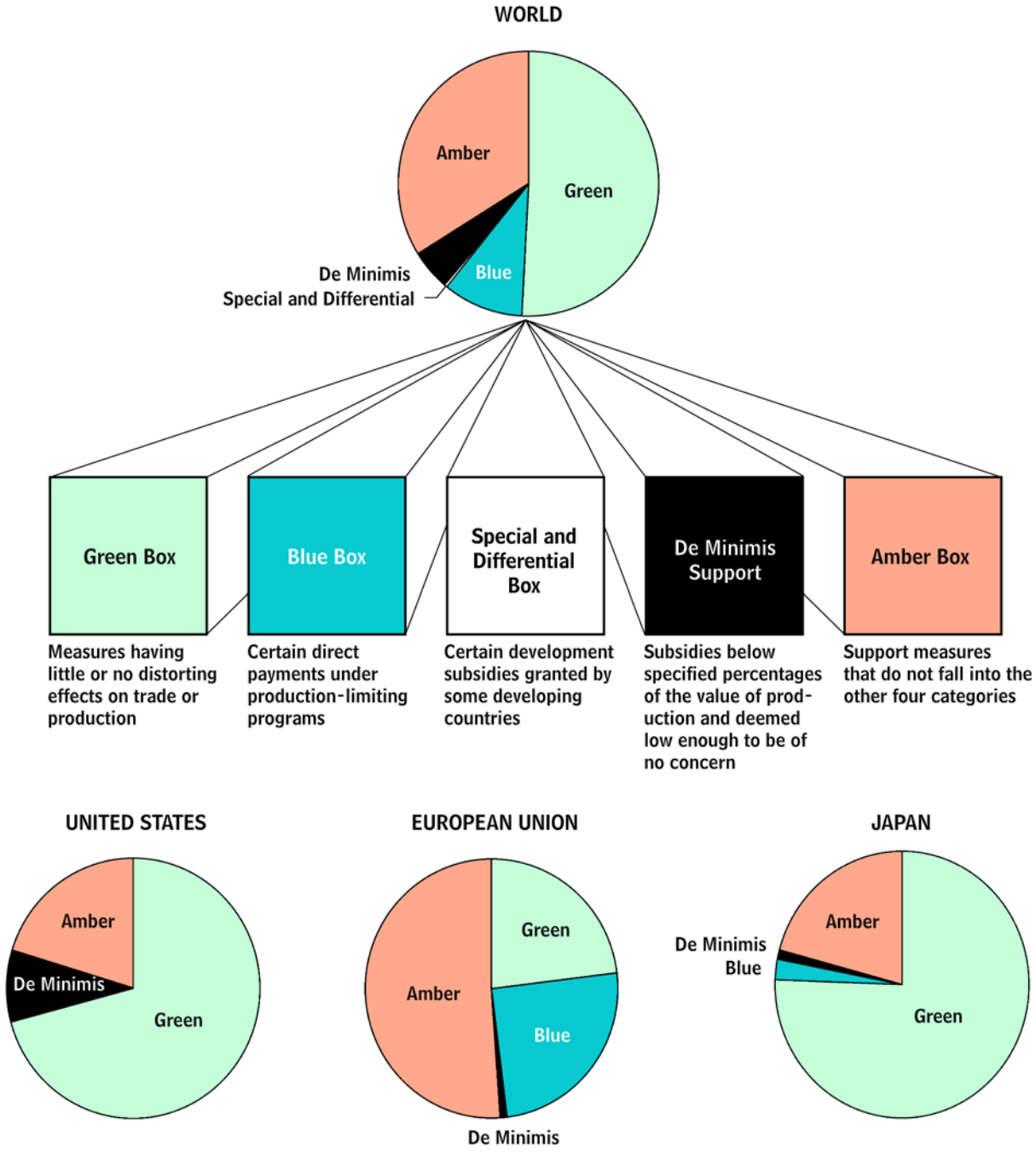
U.S. amber-box subsidy rates, although high enough to distort production and trade, are significantly lower than those of a number of other countries, most notably those of the EU (see Summary Figure 2). Among countries for which such rates could be calculated, the members of the EFTA have had the highest rates since 1998, with average reported subsidies ranging from 113 percent down to 42 percent of the values of their respective agricultural outputs.[3] Ranking next is the EU with subsidies averaging 19 percent of the value of its output over the period (and a still-lower rate of 15.9 percent in 2001). The U.S. subsidy rate, at 7.7 percent, was less than half the EU rate. Mexico averaged just over 5 percent, Canada just under 3 percent, and Australia only 0.5 percent.[4]

3. The only rate that could be calculated for Switzerland-Liechtenstein was for 1998.

4. The only rate that could be calculated for Mexico was for 1998.

Summary Figure 3.

Breakdown of Domestic Support by Categories in the Uruguay Round Agreement on Agriculture: Average Annual Reported Values, 1998 to Present



Note: Numbers are based on subsidy data reported to the World Trade Organization by the countries in question as of June 30, 2005. The most recent reports by most countries are for 2002 or earlier. See Table 13 in the main text for source and additional notes.

As was the case with tariffs, actual amber-box subsidies are substantially lower than amber-box bounds for most countries, so only substantial reductions in those bounds negotiated in the Doha Round would have much effect on actual subsidies. The EU's most recent reported amber-box subsidies totaled less than half their final bound value. The most recent U.S. total was almost 25 percent below its final bound value. Japan's was 84 percent below its final bound value.

Export Subsidies

Export subsidies are much less widespread than are domestic subsidies. A country may provide such subsidies only if it made a commitment to reduce them under the Agreement on Agriculture (or as part of its accession agreement if it joined the WTO after the Agreement on Agriculture went into effect).[5] Only 25 countries have such subsidy reduction commitments, and two of those commitments have a final bound of zero. (In addition, China agreed to eliminate all export subsidies immediately upon admission to the WTO.) Since 1998, the EU has dominated the use of export subsidies more than it has the use of domestic subsidies, providing 85 percent to 90 percent of all the export subsidies reported to the WTO by countries with reduction commitments. Ranking next in order of total value of such subsidies granted have been Switzerland-Liechtenstein, with 4.5 percent to 6.5 percent of the world's total, and Norway and the United States with 1 percent to 2 percent.

By far the highest export subsidy rates are those by Switzerland-Liechtenstein, at 9.3 percent, and the EU, at 6.6 percent (see Summary Figure 4). The Czech Republic and Norway are a distant third and fourth place at 1.6 percent. The United States has a very low subsidy rate that places it well down in the rankings. It should be noted that most countries subsidize only certain products. The subsidy rates for those products might be significantly higher than the average rate for all agricultural exports of the country.

As was the case with tariffs and amber-box subsidies, actual export subsidies are substantially lower than their bound values for many countries. However, that fact has less significance for the Doha Round than does the corresponding fact for tariffs and amber-box subsidies because the framework agreement calls for export subsidies to be eliminated.

A Final Note

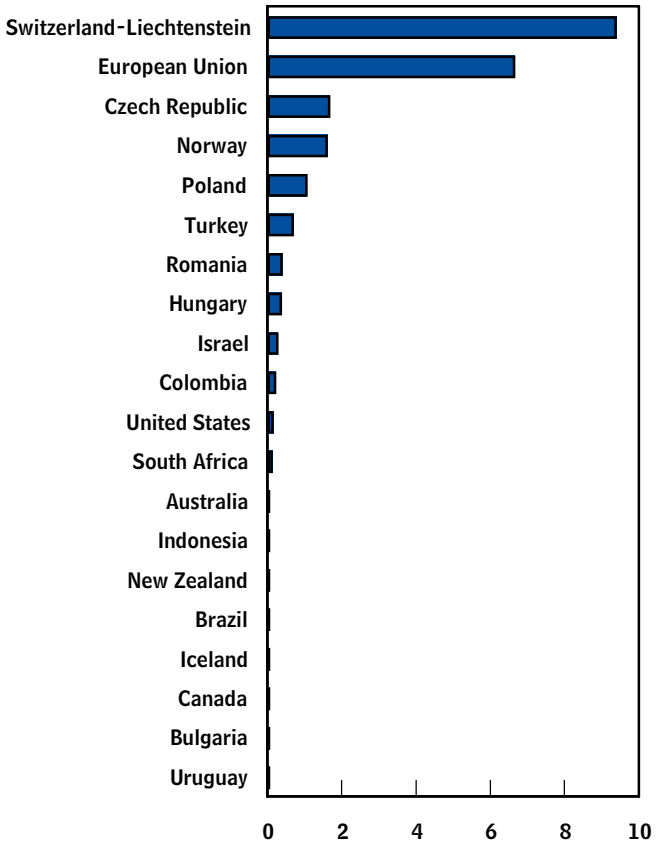
The statistics analyzed here are as up-to-date as the Congressional Budget Office was able to obtain. Most are for 2002 or earlier and therefore may not reflect subsequent policy changes. However, the Organization for Economic Cooperation and Development (OECD) publishes some measures of the combined effects of its members' tariffs and subsidies that are available up through 2004. Those measures suggest that the conclusions of this paper continue to hold true at least as they relate to the members of the OECD.

5. The Agreement on Agriculture made a temporary exception for developing countries without reduction commitments to provide certain kinds of export subsidies during the initial nine-year implementation period of the agreement. That period is now over, and the only export subsidies now allowed and subject to negotiation in the Doha Round are those subject to reduction commitments. Therefore, the discussion in this paper is restricted to those subsidies, and the temporary subsidies reported under the exception for developing countries are not addressed.

Summary Figure 4.

Countries with Export Subsidy Reduction Commitments Ranked by Average Annual Rates of Reported Export Subsidies, 1998 to Present

(Percentage of agricultural export value)



Note: Numbers are based on subsidy data reported to the World Trade Organization by the countries in question as of June 30, 2005. The most recent reports by most countries are for 2002 or earlier. Availability of export data further restricts the years and countries for which rates can be calculated. The averages for Switzerland-Liechtenstein and the Czech Republic are each based only on rates for 1999 and 2000. See Table C-3 on page 53 for sources, additional notes, and more- detailed numbers, including numbers reported for each year.

Policies That Distort World Agricultural Trade: Prevalence and Magnitude

Introduction and Background

The Doha Round of trade negotiations by the members of the World Trade Organization (WTO) was initiated by the Doha Ministerial Declaration on November 14, 2001, and a framework agreement for the talks was reached on July 31, 2004. Although a number of issues are under negotiation, the subject of most attention and contention is the liberalization of world agricultural markets.

To illuminate the issues at hand, this paper examines the major features of current policies around the world that distort agricultural production and trade. It presents statistics and tables drawn from a survey of the literature, along with others produced by the Congressional Budget Office (CBO), based on data reported to the WTO, to answer such questions as:

- What are some of the major features of agricultural tariffs around the world?
- Which countries have the highest tariffs?
- How substantial and how prevalent are subsidies for agriculture around the world?
- Which countries provide the most subsidies?
- What fraction of subsidies are relatively benign, such as those for agricultural research, and what fraction significantly distort production and trade?
- Which countries provide the most of the latter subsidies?
- Which products receive the most subsidies?

Answers to questions such as those are suggestive of the potential benefits and the distribution of benefits by country that would likely accrue from liberalization—which countries' agricultural sectors would gain and which would lose, and which countries' policies are most detrimental to economic welfare.

Although tariffs, quotas, subsidies, and other distortions of trade in manufactured goods have been progressively reduced and, in many instances, eliminated in the series of trade negotiating rounds under the General Agreement on Tariffs and Trade (GATT) since the end of World War II, significant distorting policies in the agricultural sector were to a large degree allowed to continue until the Uruguay Round, which took place from September 1986 through April 1994.[1] The Uruguay Round began the process of agricultural liberalization with the Agreement on Agriculture. An examination of the major elements of that agreement is useful for three reasons. First, it contributes to an understanding of what has been accomplished so far and what remains to be accomplished in the liberalization of agricultural production and trade policy. Second, the basic structure of WTO regulation of trade-distorting policies in the agricultural sector that was established under the agreement has carried over into the framework agreement for the Doha Round and will strongly influence the agreement reached in those negotiations. Third, many of the numbers presented below derive from data contained in reports that the agreement requires member countries to make to the WTO and are based on the structure, categories, and definitions contained in the agreement.

The agreement required liberalization in three major areas: market access, domestic support, and export subsidies (often referred to as *export competition* in multilateral

1. Trade-distorting policies are those that significantly affect the prices and quantities of goods exported or imported (or produced, since increased production affects the prices and quantities of traded goods).

trade negotiations and agreements).[2] *Market access* refers to government policies regulating imports, such as tariffs and quotas. *Domestic support* refers to various kinds of government programs to support domestic agricultural producers, such as production subsidies and price support programs. *Export subsidies* refers primarily to various kinds of subsidies to the export of agricultural products.

Market Access

For the most part, the Agreement on Agriculture prohibited nontariff protective measures. Countries that had such measures before the agreement were required to convert them to equivalent tariffs—that is, tariffs that would increase the domestic prices of the products in question by the same amount that the nontariff measures did. Countries also were required to allow foreign producers to continue to sell at least as much of those products—often referred to as "tariffied" products—as they sold in the base period of 1986-1988. That requirement was generally implemented by the use of tariff-rate quotas (TRQs), in which tariffs on imports below specified quota amounts are kept very low (to allow import levels at least equal to what had been allowed before the "tariffication"), and only imports above those quota amounts are subject to the higher tariff rates required for equivalency with the previous nontariff measures. If the market access before the agreement was less than 5 percent of domestic consumption, it had to be raised to 5 percent by 2000 in developed countries and by 2004 in developing countries. The details of the tariff-rate quotas (the under- and over-quota tariff rates and the quota levels) for each product were specified in schedules in the agreement for each member.

For products that previously were protected only by tariffs, the agreement required the "binding" of those tariffs—that is, the setting of a rate (called a *bound rate* or *tariff binding*) above which that tariff could not be raised. Each country has a schedule that lists the tariff bindings for all of its agricultural products (the same schedule as the one containing the specifics of the tariff-rate quotas, the rates for which are bound and treated equivalently to the other tariff bindings for the purpose of the next paragraph). For many developing countries, the bound rates were set higher than the rates those countries had applied prior to the agreement and are sometimes called *ceiling rates.*

Under the agreement, developed-country members were required to reduce their tariffs by 36 percent on average over a six-year period beginning in 1995, with a minimum cut of 15 percent for any given product. Developing-country members were required to reduce tariffs by 24 percent on average over 10 years, with a minimum cut of 10 percent. The least-developed countries were not required to undertake reduction commitments.

A country has the right to invoke a special safeguard provision for tariffied products provided that a reservation to that effect appears in the country's schedule next to the product in question. The special safeguard provision allows an additional tariff to be imposed when specified criteria relating to a bulge in imports or a fall in the import price are met.

Domestic Support

The agreement divides domestic support measures into five categories, or boxes: the green box, the blue box, the special and differential box, de minimis support, and the amber box.

The Green Box. The green box is for measures that were deemed to have little or no distorting effects on trade or production. A five-page annex to the agreement describes in detail the kinds of subsidies and other measures that can be included in this box. They include such measures as agricultural and environmental research programs, extension and advisory services, infrastructure services (such as roads, port facilities, and water supply facilities), marketing and promotion services, public stockholding for food security purposes, domestic food aid, income support that is decoupled from production, payments for financial relief from natural disasters, various kinds of structural adjustment, payments for environmental and conservation programs, and regional assistance programs for disadvantaged regions.

The Blue Box. Direct payments under production-limiting programs fall into the blue box if they are based on fixed areas and yields, on a fixed number of livestock, or on 85 percent or less of the base level of production. Those payments are distinguished from the fully decoupled payments that fall into the green box by the fact that they (the blue-box payments) are conditioned on there being production (which the green-box decoupled pay-

2. The discussion here of the Uruguay Round Agreement on Agriculture is based on similar discussions contained on the World Trade Organization's Web site and on the agreement itself.

ments are not) but do not directly relate to the current quantity of production.

The Special and Differential Box. The special and differential box is for "measures of assistance, whether direct or indirect, to encourage agricultural and rural development [that] are an integral part of the development programmes of developing countries, investment subsidies which are generally available to agriculture in developing country Members, and agricultural input subsidies generally available to low-income or resource-poor producers in developing country Members."[3]

De Minimis Support. Two related kinds of measures are considered de minimis: (1) product-specific support not falling into the first three boxes and for which the total value of the support does not exceed 5 percent of the total value of production of the product in question for developed countries and 10 percent for developing countries; and (2) non-product-specific support not falling into the first three boxes and for which the total value of the support does not exceed 5 percent of the value of total production of all agricultural products for developed countries and 10 percent for developing countries.

The Amber Box. All measures that do not fall into the first three boxes and are not de minimis fall into the amber box by definition. Unlike green- and blue-box measures, amber-box measures more than minimally distort trade. Unlike de minimis support, they are considered large enough for the distortion to be significant. Unlike measures in the special and differential box, they are not linked to Third World development, which the negotiators of the Agreement on Agriculture deemed to be a sufficient justification for subsidies.

The total value of a country's amber-box measures is called its total aggregate measure of support, or total AMS. The agreement required each developed country to reduce its total AMS by 20 percent over six years from its value in the 1986-1988 base period; each developing country was required to reduce its total AMS by 13 percent over 10 years. The resulting limits on amber-box subsidies are called *bound values* or *bindings*, and they are listed for each country on its schedule (the same schedule that lists the country's tariff bindings as outlined above).

3. Article 6, paragraph 2 of the Agreement on Agriculture.

Support measures in the first four categories are exempt from the limitations and reductions mandated for amber-box measures; they can be used without limit (other than the defining limit that de minimis support cannot total more than 5 percent of the value of production). Hence, they are often referred to as *exempt* measures. Amber-box measures are often referred to as *nonexempt* measures. Some countries have sought limits on green-box measures in the Doha Round, questioning whether they are as benign as they were originally deemed.

Beyond the Agreement on Agriculture, domestic agricultural subsidies and agricultural export subsidies (like subsidies in other industry sectors) are subject to the Agreement on Subsidies and Countervailing Measures (ASCM), which is another component of the overall Uruguay Round Agreement. The ASCM has its own set of categories for subsidies, with "red-light" subsidies being prohibited in almost all circumstances, "green-light" subsidies being allowed in almost all circumstances, and "yellow-light" subsidies being allowed or not allowed depending on their effects on trade. Further, in certain circumstances, it allows countries to impose countervailing duties on imports that have been subsidized by the country from which they came.

The Agreement on Agriculture contains a "peace" clause that for a time (nine years from the date the agreement took effect in 1995) made agricultural subsidies conforming to that agreement exempt from certain provisions of the ASCM, limited the applicability of other provisions, and admonished countries to exercise "due restraint" in initiating countervailing-duty investigations. The peace clause has expired, however, so agricultural subsidies are subject to all provisions of the ASCM. Hence, any agricultural subsidy must be in accordance with both the Agreement on Agriculture and the ASCM to avoid other countries' successfully challenging it in the WTO or imposing countervailing duties.

The ASCM will not be discussed further in this paper, but the reader should bear in mind that some of the subsidies discussed, although allowed by the Agreement on Agriculture, are prohibited by the ASCM in all circumstances (export subsidies and import-substitution subsidies), and others are prohibited in some circumstances. Many are subject to countervailing duties. Further, the reader should not confuse the categories of subsidies under the Agreement on Agriculture, which are used in this

paper, with the categories under the ASCM, which are not.

Export Subsidies

The agreement lists the export subsidies to which it applies. The list includes most of the subsidy practices that were prevalent in the agricultural sector at the time the agreement was negotiated. Although international food aid is not on the list, the agreement contains a separate provision designed to ensure that food aid is not used as an export subsidy. Countries were required to agree to reduction commitments for their export subsidies on a product-specific basis. In particular, developed countries were required to commit to reductions of the base-period volumes of their subsidized exports by 21 percent and of their budgetary outlays for the subsidies by 36 percent in equal annual steps over six years. Developing countries were required to reduce volumes by 14 percent and budgetary outlays by 24 percent over 10 years.

Each country's commitments, also called *bound values* or *bindings*, are listed on its schedule. In general, no export subsidies are allowed for which there are no reduction commitments. A temporary exception was made for developing countries to grant certain subsidies related to marketing costs and internal transport during the implementation period, which was defined as a period extending nine years from the date the agreement took effect in 1995. The implementation period is now over, so the only export subsidies allowed are those for which the countries granting them have made reduction commitments.

The agreement also calls for members to work toward the development of internationally agreed disciplines on export credits, export credit guarantees, and insurance programs.

Statistics on Market Access

The tariff structures of many countries are complicated, and difficulties arise in any attempt to collapse those complicated structures into simple statistics for comparison with other countries. Tariff averages are only rough indicators of countries' protective policies, and different studies will often calculate slightly different average tariff rates for the same country (see Appendix A). Nevertheless, such statistics support a number of significant conclusions about the protection of agriculture around the world, including:

- Notwithstanding the reductions mandated by the Uruguay Round Agreement on Agriculture, tariffs on agricultural goods remain substantially higher than those on manufactured goods almost everywhere around the world.

- Bound tariffs are substantially higher than actual applied tariffs in most countries—especially in developing countries—so the Doha Round tariff-reduction negotiations, which are based on bound tariffs, will have to achieve substantial reductions to have even a small effect on actual applied tariffs.

- Extreme tariffs—tariffs of over 100 percent—and tariff-rate quotas (which generally have very high tariffs on imports above quota) protect a substantial portion of agricultural production from international competition.

- U.S. agricultural tariffs are lower than those of almost all other countries. The highest tariffs in 2001, measured by the trade-weighted average, were those of a number of populous Asian countries—Korea, Taiwan, India, China, Vietnam, Thailand, and Japan—each with an average of nearly 30 percent or higher. (China's average has probably declined since 2001, however, as a result of tariff reductions it was required to make in conjunction with joining the World Trade Organization in December 2001.) Industrialized Europe (the European Union [25] plus the European Free Trade Association, or EFTA) averaged 13.9 percent, with tariff-binding averages suggesting that members of the European Free Trade Association had much higher tariffs than did the European Union (EU).[4] U.S. neighbors Mexico and Canada averaged 11.6 percent and 9.0 percent, respectively. The U.S. average was only 2.4 percent. Most developing countries had higher average rates than did most industrialized countries.

Agriculture Is Substantially More Protected Than Manufacturing

Average tariffs on agricultural goods remain higher than those on manufactured goods. That is true whether one looks at simple averages (see Table 1) or trade-weighted averages (see Table 2). It is true for the world as a whole

4. The European Free Trade Association comprises Iceland, Norway, and Switzerland-Liechtenstein.

Table 1.

Simple Average Tariff Rates for Agriculture and Manufacturing

(Percent)

	Agriculture	Manufacturing	Percentage of Agricultural Tariff Line[a] Covered by Average
Quad Countries[b]	10.7	4.0	86.7
Canada (2001)	3.8	3.6	76.0
European Union (1999)	19.0	4.2	85.9
Japan (2001)	10.3	3.7	85.5
United States (2001)	9.5	4.6	99.3
Large Middle-Income Countries[c]	26.6	13.1	91.3
Other Middle-Income Countries[d]	35.4	12.7	97.7
Lower-Income Countries[e]	16.6	13.2	99.8

Source: World Bank, *Global Economic Prospects: Realizing the Development Promise of the Doha Agenda, 2004* (Washington, D.C.: World Bank, 2003), Table 3.8, which used data from the World Trade Organization's Integrated Database.

Note: Averages are based on most-favored-nation applied ad valorem duties from the World Trade Organization's Integrated Database. In the case of tariff-rate quotas, the out-of-quota duty is used. Specific duties are not fully reflected in the averages. Available ad valorem equivalents of specific duties tend to be much higher than ad valorem rates. The right-most column gives a measure of the likely downward bias for the agricultural average resulting from tariff omissions for each country or group of countries. The bias is likely to be most severe for Canada, Japan, and the European Union.

a. A tariff line is a line in a country's tariff schedule that assigns a tariff to a particular product or group of products. Averages do not include specific tariffs; therefore, not all tariff lines are covered.

b. The name used by the source to describe the four major industrialized-country markets.

c. Brazil (2001), China (2001), India (2000), Korea (2001), Mexico (2001), Russian Federation (2001), South Africa (2001), and Turkey (2001). China joined the World Trade Organization in December 2001, and its accession agreement required significant reductions in tariffs. Therefore, if the tariff averages for this group of countries were calculated using more recent data, they would be somewhat lower.

d. Bulgaria (2001), Costa Rica (2001), Hungary (2001), Jordan (2000), Malaysia (2001), Morocco (1997), Philippines (2001), and Romania (1999).

e. Bangladesh (1999), Guatemala (1999), Indonesia (1999), Kenya (2001), Malawi (2000), Togo (2001), Uganda (2001), and Zimbabwe (2001).

(see Table 2); for low-, middle-, and high-income countries (see Tables 1 and 2); for all major regions of the world (see Table 3); and indeed for almost all individual and small groups of countries (see Table 2). The main exceptions are Australia and New Zealand (evaluated together as one), Argentina, Brazil, and Bangladesh, of which all except Bangladesh are significant agricultural exporters.

The differences between tariffs on agricultural goods and those on manufactured goods are substantial. For the world as a whole, the trade-weighted average agricultural tariff in 2001 was over three times the average for all merchandise trade (see Table 2). For high-income countries, the ratio was even higher at 5.5. Middle- and low-income countries had lower ratios at 1.9 and 1.4, respectively. The lower ratios for middle- and low-income countries do not stem from lower protection of agriculture, however, but from higher protection of other merchandise trade. The high ratio for high-income countries hides some diversity among those countries, with Australia and New Zealand together having a ratio of 0.5 and Korea and Taiwan together having a ratio of 7.2. The U.S. ratio was 1.3.

Two features of the methodology behind Table 1 create biases in opposite directions that vary in degree from country to country. One feature is that specific tariffs, which are particularly common in the protection of agriculture, are not fully reflected in the averages in the

Table 2.

Trade-Weighted Average Applied Tariff Rates for the Agricultural and Food Sectors and Total Merchandise Trade in 2001

(Percent)

	Agricultural and Food Sectors	Total Merchandise Trade	Difference	Ratio of Average Agriculture and Food Tariff Rate to Average Tariff Rate for All Merchandise Trade
World Total	16.7	5.2	11.5	3.2
High-Income Countries	16.0	2.9	13.1	5.5
Australia and New Zealand	2.6	4.8	-2.2	0.5
European Union (25) and EFTA[a]	13.9	3.2	10.7	4.3
United States	2.4	1.8	0.6	1.3
Canada	9.0	1.4	7.6	6.4
Japan	29.4	5.2	24.2	5.7
Korea and Taiwan	55.0	7.6	47.4	7.2
Hong Kong and Singapore	0.1	0	0.1	n.a.
Developing Countries	17.7	9.9	7.8	1.8
Middle-Income	16.5	8.9	7.6	1.9
Argentina	7.1	10.0	-2.9	0.7
Brazil	5.0	9.5	-4.5	0.5
China[b]	37.6	13.6	24.0	2.8
Mexico	11.6	5.1	6.5	2.3
Russia	13.5	9.7	3.8	1.4
South Africa	8.8	6.6	2.2	1.3
Thailand	29.7	10.2	19.5	2.9
Turkey	16.7	2.5	14.2	6.7
Rest of East Asia	13.7	4.6	9.1	3.0
Rest of Latin America and Caribbean	11.0	9.1	1.9	1.2
Rest of Europe and Central Asia	16.0	5.0	11.0	3.2
Middle East and North Africa	14.1	9.8	4.3	1.4
Low-Income	22.2	15.9	6.3	1.4
Bangladesh	12.7	18.4	-5.7	0.7
India	50.3	28.1	22.2	1.8
Indonesia	5.0	4.8	0.2	1.0
Vietnam	37.1	16.7	20.4	2.2
Rest of South Asia	21.3	14.6	6.7	1.5
Selected Sub-Saharan African Countries[c]	11.9	8.7	3.2	1.4
Rest of Sub-Saharan African Countries	21.4	16.2	5.2	1.3
Rest of the World	12.1	9.1	3.0	1.3

Continued

Table 2.

Continued

	Agricultural and Food Sectors	Total Merchandise Trade	Difference	Ratio of Average Agriculture and Food Tariff Rate to Average Tariff Rate for All Merchandise Trade
Memorandum:				
East Asia and Pacific	26.3	10.5	15.8	2.5
South Asia	33.9	23.5	10.4	1.4
Europe and Central Asia	14.8	6.0	8.8	2.5
Middle East and North Africa	14.1	9.8	4.3	1.4
Sub-Saharan Africa	18.2	12.6	5.6	1.4
Latin America	10.3	7.7	2.6	1.3

Source: Kym Anderson, Will Martin, and Dominique van der Mensbrugghe, "Market and Welfare Implications of Doha Reform Scenarios," Chapter 12 in Kym Anderson and Will Martin, eds., *Agricultural Trade Reform and the Doha Development Agenda* (New York: Palgrave Macmillan and the World Bank, forthcoming); Tables A12.3(a) and A12.3(d), pp. 63 and 66 of chapter draft downloaded from the World Bank's Web site on June 30, 2005.

Note: n.a. = not applicable.

a. The European Free Trade Association (EFTA) comprises Iceland, Norway, and Switzerland-Liechtenstein.

b. China joined the World Trade Organization in December 2001, and its accession agreement required significant reductions in tariffs. Therefore, if its tariff averages were calculated using more recent data, they would be lower.

c. Botswana, Malawi, Mozambique, Tanzania, Zambia, Zimbabwe, Madagascar, and Uganda.

table.[5] As noted in Appendix A, specific tariffs tend to have ad valorem equivalents that are higher than most ad valorem tariff rates. Consequently, omission of some or all of them is likely to bias the calculated averages downward, and the bias is likely to be larger for agricultural tariffs than for manufacturing tariffs. One would expect the bias to be particularly severe for Canada, with 24 percent of its agricultural tariff lines not included in its average, and for Japan and the European Union, with 14 percent of their respective agricultural tariff lines not included;[6] and indeed, the differences for Canada and Japan in Table 1 are smaller than those in Table 2.[7]

The other feature is that the out-of-quota duty is used for tariff-rate quotas, which are also particularly common in the protection of agriculture. Because some imports receive the lower within-quota tariff rate, that procedure causes an upward bias in the averages for agriculture.

Tariff Bindings Are Substantially Higher Than Applied Tariffs

Tariff bindings from the Uruguay Round Agreement on Agriculture tend to be substantially higher than the tariffs that many countries currently impose (see Table 3). The difference is smallest for developed countries, for which the average applied rate is 19 percent (5 percentage

5. *Specific* means that the tariff is defined in terms of a specific amount of money for a given quantity of the import, such as 50 cents per bushel of wheat. *Ad valorem* means that the tariff is defined in terms of a specified percentage of the value of the import.

6. A tariff line is a line in a country's tariff schedule that assigns a particular tariff to a particular product or group of products.

7. The difference for the European Union is not smaller in Table 1 than in Table 2. The comparison is not exact because the averages in Table 1are for the European Union (15) whereas those in Table 2 are for the European Union (25) plus the European Free Trade Association taken together. One might expect the inclusion of the EFTA in Table 2 to accentuate the difference, since the EFTA countries generally provide greater protection to their agriculture than does the European Union. However, unlike Table 1, Table 2 includes free-trade areas and tariff preferences to developing countries in its averages on a trade-weighted basis. That inclusion may explain the lower averages and smaller difference for Europe in that table.

Table 3.

Simple Average Bound and Applied Tariffs for Agricultural and Manufactured Products

(Percent)

	Developed Countries[a]	Asia	Africa	Middle East	Latin America	Rest of World
				Agriculture and Food		
Average Bound Tariffs	27	39	69	59	47	38
Average Applied Tariffs	22	20	40	20	17	14
Difference as a Percentage of Bound	19	50	42	65	64	62
				Manufactured Products		
Average Bound Tariffs	4	12	37	12	34	16
Average Applied Tariffs	4	8	20	6	13	6
Difference as a Percentage of Bound	10	32	47	54	62	62

Source: Benjamin Buetre and others, *Agricultural Trade Liberalization: Effects on Developing Countries' Output, Incomes, and Trade,* ABARE Conference Paper 04.6 and paper presented to 7th Annual Conference on Global Economic Analysis, Trade, Poverty, and the Environment (Washington, D.C., June 17-19, 2004), Tables 1-3, available at www.abareconomics.com.

Note: Bound tariff averages are based on final values of the most recent commitments made by each country. Applied tariffs in the database at the time of the study were for various years depending on the country, with tariffs for the largest number of countries coming from 2002, those for the second largest number from 2001, and those for the third largest number from 2000. Ad valorem equivalents of specific tariffs are not included in the averages. Numbers are based on data from the World Trade Organization's Integrated Database.

a. Australian Bureau of Agricultural and Resource Economics' estimates of average nominal rate of protection for Japan, the 15 countries of the European Union, and the United States.

points) lower than the average bound rate for agricultural and food products. The corresponding number for developing countries is 50 percent for Asia, 42 percent for Africa, 65 percent for the Middle East, 64 percent for Latin America, and 62 percent for the rest of the world. In past negotiating rounds, tariff negotiations in the manufacturing sector have typically used then-current tariff bindings as their starting point rather than actual applied tariff rates. Similarly, the framework agreement for the Doha Round calls for negotiations on agricultural tariff reductions to use current tariff bindings rather than current applied rates as their starting point. The substantial difference between tariff bindings and actual applied tariffs means that negotiated reductions will have to be fairly substantial to have much effect on actual applied tariffs and thereby on trade.

A sizable difference between applied and bound tariffs for a given country or group of countries does not necessarily mean that there is a sizable difference for all products of those countries. For some products, the difference is greater than the average and for some it is less. For developed countries, more than half of applied tariffs are equal to their bound values (excluding free-trade areas and tariff preferences for developing countries), and for the United States the proportion is substantially higher than half. Further, the averages in Table 3 are simple rather than trade-weighted averages, so it is unclear whether the particular products that cause the 5 percentage-point difference for developed countries are significant in terms of trade.

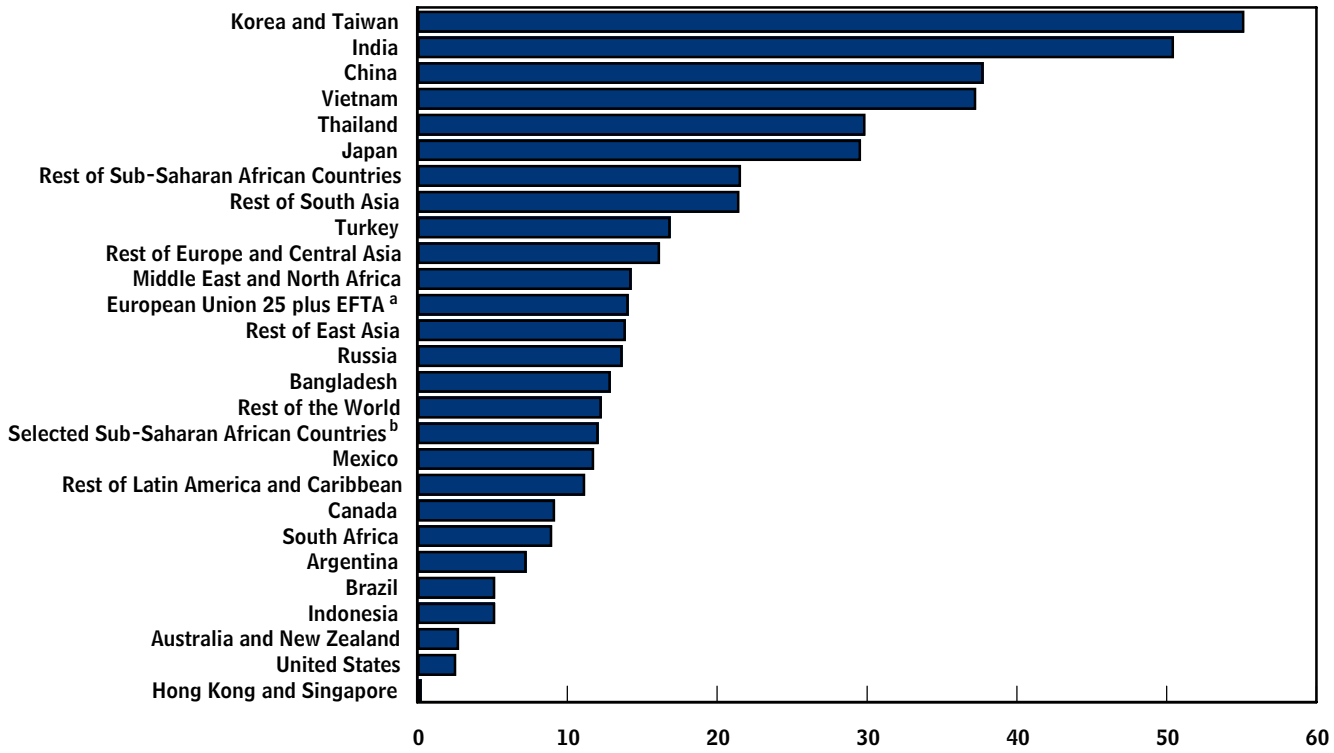
Which Countries Have the Highest Tariffs?

Measured by the trade-weighted averages, U.S. agricultural tariffs are lower than those of almost all other countries. The ranking of countries by that measure in 2001 was topped by a number of populous Asian countries—Korea, Taiwan, India, China, Vietnam, Thailand, and Japan—each with an average tariff of nearly 30 percent or higher (see Figure 1). (China's average is now probably lower than its average in 2001, however, because it was required to make tariff reductions as a condition of its

Figure 1.

Countries Ranked by Trade-Weighted Average Applied Tariff Rates in the Agriculture and Food Sector in 2001

(Percent)



Source: Kym Anderson, Will Martin, and Dominique van der Mensbrugghe, "Market and Welfare Implications of Doha Reform Scenarios," Chapter 12 in Kym Anderson and Will Martin, eds., *Agricultural Trade Reform and the Doha Development Agenda* (New York: Palgrave Macmillan and the World Bank, forthcoming), Tables A12.3(a) and A12.3(d), pages 63 and 66 of chapter draft downloaded from the World Bank Web site on June 30, 2005.

Notes: Numbers are the same as those tabulated in Table 2. Numbers presented are trade-weighted averages based on tariff data from Global Trade Analysis Project (GTAP) Release 6.05. They include tariff preferences granted by some industrialized countries to some developing countries. They also include specific tariffs and quantification of some nontariff barriers (such as tariff-rate quotas).

China joined the World Trade Organization in December 2001, and its accession agreement required significant reductions in its agricultural tariffs. Therefore, if this figure was produced using more recent tariff data, it would probably show a lower tariff average for China.

a. The European Free Trade Association (EFTA) comprises Iceland, Norway, and Switzerland-Liechtenstein.

b. Botswana, Malawi, Mozambique, Tanzania, Zambia, Zimbabwe, Madagascar, and Uganda.

admission to the WTO in December 2001.)[8] The industrialized countries of Europe—the 25 current members of the European Union plus the members of the European Free Trade Association—averaged 13.9 percent. U.S. neighbors Mexico and Canada stood at 11.6 percent and 9.0 percent, respectively. The United States was near the bottom at 2.4 percent. In general, most developing countries had higher average rates than did most industrialized countries.

Averages of tariff bindings, which are available from another source for the European Free Trade Association and the European Union separately, suggest that the tariffs of the former are much more restrictive than those of the latter.[9] The simple average tariff bindings for Norway, Switzerland-Liechtenstein, and Iceland are in excess of 100 percent, whereas the average for the European Union is 21.1 percent. The average for the United States is 11.9 percent.

Extreme Tariffs and Tariff-Rate Quotas

Not revealed by the average tariff rates is the fact that many countries have extremely high tariffs on a number of products (see Table 4). The highest EU tariff is 506.3 percent—more than 26 times the EU's average rate of 19.0 percent. The United States, with an average ad valorem rate of 9.5 percent, has tariffs as high as 350 percent. Canada, with an average ad valorem rate of only 3.8 percent, has tariffs up to 238 percent.[10]

Extreme tariffs are high enough and numerous enough to cause the simple average (mean) tariff to be noticeably higher than the median tariff in 11 of 13 regions of the world and significantly higher in nine of the regions (see Table 5). Extreme tariffs tend to shut off trade in the products in question, although many of those tariffs are the over-quota rates of TRQs so that some trade occurs within quota at lower in-quota rates.

A January 2001 survey of agricultural tariff protection found that U.S. agricultural exports face an abundance of such high tariffs (see Table 6 on page 14).[11] Twenty-five countries maintain such tariffs on all agricultural commodities. Those 25 countries are mostly small developing countries, some of them quite poor. Two of them, however (Bangladesh and Nigeria), have large populations (140 million and 117 million, respectively, in 2001) and therefore would presumably have agricultural markets of considerable size. A number of other countries impose tariffs of over 100 percent on one or more of the top 30 U.S. agricultural export products, including Canada, the EU, Switzerland, Iceland, Norway, Korea, Japan, Israel, and Romania. Consequently, each of those exports faced such tariffs in anywhere from 25 to 37 countries. The top three U.S. agricultural exports are corn, soybeans, and wheat.[12] Corn and soybeans face tariffs above 100 percent from Korea, Romania, and the countries of the EFTA; wheat faces them from Japan, Israel, Romania, and the countries of the EFTA. The EU imposes such tariffs on boneless frozen beef, residual manufactured starch, milled rice, and mixed feeds.

8. With regard to the change in the average Chinese agricultural tariff, one source states: "Depending on how preaccession agricultural-sector tariffs are weighted, the movement is either from 21 to 17 percent, or from 17 to 14 percent." See Dan Rosen, Scott Rozelle, and Jikun Huang, "Roots of Competitiveness: China's Evolving Agriculture Interests," *Policy Analyses in International Economics 72* (Washington, D.C.: Institute for International Economics, July 2004), p. 41, footnote 1. All of those numbers are lower than that presented in Table 2 and Figure 1. As explained in Appendix A, different analysts make different assumptions, which can result in the calculation of slightly—and occasionally more than slightly—different averages for the same country. Without more information on the assumptions used in the studies that produced the numbers presented here, it is not possible to determine why they differ.

9. Mary E. Burfisher, ed., *Agricultural Reform in the WTO—The Road Ahead*, Market Trade Economics Division, Economic Research Service, U.S. Department of Agriculture, Agricultural Economic Report No. 802 (May 2001), Appendix table 1-1, p. 101.

10. The average tariff rate for Canada in Table 4 is smaller than that in Table 2 at least in part because the rates in Table 4 do not include all specific tariffs and specific components of tariffs. Specific tariffs tend to have ad valorem equivalents that are higher than typical ad valorem tariffs.

11. Paul Gibson and others, *Profiles of Tariffs in Global Agricultural Markets*, Market and Trade Economics Division, Economic Research Service, U.S. Department of Agriculture, Agricultural Economic Report No. 796 (January 2001), p. 33.

12. In 1999—the date of the trade data used by the source of Table 6—the three largest exports were corn, soybeans, and wheat, in that order. In every year since, the same exports were the three largest, but the order was soybeans, corn, and wheat.

Table 4.

Average and Peak Applied Ad Valorem Agricultural Tariffs

	Average Tariff (Percent)	Maximum Tariff (Percent)	Percentage of Lines Covered[a]
Canada	3.8	238.0	76.0
European Union	19.0	506.3	85.9
Japan	10.3	50.0	85.5
United States	9.5	350.0	99.3
Korea	42.2	917.0	98.0
Brazil	12.4	55.0	100.0
Costa Rica	13.2	154.0	100.0
Indonesia	8.5	170.0	100.0
Malawi	15.3	25.0	100.0
Morocco	63.9	376.5	100.0
Togo	14.7	20.0	99.9
Uganda	12.9	15.0	100.0

Source: World Bank, *Global Economic Prospects: Realizing the Development Promise of the Doha Agenda, 2004* (Washington, D.C.: World Bank, 2003), Table 3.9, which used data from the World Trade Organization's Integrated Database. Tariff numbers for most countries are for 2001 or earlier.

Note: Statistics are based on most-favored-nation applied ad valorem duties. In the case of tariff-rate quotas, out-of-quota duty rates are used. Specific duties are not fully reflected in the averages. Available ad valorem equivalents of specific duties tend to be much higher than the rates of ad valorem tariffs. The resulting downward bias in the average for agricultural duties is particularly severe for Canada and Japan, which use non-ad valorem rates for 25 percent and 15 percent of their tariff lines, respectively. The right-most column above gives a measure of the likely downward bias for the agricultural average for each country or group of countries.

a. A tariff line is a line in a country's tariff schedule that assigns a tariff to a particular product or group of products. Lines not covered are those for which the duty is specific rather than ad valorem.

The same January 2001 survey found that tariff-rate quotas covered only 6 percent of the agricultural tariff lines and were used by only 35 of the 113 countries included in the survey.[13] Nevertheless, the effect of TRQs is substantial. Among the 35 countries that use TRQs, 23 percent of tariff lines are covered, on average, and those countries include the largest agricultural importers in the WTO (see Table 7 on page 16). The ranking of countries with the highest percentage of lines covered is similar to that of the countries with the highest tariffs. Highest is Poland (which ranked high by average tariff), with 85 percent of tariff lines covered. Poland is followed by two members of the European Free Trade Association—Iceland and Norway—with 57 and 55 percent of their tariff lines covered, respectively. Another EFTA member, Switzerland, also ranks high with 42 percent of lines covered. The European Union ranks 12th, with 28 percent of lines covered—slightly higher than the United States, which ranks 14th with 24 percent covered. Canada is just below the United States at 22 percent. Mexico ranks a good bit lower at 13 percent. Australia, Brazil, and New Zealand are at or near the bottom.

TRQs also protect a substantial portion of agricultural production in a number of countries (see Table 8 on page 18). Fifty percent of Eastern European production is protected, as is 39 percent of EU production and 26 percent of U.S. production. On average, 28 percent of production in countries of the Organization for Economic Cooperation and Development (OECD) is protected.

The over-quota tariff rates of TRQs are substantial (see Table 9 on page 19). The average for all 113 countries in the January 2001 survey is 128 percent. (The numbers presented here are bound rates, based on final implementation of the Uruguay Round Agreement on Agriculture—not actual applied rates.) Japan has the highest average over-quota rate at 422 percent. The countries of the

13. Gibson and others, *Profiles of Tariffs in Global Agricultural Markets*, p. 16.

Table 5.

Mean and Median Bound Tariffs, by Region

(Percent)

	Mean	Median
South Asia	113	100
Non-European Union Western Europe	104	45
Caribbean Islands	86	100
Sub-Saharan Africa	75	80
North Africa	71	34
Central America	54	45
Eastern Europe	49	20
Middle East	48	35
Southern Africa	39	37
South America	39	35
Asia-Pacific	34	25
European Union	30	13
North America	25	6

Source: Paul Gibson and others, *Profiles of Tariffs in Global Agricultural Markets,* Market and Trade Economics Division, Economic Research Service, U.S. Department of Agriculture, Agricultural Economic Report No. 796 (January 2001), Table 2.

Note: Means and medians are for most-favored-nation bound tariff rates based on final implementation of the Uruguay Round Agreement on Agriculture.

European Free Trade Association—Switzerland-Liechtenstein, Norway, and Iceland—rank fourth through sixth, with rates of 210, 203, and 181, respectively. The European Union is 19th at 78 percent. The United States is 27th at 52 percent. Australia and New Zealand are 34th and 35th at 25 percent and 7 percent, respectively.

The high over-quota rates are not applied in all TRQs for two reasons. First, according to a May 2001 study, 47 percent of TRQs notified to the WTO at the time of the study were not enforced. Instead, all imports under them were allowed to come in at the lower in-quota rate.[14] Second, many of the quotas of TRQs are not completely filled, meaning that the point at which the higher over-quota rate replaces the lower in-quota rate is not reached. The same study said that about 25 percent of TRQs consistently had imports that exceeded quota levels, that imports were at least 80 percent of the quota level for about one-half of TRQs, and that imports were less than 20 percent of the quota level for about one-quarter of TRQs.[15] Those percentages undoubtedly change over time with conditions in the market, but the fact remains that in any given year, the over-quota rate is not applied for many TRQs.

When TRQs that remain unenforced are subtracted from the totals, the picture regarding which countries most severely restrict trade through TRQs changes (see Table 10 on page 20). Norway and Iceland rank first and third in terms of the number of TRQs notified to the WTO, with 232 and 90, respectively. However, they enforce only 19 and 12 of those TRQs, respectively, which drops both of them below 10th in the ranking by number of TRQs enforced. The European Union and the United States enforce all of their TRQs, however, so their rankings rise—from fourth and 10th to first and fourth, respectively, with 87 and 54 TRQs notified and enforced.

Although those changes in rankings do say something about the relative restrictiveness of various countries' trade policies, it must be noted that even a TRQ without its over-quota rate applied—because that rate is not enforced or because imports do not exceed the quota—still may be quite restrictive. The average in-quota rate is 63 percent—14 percentage points higher than the 49 percent average tariff rate for all agricultural lines (see Table 11 on page 21). Members of the European Free Trade Association rank high in terms of average in-quota rates, with Norway having the highest rate at 262 percent and Switzerland and Iceland ranking seventh and ninth at 75 percent and 49 percent. Compared with its rankings by other measures, Japan ranks a low 24th at 22 percent; similarly, the European Union ranks a comparatively low 29th at 17 percent. The United States and Australia rank a still-lower 31st and 32nd at 10 percent each. At the bot-

14. Mary E. Burfisher, "Overview," in Mary E. Burfisher, ed., *Agricultural Policy Reform in the WTO—The Road Ahead*, Market and Trade Economics Division, Economic Research Service, U.S. Department of Agriculture, Agricultural Economic Report No. 802 (May 2001), p. 12. TRQs change over time just as tariffs do. This publication of the Economic Research Service lists 37 countries as having notified TRQs to the WTO rather than the 35 in the January 2001 publication referenced earlier. However, this publication does not have tables analogous to those from the earlier publication that are used above, so the tables from the earlier publication were used. The difference of two in the number of countries having notified TRQs to the WTO should not affect any of the conclusions drawn.

15. Burfisher, "Overview," p. 13.

tom are Canada and New Zealand at 3 percent and zero, respectively.

Statistics on Domestic Support

Subsidies by different countries can be compared in two key ways. One is to compare their absolute value when converted to some common currency, such as the dollar. Another is to compare the subsidy rates of each country—that is, the subsidy as a percentage of the value of agricultural output. The absolute, or dollar, value is better for measuring the total distortion of the market by a country's subsidies (leaving aside the fact that some kinds of subsidies are more distorting dollar-for-dollar than others). Subsidy rates are better for measuring the competitive advantage a country attempts to confer on its farmers and exporters through subsidies. Thus, both measures are useful, and both are therefore presented in the following discussion.

The subsidy numbers analyzed in this section are based on reports to the World Trade Organization by the various member countries as required by the Agreement on Agriculture. Both the values of the subsidies and their placement into the various boxes—green, blue, de minimis, special and differential, or amber—are (aside from conversion from foreign currency units to dollars) presented as reported by the countries, and thus their accuracy depends on the effort, judgment, and care taken by the countries in making their reports. Moreover, many countries are delinquent in their reporting, so the most recent numbers for many are several years old. Bearing those caveats in mind, one can draw a number of conclusions:

- Domestic subsidies for agriculture are substantial and pervasive around the world, with such subsidies of all kinds totaling more than $200 billion per year—roughly one-sixth of the total agricultural value added in the world—and 64 out of 76 countries reporting to the WTO that they granted subsidies of some kind in at least one of the years from 1998 through 2004.

- A few countries dominate the total dollar value of subsidies granted. The European Union and the United States each grant about one-third of the world's total—with the European Union providing a little more than the United States—and Japan provides a little less than 15 percent. Hong Kong and Singapore provide no such subsidies, and Australia grants less than one-half of 1 percent of the world's total.

- The countries with the highest rates of total subsidy—that is, total subsidies as a percentage of agricultural output—are almost entirely high-income countries. Members of the European Free Trade Association (Iceland, Norway, and Switzerland-Liechtenstein) top the list, followed by Japan, the United States, and the European Union at substantially lower but still sizable rates. Australia and New Zealand have very low rates of total subsidy.

- About one-half of all domestic subsidies fall into the green box, 10 percent fall into the blue box, 5 percent are de minimis, and one-half of 1 percent fall into the special and differential box. That leaves one-third that are the distorting subsidies that fall into the amber box and are limited by the Agreement on Agriculture.

- Although the United States and the European Union provide comparable amounts of total subsidy, much more of the U.S. total falls into the green box and much less—roughly one-third as much—falls into the amber box.

- The European Union provides more than half of the world's amber-box subsidies, the United States about one-fifth, Japan about 8 percent, and all other countries substantially less.

- The countries with the highest amber-box subsidy rates are the members of the European Free Trade Association. Next is the European Union, with a substantially lower but still high rate. The United States is much farther down the list with a rate that is substantially lower than that of the European Union. Mexico and Canada have still-lower rates, and Australia's rate is very low.

- As was the case with tariffs, amber-box bounds are substantially higher than actual amber-box subsidies for most countries, so substantial reductions in those bounds will have to be negotiated in the Doha Round to have much effect on actual subsidies.

- Half of all EU amber-box subsidies in 2001 went to beef, white sugar, and butter. No product or small group of products dominated in terms of amber-box subsidy rates. Ten products had rates higher than 50 percent, and 10 additional products had rates higher than 30 percent. Among the products with such high rates were tobacco, various fruits, beef, cotton, and rice.

Table 6.

Tariffs of Over 100 Percent Faced by the Top 30 U.S. Agricultural Exports

U.S. Export (Ranked by Value)	Countries Imposing Tariffs of Over 100 Percent Specifically on the Product in Question	Number of Countries Imposing Such Tariffs on All Agricultural Products[a]	Total Number of Countries Imposing Such Tariffs	Number of Such Tariffs Imposed
Corn	Korea, Iceland, Romania, Norway, Switzerland	25	30	34
Soybeans	Korea, Switzerland, Iceland, Norway	25	29	30
Wheat	Japan, Israel, Switzerland, Norway, Iceland, Romania	25	31	35
Cigarettes	Israel, Poland, Romania	25	28	28
Food Preparation, NES[b]	Canada, Japan, Korea, Israel, Norway, Iceland	25	31	38
Beef, Boned, Fresh and Chilled	Switzerland, Poland, Israel, South Africa, Botswana, Iceland, Morocco, Namibia, Norway, Romania, Swaziland	25	36	38
Poultry Cuts, Frozen	Barbados, Pakistan	25	26	26
Tobacco, Unprocessed	Malaysia, Israel, Poland	25	28	29
Soymeal	Iceland, Norway	25	27	27
Beef, Boneless, Frozen	EU, Norway, Switzerland, Poland, Israel, Botswana, Iceland, Namibia, Romania, South Africa, Swaziland, Tunisia	25	37	54
Cotton	None	25	25	25
Cattle Hides and Skins	Romania	25	26	26
Dog and Cat Food	Iceland	25	26	26
Residual Starch, Manufactured	EU, Norway, Iceland	25	28	28
Sorghum	Korea, Switzerland, Iceland	25	29	31
Rice, Milled	EU, Norway, Iceland, Poland, Romania, Japan	25	31	47
Almonds, Fresh and Dry, Shelled	Israel	25	26	26
Mixed Feeds, Etc.	Canada, EU, Norway, Iceland	25	29	42
Peptones and Derivatives	None	25	25	25

Continued

Table 6.

Continued

U.S. Export (Ranked by Value)	Countries Imposing Tariffs of Over 100 Percent Specifically on the Product in Question	Number of Countries Imposing Such Tariffs on All Agricultural Products[a]	Total Number of Countries Imposing Such Tariffs	Number of Such Tariffs Imposed
Wine	Israel, Egypt, Romania	25	28	41
Beef, Sheep, Goat Fat	Iceland, Norway, Romania, Switzerland	25	29	33
Bread, Pastry, Etc.	Israel, Norway, Romania	25	28	37
Pork, Fresh and Chilled	Japan, Barbados, Iceland, Norway, Romania, Tunisia	25	30	35
Potatoes, Frozen	Israel, Norway, Romania	25	28	34
Apples, Fresh	Israel, Norway, Romania, Switzerland	25	29	41
Manufactured Tobacco	Turkey, Poland, Israel, Romania	25	29	32
Whiskies	South Africa, Israel, Poland, Egypt, Romania, India, Botswana, Namibia, Swaziland	25	34	41
Soyoil	Iceland, Norway, Pakistan, Romania, Switzerland, Thailand	25	31	33
Grapes, Fresh	Israel, Romania, Switzerland	25	28	32
Forage	Korea, Iceland, Norway	25	29	31

Source Paul Gibson and others, *Profiles of Tariffs in Global Agricultural Markets,* Market and Trade Economics Division, Economic Research Service, U.S. Department of Agriculture, Agricultural Economic Report No. 796 (January 2001), Table 9 and Appendix Table 3.

Notes: Tariffs counted are all tariffs—including over-quota tariffs of tariff-rate quotas—of over 100 percent based on bound most-favored-nation tariffs as of final implementation of the Uruguay Round Agreement on Agriculture.

Products are categorized according to six-digit Harmonized System (HS) codes.

EU = European Union.

a. The following 25 countries impose tariffs over 100 percent on *all* agricultural commodities, not just the ones specifically listed: Barbados, Bangladesh, Lesotho, Nigeria, Zimbabwe, St. Vincent and Grenadines, Malawi, Zambia, Mauritius, Tanzania, Gambia, Antigua and Barbuda, Belize, Burkina Faso, Burundi, Dominica, Grenada, Guyana, Jamaica, Kenya, Kuwait, Mozambique, St. Kitts and Nevis, St. Lucia, and Trinidad and Tobago.

b. NES = not elsewhere specified.

Table 7.

Countries Ranked by Percentage of Agricultural Tariff Lines Covered by Tariff-Rate Quotas

	Tariff Lines Without TRQs (Number)	Tariff Lines with In-Quota Tariffs (Number)	Tariff Lines with Over-Quota Tariffs (Number)	TRQ Lines as a Percentage of Total
Poland	73	169	258	85
Iceland	717	524	417	57
Norway	722	368	502	55
Hungary	495	86	416	50
Botswana	296	72	178	46
South Africa	296	72	178	46
Switzerland	854	236	395	42
Colombia	234	75	67	38
Panama	181	57	56	38
Venezuela	216	62	63	37
Slovenia	160	33	33	29
European Union	1,593	333	284	28
Korea	1,134	195	173	25
United States	1,198	190	182	24
Canada	1,020	141	151	22
Japan	1,181	188	122	21
Slovak Republic	798	40	177	21
Morocco	1,205	30	279	20
Barbados	607	37	109	19
Costa Rica	669	73	86	19
Tunisia	286	14	43	17

Continued

Which Countries Provide the Most Domestic Subsidies?

Domestic subsidies for agriculture are substantial and pervasive around the world. WTO members report subsidies totaling more than $200 billion per year (see Table 12 on page 22).[16] Value added in the agricultural sector worldwide from 1999 through 2001 was roughly $1.2 trillion per year, so the reported subsidies were a little more than one-sixth of agricultural value added.[17] Out of 76 countries that reported to the WTO on their domestic subsidy practices for at least one of the years from 1998 through 2004, 64 reported providing subsidies of some kind—green box, blue box, special and differential box, de minimis, or amber box.

16. Most countries report their subsidies in foreign-currency units. CBO converted the numbers to dollar values using the average exchange rates for the calendar years in question. The numbers reported by some countries are for year-long periods (such as fiscal years) that overlap with but are not identical to the calendar year. Furthermore, even for those countries that report for the calendar year, the subsidies might occur predominantly at a time of year (or the sale of the crop might occur at a time of year) when the exchange rate was slightly different from the average for the calendar year. Therefore, the dollar values should be viewed as approximate.

17. The agricultural-value-added number is based on selected indicators from the World Bank's *World Development Indicators* database that were accessed from the World Bank's Web site at http://devdata.worldbank.org/data-query/. According to those indicators, such value added was 4.089 percent, 3.893 percent, and 3.807 percent, respectively, of world GDP in 1999, 2000, and 2001, and world GDP in those years was $30.7 trillion, $31.6 trillion, and $31.3 trillion.

Table 7.

Continued

	Tariff Lines Without TRQs (Number)	Tariff Lines with In-Quota Tariffs (Number)	Tariff Lines with Over-Quota Tariffs (Number)	TRQ Lines as a Percentage of Total
El Salvador	670	37	89	16
Guatemala	699	31	106	16
Czech Republic	1,728	46	246	14
Mexico	882	69	68	13
Thailand	683	35	54	12
Philippines	680	15	67	11
Malaysia	1,238	73	71	10
Israel	877	23	37	6
Nicaragua	671	17	29	6
Ecuador	887	18	22	4
Australia	785	11	9	2
Brazil	1,415	4	4	1
Indonesia	1,318	2	13	1
New Zealand	979	4	4	1
Average	**n.a.**	**n.a.**	**n.a.**	**23**
Total	**27,447**	**4,993**	**4,972**	**n.a.**

Source: Paul Gibson and others, *Profiles of Tariffs in Global Agricultural Markets,* Market and Trade Economics Division, Economic Research Service, U.S. Department of Agriculture, Agricultural Economic Report No. 796 (January 2001), Table 3.

Notes: A tariff line is a line in a country's tariff schedule that assigns a tariff to a particular product or group of products.

Tariffs are bound most-favored-nation rates based on final implementation of the Uruguay Round Agreement on Agriculture.

TRQ = tariff-rate quota; n.a. = not applicable.

Although the practice of providing domestic subsidies is widespread, a few countries dominate in value terms. Because so many countries have not reported for a number of years, precise percentages on a current basis cannot be determined. However, the European Union and the United States each provide a little over one-third of the total provided by all countries—the EU slightly more than the United States—and Japan a little less than 15 percent. Fourth-place Korea provides only about one-quarter the amount provided by Japan—roughly 3 percent of the world's total. Hong Kong and Singapore provide no subsidies at all, and Australia provides less than half of 1 percent. Although China joined the WTO in December 2001, it has not yet reported on its domestic subsidies for any year and therefore does not appear in Table 12.

Table 12 presents subsidy numbers over a range of years—in part to allow averaging of subsidies that fluctuate over time with economic conditions in the agricultural sector and in part to allow presentation of the most recent numbers available while at the same time allowing comparison of countries reporting recent numbers with countries whose reporting is more dated. However, the reader is warned against drawing conclusions from trends in the numbers for individual countries in this table or any of the succeeding tables in this paper that present dollar values of subsidies. Most countries provide and report their subsidies in currencies other than dollars, and the numbers are converted to dollars using exchange rates to provide the numbers in the tables so that the subsidies from different countries can be compared in a common unit of measure. Over time, exchange rates can fluctuate, creating spurious trends in the dollar values. Further-

Table 8.

Agricultural Output Covered by Tariff-Rate Quotas

	Percentage
OECD Average	28
European Union	39
United States	26
Japan	13
Eastern Europe	50
Australia and New Zealand	0
Other Industrialized Countries	49
Other Developing Countries	14

Source: World Bank, *Global Economic Prospects: Realizing the Development Promise of the Doha Agenda, 2004* (Washington, D.C.: World Bank, 2003), Figure 3.8, which is based on data from the Organization for Economic Cooperation and Development's (OECD's) Agriculture Market Access Database.

more, some subsidies may be provided as a set percentage of the output of a given product. If there is a good harvest, the output will be large and so will the value of that subsidy even if there is no change in the subsidy policy.

The subsidies of the European Union illustrate that caveat. According to Table 12, the dollar value of total EU domestic subsidies declined from $97.1 billion in 1998 to $75.7 billion in 2001—a decline of 22.1 percent. However, the value of the euro declined against the dollar by 20.0 percent over the same period.[18] Denominated in euros, EU total subsidies declined by only 2.5 percent, suggesting little change in EU policy. The value of EU production went up over that time, however, so total subsidies as a percentage of the value of output declined from 40.6 percent in 1998 to 34.3 percent in 2001, perhaps in part because of reforms in subsidy policy that the EU enacted in 2000.

Which Countries Have the Highest Domestic Subsidy Rates?

Part of the reason that the European Union and the United States dominate the subsidy totals is that their economies, and in particular their agricultural sectors, are very large. When one looks at subsidy rates—that is, total subsidies as a percentage of the value of agricultural output—the picture changes (see Figure 2). Topping the list of countries for which such rates could be calculated are the members of the European Free Trade Association—Iceland, Norway, and Switzerland-Liechtenstein—with average reported rates since 1998 ranging from 140 percent down to 83 percent of their respective agricultural outputs.[19,20] Japan, the United States, and the European Union each averaged 37 percent of agricultural output. U.S. neighbors Canada and Mexico were significantly lower, with averages of 12 percent and 11 percent, respectively.[21] Australia and New Zealand averaged only 5 percent and just under 2 percent.

Breakdown of Subsidies by WTO Category

As noted above in the discussion of the Uruguay Round Agreement on Agriculture, not all subsidies are created equal when it comes to their distortion of output and trade, and the agreement makes allowance for that with its green box, blue box, amber box, and other support measures. Roughly half of all reported domestic subsidies around the world fall into the green box, which is reserved for subsidies deemed to have little, if any, distortionary effect on output or trade (see Table 13 on page 26). Another 10 percent fall into the blue-box category, which is reserved for certain support payments linked to production-limiting programs. Only the European Union, Japan, Norway, the Czech Republic, the Slovak Republic, Slovenia, and Estonia have made use of the blue box.

About 5 percent of all subsidies fall into the de minimis category. Those subsidies can, in principle, be distortionary, but their distortionary effect is limited by the fact that they are less than 5 percent of the value of the product being subsidized. Subsidies in the special and differential box also can be distortionary, but they constitute

18. The euro declined in value from an average of $1.12002 in 1998 to an average of $0.89562 in 2001.

19. Unfortunately, lack of data on agricultural output prevents the calculation of that percentage for many countries, but it can be calculated for enough countries—those representing roughly 95 percent of the subsidies granted by all WTO members—to be reasonably informative. The most significant missing countries in terms of dollar value of their total subsidies are Brazil (7th largest), Cuba (10th), Thailand (11th), Venezuela (14th), Morocco (18th), the Philippines (19th), and Argentina (20th).

20. The average for Iceland must be qualified by the fact that rates are available only for 1998 and 1999. The only subsidy report for Switzerland-Liechtenstein is for 1998.

21. However, the only numbers for Canada are for 1998 and 1999, and the only number for Mexico is for 1998.

Table 9.

Countries Ranked by Average Over-Quota Tariff Rates of Tariff-Rate Quotas

(Percent)

	Average Tariff Over All Lines[a]	Average In-Quota Tariff for TRQ Lines	Average Over-Quota Tariff for TRQ Lines
Japan	58	22	422
Korea	66	19	314
Malaysia	25	106	248
Switzerland	120	75	210
Norway	142	262	203
Iceland	113	49	181
Indonesia	48	65	179
Israel	75	79	151
Mexico	43	48	148
Canada	23	3	139
Colombia	87	132	137
Guatemala	49	32	118
Morocco	65	148	115
Barbados	102	141	114
Tunisia	110	26	109
Venezuela	52	37	101
Thailand	35	27	91
Panama	43	15	83
European Union	30	17	78
El Salvador	41	25	75
Nicaragua	61	44	71
Slovenia	51	17	71
Botswana	39	20	69
South Africa	39	20	69
Costa Rica	42	44	68
Poland	48	31	59
United States	12	10	52
Czech Republic	12	28	48
Ecuador	26	30	43
Brazil	37	7	42
Slovak Republic	13	30	42
Hungary	29	26	40
Philippines	34	40	36
Australia	4	10	25
New Zealand	7	0	7
Overall Average	**49**	**63**	**128**

Source: Paul Gibson and others, *Profiles of Tariffs in Global Agricultural Markets,* Market and Trade Economics Division, Economic Research Service, U.S. Department of Agriculture, Agricultural Economic Report No. 796 (January 2001), Table 3.

Notes: Tariffs are bound most-favored-nation rates based on final implementation of the Uruguay Round Agreement on Agriculture.

TRQ = tariff-rate quota.

a. A tariff line is a line in a country's tariff schedule that assigns a tariff to a particular product or group of products.

Table 10.

Countries Ranked by Numbers of Notified and Enforced Tariff-Rate Quotas

	TRQs Notified	TRQs Enforced	TRQs Applied as Tariff
		Countries Ranked by Number of Notified TRQs	
Norway	232	19	213
Poland	109	35	74
Iceland	90	12	78
European Union	87	87	0
Bulgaria	73	45	28
Hungary	70	68	2
Colombia	67	34	33
South Korea	64	63	1
Venezuela	61	2	59
United States	54	54	0
All Others	461	307	154
Total	**1,368**	**726**	**642**
		Countries Ranked by Number of Enforced TRQs	
European Union	87	87	0
Hungary	70	68	2
South Korea	64	63	1
United States	54	54	0
Bulgaria	73	45	28
Poland	109	35	74
Colombia	67	34	33
South Africa	53	25	28
Czech Republic	24	24	0
Slovakia	24	24	0
All Others	743	267	476
Total	**1,368**	**726**	**642**

Source: David Skully, "Liberalizing Tariff-Rate Quotas," Chapter 3 in Mary E. Burfisher, ed., *Agricultural Reform in the WTO—The Road Ahead,* Market Trade Economics Division, Economic Research Service, U.S. Department of Agriculture, Agricultural Economic Report No. 802 (May 2001), Table 3-4.

Note: TRQ = tariff-rate quota.

only about one-half of 1 percent of all subsidies. Hence, for the world market as a whole, they are not very significant in comparison with the other categories (although they may indeed be significant to some of the countries that make use of them). Excluding all of the preceding categories leaves roughly one-third of all subsidies worldwide falling into the amber box, ranging from $78 billion to $80 billion in 1998 and 1999 down to a little less than $65 billion in 2001 when rough corrections are made for significant nonreporting countries. Those are the subsidies that most distort trade and that therefore were limited and reduced by the Agreement on Agriculture.

Individual countries vary substantially from the proportions for the world as a whole, with significant implications for the relative distortion caused by the countries' policies and for the treatment of their policies by the Agreement on Agriculture. Of particular note are the different proportions of the European Union and the United States. As noted above, the European Union and

Table 11.

Countries Ranked by Average In-Quota Tariff Rates of Tariff-Rate Quotas

(Percent)

	Average Tariff Over All Lines	Average In-Quota Tariff for TRQ Lines	Average Over-Quota Tariff for TRQ lines
Norway	142	262	203
Morocco	65	148	115
Barbados	102	141	114
Colombia	87	132	137
Malaysia	25	106	248
Israel	75	79	151
Switzerland	120	75	210
Indonesia	48	65	179
Iceland	113	49	181
Mexico	43	48	148
Costa Rica	42	44	68
Nicaragua	61	44	71
Philippines	34	40	36
Venezuela	52	37	101
Guatemala	49	32	118
Poland	48	31	59
Slovak Republic	13	30	42
Ecuador	26	30	43
Czech Republic	12	28	48
Thailand	35	27	91
Hungary	29	26	40
Tunisia	110	26	109
El Salvador	41	25	75
Japan	58	22	422
Botswana	39	20	69
South Africa	39	20	69
Korea	66	19	314
Slovenia	51	17	71
European Union	30	17	78
Panama	43	15	83
United States	12	10	52
Australia	4	10	25
Brazil	37	7	42
Canada	23	3	139
New Zealand	7	0	7
Overall Average	**49**	**63**	**128**

Source: Paul Gibson and others, *Profiles of Tariffs in Global Agricultural Markets,* Market and Trade Economics Division, Economic Research Service, U.S. Department of Agriculture, Agricultural Economic Report No. 796 (January 2001), Table 3.

Notes: Tariffs are bound most-favored-nation rates based on final implementation of the Uruguay Round Agreement on Agriculture.

TRQ = tariff-rate quota.

Table 12.

Total Domestic Support Reported by Countries to the World Trade Organization

(Millions of current U.S. dollars)

	1998	1999	2000	2001	2002	2003	2004	Average Reported Value, 1998–Present
European Union	97,143	93,791	81,574	75,708				87,054
United States	64,973	74,046	74,200	72,130				71,337
Japan	29,745	31,245	31,812	27,457	25,005			29,053
Korea	5,532	6,357	6,473					6,120
Switzerland-Liechtenstein	4,448							4,448
Mexico	3,221							3,221
Brazil	3,285	2,971	2,850	2,769	2,301	2,633		2,801
Norway	3,003	2,915	2,612	2,485				2,754
Canada	2,142	2,551	3,106					2,600
Cuba	1,621	1,225	1,454	1,514	1,873	2,344		1,672
Thailand	1,556	1,524	1,640	1,673				1,598
Australia	901	899	909	897	1,184	1,435		1,038
Poland	1,152	836	894	482	1,047			882
Venezuela	845							845
Hungary	686	595	467	753	907			682
Israel	792	637	712	693	538			674
South Africa	607	554	457	351	375			469
Morocco	446	430	418	427	391			423
Philippines	261	372	466	392				373
Argentina	370	378	348					366
Turkey	594	401	207	60				316
Romania	458	255	341	312	208			315
Czech Republic	228	283	303	375	329			303
Pakistan	291	251						271
Cyprus	195	234	191	223	240	306		231
Iceland	224	233	221					226
Slovak Republic	230	187	247	185	167	221		206
Slovenia	187	181	158	196	223	262		201
Malaysia	161							161
Colombia	206	126	104	236	192	81		158
Indonesia	131	205	105					147
Tunisia	161	161	121	115				139
Chile	115	131	163	147	138			139
New Zealand	118	133	108	88	112	144		117
Latvia		66	68	78				71
Bulgaria	62	85	65	56				67
Zambia	61							61

Continued

Table 12.

Continued

	1998	1999	2000	2001	2002	2003	2004	Average Reported Value, 1998–Present
Jordan			64	54	33			50
Dominican Republic	15	23	40	130	44	35		48
Uruguay	53	43	51	58	32	29		44
Estonia			30	27	44			34
Barbados	32	31	33	31				32
Costa Rica	29	20						24
Paraguay	19	28	26	17	17	11		20
Malawi	27		8					17
Namibia	17	17						17
Trinidad and Tobago	11	16	14	17	18	17		15
Armenia						14		14
Guyana	16	12	14	12	11	11	13	13
Macedonia						13		13
Zimbabwe	13	11						12
Guatemala	8	13	13	12				11
Nicaragua	2	13	12	9	9			9
Jamaica	8	8						8
Honduras	0.4	1.9	0.6	3.3	4.2	13.8		4
Georgia			4	6	2	4		4
Egypt	4							4
Malta	4	4	3					4
Mongolia	4	3						3
Oman			1	3	4			3
Kyrgyz Republic	3							3
United Arab Emirates	0	0	3.0	3.4				1.6
Maldives	0.002							0.002
Burundi	0		>0		>0		>0	>0[a]
Bolivia	0	0	0					0
Ecuador	0	0	0					0
El Salvador	0	0	0	0	0			0
Gabon	0	0	0					0
Haiti		0						0
Hong Kong	0	0	0	0	0	0		0
Macau	0	0	0	0	0	0	0	0
Madagascar	0	0						0
Myanmar	0	0	0					0
Qatar							0	0
Singapore	0	0	0	0	0	0		0
Uganda	0							0

Continued

Table 12.

Continued

	1998	1999	2000	2001	2002	2003	2004	Average Reported Value, 1998–2004
Total, All Reporting Countries	226,413	224,500	213,107	190,187	35,447	7,574	13	221,945

Source: Congressional Budget Office based on foreign-currency-denominated subsidy data from "Table 2—Use of Bound Total AMS Commitments by Member, 1995-2004," in World Trade Organization, *Total Aggregate Measurement of Support: Note by the Secretariat,* TN/AG/S/13 (January 27, 2005); "Direct Payments under Production-limiting Programmes (Article 6.5 of the Agreement on Agriculture—"Blue Box") by Member, 1995-2003," in World Trade Organization, *Blue Box Support: Note by the Secretariat,* TN/AG/S/14 (January 28, 2005); "Table 1—Value of Product-specific and Non-product-specific De Minimis Support by Member, 1995-2003," in World Trade Organization, *De Minimis Support: Note by the Secretariat,* TN/AG/S/16 (February 1, 2005); and member-country reports to the World Trade Organization; and on exchange-rate data from International Monetary Fund, *International Financial Statistics.*

Notes: Numbers are based ultimately on subsidy data reported to the World Trade Organization (WTO) by the countries in question as of June 30, 2005. A blank space indicates that the country has not reported its subsidies for the year in question.

The following countries have agreed to WTO domestic subsidy commitments but have never reported their subsidies or lack thereof to the WTO and therefore are not included in this table: China, Croatia, Lithuania, Moldova, Papua New Guinea, and Taiwan. The following countries reported their subsidies or lack thereof to the WTO for at least one of the years from 1995 through 1997 but not for any year since and therefore are not included in this table: Bahrain, Benin, Botswana, Fiji, Gambia, India, Kenya, Nigeria, Peru, and Sri Lanka.

Most countries report their subsidies in foreign currency units. CBO converted the numbers to dollar values using the average exchange rates for the calendar years in question. The numbers reported by some countries are for year-long periods (such as fiscal years) that overlap with but are not identical to the calendar year. Furthermore, even for those countries that report for the calendar year, the subsidies might occur predominantly at a time of year (or the sale of the crop might occur at a time of year) when the exchange rate was slightly different from the average for the calendar year. Therefore, the dollar values should be viewed as approximate.

a. Burundi reported that its only subsidies in 2000, 2002, and 2004 were those in the special and differential box and did not report their magnitude.

the United States provide comparable amounts of domestic subsidies (summing over all categories) in dollar-value terms—the European Union granting a slightly larger amount of subsidies but also having a slightly larger agricultural output, with the result that the EU subsidy rate is very close to that of the United States. However, roughly 70 percent of U.S. subsidies fall into the green box and a little under 10 percent fall into the de minimis category, leaving only slightly more than 20 percent that are the amber-box subsidies that distort trade and are limited by the Agreement on Agriculture. At the same time, only about one-quarter of EU subsidies fall into the green box, and only a little more than one-half of 1 percent fall into the de minimis category. Consequently, even with roughly one-quarter of its subsidies falling into the blue box, one-half of EU subsidies still fall into the amber box. As a result, the European Union has three times the dollar value of amber-box subsidies that the United States has. (The numbers presented here are average reported values from 1998 through 2001—the last years for which either the European Union or the United States has reported its subsidies. The EU's amber-box subsidies were a little less than three times those of the United States in 2000 and 2001 and a little more in 1998 and 1999.)

The various U.S. and EU domestic support programs and the boxes they fall into are discussed in Box 1 on page 28.

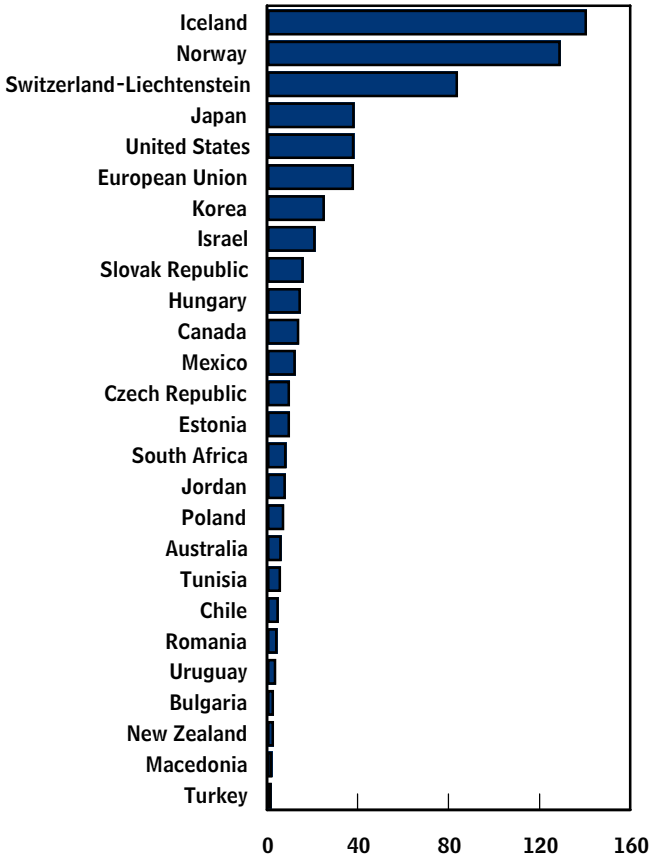
Which Countries Provide the Most Amber-Box Subsidies?

How, then, do countries rank in terms of the dollar value of their amber-box subsidies? The distribution of such subsidies is more highly skewed than is that for total subsidies, with each of the most highly subsidizing countries providing roughly three times the subsidies of the next-highest-ranking country (see Table 14 on page 30). The European Union dominates with average annual reported subsidies since 1998 of $44.7 billion—almost 60 percent

Figure 2.

Countries Ranked by Average Annual Rate of Total Reported Domestic Support, 1998 to Present

(Percentage of agricultural output value)



Note: Numbers are based on subsidy data reported to the World Trade Organization by the countries in question as of June 30, 2005. The most recent reports by most countries are for 2002 or earlier. Availability of output data further restricts the years and countries for which rates can be calculated. The average for Iceland is based only on rates for 1998 and 1999, and the "average" for Switzerland-Liechtenstein is based only on the rate for 1998. See Table C-1 on page 50 for sources, additional notes, and more-detailed numbers, including subsidy rates for each year.

of the sum total of the averages for all reporting countries.[22] The United States is a distant second with an average of $14.6 billion, or roughly 20 percent of the reported world total.[23] Japan is a distant third at $6.1 billion, or 8 percent. Fourth-place Switzerland-Liechtenstein provided 3 percent of the reported world total, and Mexico, Korea, and Norway each provided 2 percent. Every other country provided less than 1 percent.[24]

The dollar value of the EU's amber-box subsidies declined more dramatically than was the case for its total domestic subsidies—from $52.3 billion in 1998 to $35.2 billion in 2001, or by 32.7 percent. More than half of that decline was a figment of the decline of the euro relative to the dollar. The euro value of EU amber-box subsidies declined by 15.9 percent, probably as a result of the reforms that the EU enacted in 2000. As a share of the value of agricultural output, the subsidies fell from 21.9 percent to 15.9 percent.

Which Countries Have the Highest Amber-Box Subsidy Rates?

The ranking of the United States drops significantly when one looks at amber-box subsidy rates (see Figure 3 on page 32). The members of the European Free Trade Association—Iceland, Norway, and Switzerland-Liechtenstein—have the highest rates among the countries for which rates could be calculated, with average reported subsidies equal to 113 percent, 60 percent, and 42 percent of the values of their respective agricultural outputs.[25,26] By comparison, the fourth-place European

22. When rough corrections are made for significant nonreporting countries in the later years, the percentage is higher in 1998 and 1999 (67 percent and 61 percent, respectively) and lower in 2000 and 2001 (roughly 55 percent in both years).

23. When rough corrections are made for significant nonreporting countries in the later years, the U.S. percentage is lower in 1998 (13.3 percent) and higher in 2000 and 2001 (roughly 23 percent and 22 percent, respectively).

24. The numbers for Switzerland-Liechtenstein and Mexico must be qualified by the fact that the only year for which they have reported to date is 1998.

25. As was the case with total domestic subsidies, lack of agricultural output data prevents calculation of amber-box subsidies as a percentage of output for most countries. However, the percentages can be calculated for almost all of the most significant countries. Output numbers are available for 20 of the 29 countries reporting non-zero amber-box subsidies in at least one of the years from 1998 through 2004, and output numbers are not necessary to deduce that the percentages are zero for the 47 countries that reported no amber-box subsidies. The nine missing countries are Thailand (10th-largest amber-box subsidies by dollar value), Venezuela (13th largest), Argentina (18th), Cyprus (20th), Slovenia (21st), Colombia (22nd), Morocco (24th), Brazil (26th), and Costa Rica (28th).

26. Once again, the number for Switzerland-Liechtenstein must be qualified by the fact that the only subsidy report for the period is for 1998.

Table 13.

Average Annual Domestic Support Reported by Countries to the World Trade Organization by Category, 1998 to Present

(Millions of current U.S. dollars)

	Total Domestic Support	Green Box	Blue Box	Special and Differential Box	De Minimis Support	Amber Box
European Union	87,054	20,355	21,466	0	511	44,722
United States	71,337	50,076	0	0	6,644	14,617
Japan	29,053	21,939	699	0	354	6,061
Korea	6,120	4,295	0	42	478	1,305
Switzerland-Liechtenstein	4,448	2,191	0	0	0	2,258
Mexico	3,221	1,645	0	145	0	1,430
Brazil	2,801	1,442	0	343	1,003	14
Norway	2,754	529	929	0	0	1,296
Canada	2,600	1,204	0	0	817	578
Cuba	1,672	1,653	0	18	0	0
Thailand	1,598	1,019	0	90	51	439
Australia	1,038	920	0	0	9	108
Poland	882	539	0	0	0	344
Venezuela	845	588	0	47	0	211
Hungary	682	152	0	0	70	460
Israel	674	303	0	0	71	300
South Africa	469	399	0	0	2	68
Morocco	423	260	0	143	0	19
Philippines	373	242	0	60	71	0
Argentina	366	285	0	0	0	81
Turkey	316	0	0	0	316	0
Romania	315	109	0	0	206	0
Czech Republic	303	179	8	0	0	116
Pakistan	271	251	0	0	20	0
Cyprus	231	163	0	10	7	52
Iceland	226	44	0	0	0	182
Slovak Republic	206	62	8	0	0	137
Slovenia	201	145	26	0	0	31
Colombia	158	85	0	45	0	27
Malaysia	161	126	0	35	0	0
Indonesia	147	147	0	0	0	0
Tunisia	139	57	0	51	11	20
Chile	139	101	0	4	34	0
New Zealand	117	117	0	0	0	0
Latvia	70.6	54.6	0	0	16.0	0
Bulgaria	66.9	36.6	0	0	14.9	15.4

Continued

Table 13.

Continued

	Total Domestic Support	Green Box	Blue Box	Special and Differential Box	De Minimis Support	Amber Box
Zambia	60.5	60.5	0	0	0	0
Jordan	50.4	22.7	0	3.4	24.0	0.4
Dominican Republic	47.7	47.7	0	0	0	0
Uruguay	44.2	32.6	0	4.1	7.6	0
Estonia	33.7	20.5	11.8	0	1.4	0
Barbados	31.7	28.2	0	3.5	0	0
Costa Rica	24.4	19.7	0	3.9	0	0.8
Paraguay	19.6	19.3	0	0.3	0	0
Malawi	17.5	0	0	17.5	0	0
Namibia	17.1	13.8	0	3.3	0	0
Trinidad and Tobago	15.5	15.5	0	0	0	0
Armenia	13.9	13.9	0	0	0	0
Guyana	12.7	12.7	0	0	0	0
Macedonia	12.6	5.4	0	0	1.9	5.3
Zimbabwe	11.6	11.6	0	0	0	0
Guatemala	11.3	11.3	0	0	0	0
Nicaragua	9.0	9.0	0	0	0	0
Jamaica	8.1	8.1	0	0	0	0
Honduras	4.0	3.0	0	1.0	0	0
Georgia	3.9	3.9	0	0	0	0
Egypt	3.7	1.3	0	2.4	0	0
Malta	3.6	3.6	0	0	0	0
Mongolia	3.4	3.4	0	0	0	0
Oman	2.7	2.7	0	0	0	0
Kyrgyz Republic	2.7	2.7	0	0	0	0
United Arab Emirates	1.6	0.4	0	1.2	0	0
Sum of Annual Averages for All Countries	**221,945**	**112,087**	**23,147**	**1,074**	**10,739**	**74,898**

Source: Congressional Budget Office based on sources listed in Table 12.

Notes: Numbers are based on subsidy data reported to the World Trade Organization by the countries in question as of June 30, 2005. The most recent reports by most countries are for 2002 or earlier. See Table 12 for additional notes.

Box 1.

Domestic Support Programs in the United States and the European Union

In the United States, producers of grains, cotton, oilseeds, peanuts, and several other, minor crops are eligible for support in the forms of fixed direct payments, countercyclical payments, and marketing-loan-program benefits. Dairy, sugar, and tobacco prices also have been supported through production and import control programs. Legislation enacted in 2004 terminated federal price-support and supply-control programs for tobacco.

In the European Union (EU), the Common Agricultural Policy (CAP) has traditionally supported "intervention" prices for agricultural commodities through purchase and storage programs, production controls, export subsidies, and high tariffs. More recently, direct payments tied to historical production have, to some extent, replaced intervention pricing and production controls.

U.S. Support Programs

The major U.S. domestic support programs for field crops (grains, oilseeds, cotton, and rice) are direct payments, countercyclical payments, and marketing-loan benefits.

Direct Payments. Producers with a history of land planted with the major field crops and certain other crops are eligible for fixed direct payments, which do not vary with current production or prices. The payments are calculated by multiplying 85 percent of historical acreage planted with the crop on the farm *times* the historical yield on the farm *times* a fixed payment rate. Direct payments, because they are decoupled from current production and prices, have generally been considered green-box support—a category of domestic support for agriculture that is exempt from reduction commitments under the Uruguay Round Agreement on Agriculture because negotiators deemed it to have little or no distorting effects on trade or production. (Direct payments are similar to production flexibility contract payments, which were classified as green-box support in 2001. However, a recent World Trade Organization ruling in a case brought by Brazil against U.S. cotton subsidies suggests that direct payments may not be fully compliant with green-box requirements because production of fruits and vegetables is not permitted on payment acres.)

Countercyclical Payments. Producers eligible for direct payments also may be eligible for countercyclical payments, which vary with current market prices but not with current production. Payments are calculated by multiplying historical production on the farm as calculated for fixed payments (although farmers were given the opportunity to update historical yields when they signed up for countercyclical payments) *times* the difference between the price guarantee for the crop set in statute and the market price (or the loan rate if the loan rate is higher than the market price). Although not yet officially classified, countercyclical payments will probably be classified as amber-box support—the category of domestic support that has the most distorting effects on trade and therefore is subject to reduction commitments under the Agreement on Agriculture—because they are not decoupled from current market prices. They replaced market-loss payments, which were classified as amber-box support in 2001.

Box 1.
Continued

Marketing-Loan Benefits. Producers of the major field crops and certain other crops are eligible for marketing-loan benefits on harvested production when the market price is less than the statutory loan rate for the crop. Under the loan program, producers use their crops as collateral for the loan (the amount of the loan is calculated as the loan rate *times* the amount of crop placed under loan). The producer can forfeit the crop to the federal government if the market price is less than the loan rate at the end of the nine-month loan term. Alternatively, to limit forfeitures, the producer is allowed to repay the loan at the market price if the market price is less than the loan rate. The difference between the original loan rate and the lower repayment rate is the amount of the marketing-loan benefit. Producers who decide not to participate in the loan program are eligible for loan deficiency payments equal to the marketing-loan gain. Because marketing-loan benefits are tied to current production and prices, they are classified as amber-box support.

EU Support Programs

The EU offers support to its agricultural sector through a domestic price-support program and several direct-payment programs.

Domestic Price Support. Under the CAP, the EU has supported agricultural prices by setting high tariffs on imports from outside the region and agreeing to purchase unlimited quantities of domestic production whenever the market price falls below the statutory intervention price (support price). The government subsidizes the cost of storing or exporting the surplus commodities. Spending for commodity purchases and storage associated with the intervention pricing programs has been classified as amber-box support. Reforms since 1992 have lowered intervention prices and to some extent have substituted direct payments for the benefits producers derived from price-support programs.

Direct Payments. Direct payments to compensate producers for reductions in intervention prices began in 1994 and were increased in 2000 with further reductions in price supports. Compensatory payments are based on historical yields, although crop production is required for payment eligibility. A paid land set-aside program, under which producers were required to take some of their land out of production, was implemented in 1992 as a condition of eligibility for direct payments. The set-aside for grain producers has ranged from 5 percent to 10 percent in recent years. Most compensatory payments were replaced by Single Farm Payments when the CAP was reformed in 2003. Compensatory payments have been classified as blue-box support—payments based on fixed areas and yield, on a fixed number of livestock, or on 85 percent or less of the base level of production and which are exempt from reduction commitments under the Agreement on Agriculture. In contrast, the Single Farm Payments have generally been considered as green-box support (although the exclusion of certain crops from payment acreage suggests that those payments, like the direct payments in the United States, may not be fully compliant with green-box requirements).

Table 14.

Amber-Box Support Reported by Countries to the World Trade Organization

(Millions of current U.S. dollars)

	1998	1999	2000	2001	2002	2003	2004	Average Reported Value, 1998–Present	Final Bound Value
European Union	52,286	51,085	40,337	35,181				44,722	82,904
United States	10,392	16,862	16,803	14,413				14,617	19,103
Japan	5,855	6,565	6,574	5,486	5,822			6,061	36,587
Switzerland-Liechtenstein	2,258							2,258	3,399
Mexico	1,430							1,430	11,935
Korea	1,115	1,305	1,495					1,305	1,291
Norway	1,443	1,383	1,169	1,190				1,296	1,685
Canada	532	632	571					578	3,287
Hungary	456	271	362	554	656			460	165
Thailand	397	457	493	411				439	472
Poland	301	237	336	482	363			344	3,329
Israel	412	257	325	259	248			300	569
Venezuela	211							211	1,131
Iceland	184	185	177					182	192
Slovak Republic	219	170	171	156	45	59		137	312
Czech Republic	31	126	131	144	147			116	524
Australia	75	40	124	160	116	135		108	346
Argentina	81	80	80					81	26
South Africa	148	129	63	0	0			68	309
Cyprus	42	53	38	44	54	79		52	107
Slovenia	73	58	14	13	13	15		31	76
Colombia	10	7	5	37	80	26		27	345
Tunisia	54	25	0	0				20	49
Morocco	13	18	15	27	25			19	77
Bulgaria	15	10	13	23				15	642
Brazil	83	0	0	0	0	0		14	912
Macedonia						5		5	20
Costa Rica	0.1	1.6						0.8	15.9
Jordan			0.04	0	1.0			0.4	1.9
Armenia						0		0	
Barbados	0	0	0	0				0	
Bolivia	0	0	0					0	
Burundi	0		0		0		0	0	
Chile	0	0	0	0	0			0	
Cuba	0	0	0	0	0	0		0	
Dominican Republic	0	0	0	0	0	0		0	
Ecuador	0	0	0					0	
Egypt	0							0	
El Salvador	0	0	0	0	0			0	

Continued

Table 14.

Continued

	1998	1999	2000	2001	2002	2003	2004	Average Reported Value, 1998–Present	Final Bound Value
Estonia			0	0	0			0	
Gabon	0	0	0					0	
Georgia			0	0	0	0		0	
Guatemala	0	0	0	0				0	
Guyana	0	0	0	0	0	0	0	0	
Haiti		0						0	
Honduras	0	0	0	0	0	0		0	
Hong Kong	0	0	0	0	0	0		0	
Indonesia	0	0	0					0	
Jamaica	0	0						0	
Kyrgyz Republic	0							0	
Latvia		0	0	0				0	
Macau	0	0	0	0	0	0	0	0	
Madagascar	0	0						0	
Malawi	0		0					0	
Malaysia	0							0	
Maldives	0							0	
Malta	0	0	0					0	
Mongolia	0	0						0	
Myanmar	0	0	0					0	
Namibia	0	0						0	
New Zealand	0	0	0	0	0	0		0	190
Nicaragua	0	0	0	0	0			0	
Oman			0	0	0			0	
Pakistan	0	0						0	
Paraguay	0	0	0	0	0	0		0	
Philippines	0	0	0	0				0	
Qatar							0	0	
Romania	0	0	0	0	0			0	
Singapore	0	0	0	0	0	0		0	
Trinidad and Tobago	0	0	0	0	0	0		0	
Turkey	0	0	0	0				0	
Uganda	0							0	
United Arab Emirates	0	0	0	0				0	
Uruguay	0	0	0	0	0	0		0	
Zambia	0							0	
Zimbabwe	0	0						0	
World Total	**78,115**	**79,960**	**69,297**	**58,578**	**7,569**	**320**	**0**	**74,898**	

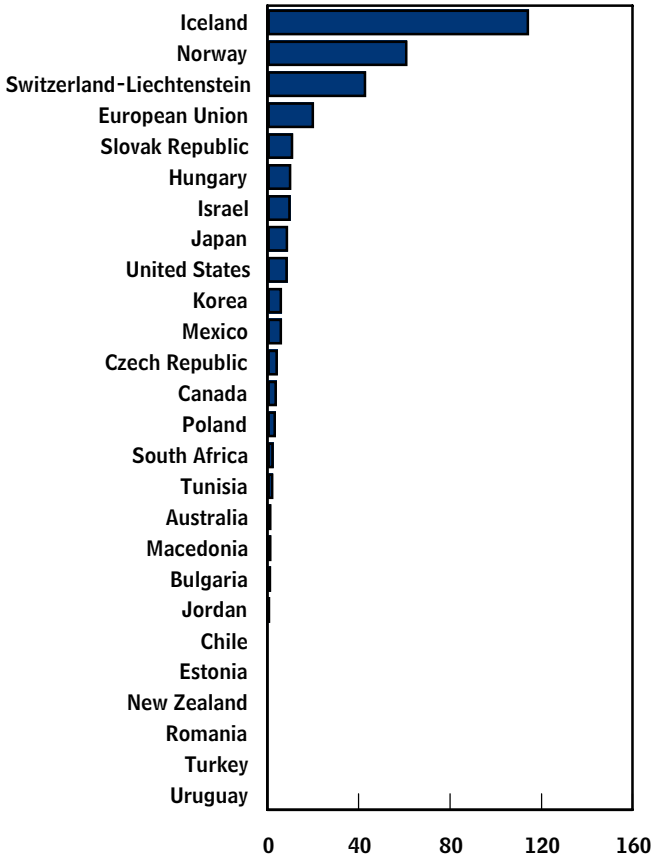
Source: Congressional Budget Office based on sources listed in Table 12.

Notes: Numbers are based on subsidy data reported to the World Trade Organization by the countries in question as of June 30, 2005. See Table 12 for other notes.

Figure 3.

Countries Ranked by Average Annual Rate of Reported Amber-Box Subsidies, 1998 to Present

(Percentage of agricultural output value)



Note: Numbers are based on subsidy data reported to the World Trade Organization by the countries in question as of June 30, 2005. The most recent reports by most countries are for 2002 or earlier. Availability of output data further restricts the years and countries for which rates can be calculated. The average for Iceland is based only on rates for 1998 and 1999, and the "average" for Switzerland-Liechtenstein is based only on the rate for 1998. See Table C-2 on page 52 for sources, additional notes, and more-detailed numbers, including subsidy rates for each year.

Union was low at an average rate of 19 percent and a still-lower rate of 15.9 percent in 2001, although those rates are sufficient to give a considerable competitive advantage over imports (or to offset a considerable competitive disadvantage). The United States was much lower still at 7.7 percent. Mexico and Canada averaged 5.1 percent and 3.0 percent, respectively.[27] Australia averaged only 0.5 percent.

Amber-Box Bindings Are Substantially Higher Than Actual Amber-Box Subsidies

As was the case with tariffs, bound values for amber-box subsidies for most countries are substantially higher than the actual values that have been granted each year from 1998 through the present (see Table 14). The European Union's most recent reported amber-box-subsidy total was less than half its final bound value. The most recent U.S. total was almost 25 percent below the final U.S. bound value. Japan's was 84 percent below.[28]

The framework agreement for the Doha Round says: "Each such Member will make a substantial reduction in the overall level of its trade-distorting support from bound levels." Given how much lower most countries' support levels are than their bound levels, the reductions will indeed have to be substantial if they are to have much effect on actual subsidies.

Which Products Receive the Most Amber-Box Subsidies?

Because of the dominance of the European Union in the use of amber-box subsidies around the world, the breakdown of EU amber-box subsidies by product is of interest as an indicator of the distortion of world agricultural output and trade by product. Half of all EU amber-box subsidies in 2001 (the most recent year for which the European Union has reported) went to three products: beef, white sugar, and butter (see Table 15). Beef received the most subsidies at $8.7 billion, or roughly one-quarter of the total for all agricultural products. In second place was white sugar, which received $5.1 billion in subsidies, or roughly one-seventh of all EU amber-box subsidies. Butter ranked third, with $4.0 billion in subsidies, or 11 percent of the total for all products. After those three products came olive oil, apples, tomatoes, barley, skimmed milk powder, and wheat, in that order. Further down the list are tobacco, wine, and a number of fruits and vegetables.

27. The number for Mexico must be qualified by the fact that the only report by the country is for 1998.

28. Hungary is substantially above its bound level, but that is the result of substantial inflation in Hungary since the bound level was set. Hungary's amber-box usage in 2002 was lower than its bound value adjusted for inflation, although not by a large amount.

Which Products Have the Highest Amber-Box Subsidy Rates?

Expressing the amber-box subsidies as a percentage of the value of production reveals that a large number of EU products receive very high rates of subsidy; and no one, two, or even three or four products stand out as receiving dramatically higher rates than everything else (see Table 16). Tinned pineapple had the highest rate in 2001 at 108 percent. Nine other products had subsidy rates higher than 50 percent in 2001: tobacco, pears for processing, butter, white sugar, tomatoes for processing, skimmed milk powder, cotton, rice, and plums for processing. Four additional products—apples, beef, figs for processing, and lemons—had subsidy rates above 40 percent; and six others had rates above 30 percent. Those rates of subsidy are sufficient to give EU farmers a sizable competitive advantage over their counterparts in countries that export to the EU, or alternatively, sufficient to offset a sizable competitive advantage that imports would otherwise have over EU agricultural products.

Statistics on Export Subsidies

Export subsidies are more distorting to international trade than any other kind of subsidy, a fact that is reflected in the way they are treated by the Agreement on Agriculture. The agreement placed little or no restriction on several categories of domestic subsidies—the green box, the blue box, and the other support measures. However, it required reduction commitments for all export subsidies covered by the agreement.

Although the agreement made a temporary exception for developing countries without export-subsidy-reduction commitments to provide certain kinds of export subsidies during the agreement's initial nine-year implementation period, that period is now over. The only export subsidies now allowed and subject to negotiation in the Doha Round are those subject to reduction commitments made under the Uruguay Round Agreement on Agriculture.[29] Therefore, the discussion in this section is restricted to those subsidies, and the temporary subsidies reported under the exception for developing countries are ignored. The major conclusions are:

- Export subsidies are much less widespread than are domestic subsidies, with only 25 countries having subsidy-reduction commitments and two of those commitments having a final bound value of zero.

- The European Union dominates the use of export subsidies even more than it does the use of domestic subsidies, providing 85 percent to 90 percent of all the export subsidies reported to the World Trade Organization by countries with reduction commitments. Ranking next is Switzerland-Liechtenstein, with 4.5 percent to 6.5 percent of the world's total, followed by Norway and the United States with 1 percent to 2 percent.

- The highest export subsidy rates are those by Switzerland-Liechtenstein and the European Union—no other country even comes close. The United States has a very low subsidy rate that places it well down in the rankings.

- As was the case with tariffs and amber-box subsidies, export subsidy bindings are substantially higher than actual export subsidies for many countries. However, that fact has less significance for the Doha Round than does the corresponding fact for tariffs and amber-box subsidies because the framework agreement calls for export subsidies to be eliminated.

- The EU products receiving the greatest dollar value of export subsidies are dairy products, sugar, and beef.

Which Countries Provide the Most Export Subsidies?

Export subsidies are used disproportionately by European countries, especially the high-income European countries (see Table 17 on page 38). The top three users of such subsidies since 1998 measured by dollar value have been the European Union, Switzerland-Liechtenstein, and Norway. The United States took fourth place.

The European Union granted between 85 percent and 90 percent of the total export subsidies reported to the WTO in each of the years from 1998 through 2002 (the most recent year for which it has reported).[30] Adding in the rest of Europe brings the total up to well over 95 percent, even with Turkey, Cyprus, and Iceland excluded.

29. An exception is Panama, which joined the World Trade Organization after the Agreement on Agriculture went into effect and whose reduction commitment is contained in its accession agreement.

30. Those numbers make rough allowance for significant nonreporting countries in 2001 and 2002.

Table 15.

Amber-Box Support Reported by the European Union, by Product

(Millions of current U.S. dollars)

Product	1998	1999	2000	2001	Average, 1998–2001
Beef	14,980	13,964	10,340	8,695	11,995
White Sugar	6,509	6,143	5,367	5,134	5,788
Butter	4,715	4,740	4,106	3,980	4,385
Common Wheat	3,462	3,119	2,098	1,108	2,447
Tomatoes	2,357	2,686	2,453	1,741	2,309
Barley	3,008	2,710	2,028	1,469	2,304
Olive Oil	2,014	2,209	1,913	2,396	2,133
Apples	2,148	2,339	2,078	1,845	2,102
Wine	2,048	2,189	745	799	1,445
Skimmed Milk Powder	1,689	1,463	1,393	1,227	1,443
Tobacco	1,019	1,051	891	852	953
Maize	1,066	1,070	653	340	782
Cotton	801	665	735	515	679
Pears	617	644	581	487	582
Cucumbers	659	614	498	479	563
Peaches and Nectarines	448	626	465	423	491
Rice	490	419	363	355	407
Oranges	311	459	392	287	362
Tomatoes for Processing	450	368	275	329	355
Lemons	326	449	393	251	355
Dried Fodder	344	334	283	284	311
Rye	370	310	220	191	273
Bananas	199	250	302	190	235
Triticale	284	241	194	161	220
Table Grapes	250	234	197	194	218
Clementines	205	248	190	150	198
Courgettes	195	178	148	153	168
Artichokes	251	116	100	175	160
Citrus Fruit for Processing	121	189	119	191	155
Apricots	114	165	119	108	126
Cherries	107	149	134	106	124
Seed for Sowing	121	117	95	89	105
Flax Fiber	110	128	76	5	80
Peaches for Processing	74	84	72	56	72
Chickpeas, Lentils, and Vetches	79	73	64	65	70
Plums	66	76	62	62	66
Lemons for Processing	40	41	29	47	39
Mandarins	37	43	36	28	36

Continued

Table 15.

Continued

Product	1998	1999	2000	2001	Average, 1998–2001
Plums for Processing	37	24	27	37	31
Pears for Processing	47	26	23	27	31
Satsumas	25	39	29	15	27
Grapes for Processing	0	0	0	101	25
Sorghum	23	21	15	9	17
Hemp	29	17	10	2	15
Hops	14	13	12	11	13
Tinned Pineapple	7	7	6	6	6
Figs for Processing	7	7	6	5	6
Oats	13	12	0	0	6
Cauliflower and Aubergines	0[a]	18	0[a]	0[a]	5
Fruit and Vegetables Not Mentioned in R.2200/96[b]	0	0[a]	1	1	1
Silkworms	0	1	0	1	0
Common Wheat, Maize, Barley, Rye, Triticale, and Grain Sorghum	0[a]	0[a]	0[a]	0[a]	0
Milk	0	0	0	0[a]	0
Pigmeat	0	0	0[a]	0[a]	0
Potatoes for Processing to Starch	0[a]	0	0[a]	0[a]	0
Durum Wheat	0	0	0	0	0
Total	**52,286**	**51,085**	**40,337**	**35,181**	**44,722**

Source: Congressional Budget Office based on foreign-currency-denominated subsidy data from reports to the World Trade Organization by the European Union and exchange-rate data from International Monetary Fund, *International Financial Statistics.*

a. Indicates that the value was actually positive but was de minimis (less than 5 percent of the value of production) and therefore set equal to zero in the amber-box subsidy calculation.

b. R.2200/96 refers to the European Union's Council Regulation No. 2200/96 on the common organization of the market in fruits and vegetables.

The United States ranged between 0.5 percent and 2.25 percent.

Although the total value of U.S. export subsidies is much smaller than that of the European Union, they nevertheless cause distortions in certain product markets. Those distortions have raised concerns among foreign competitors and have led to challenges to some U.S. export subsidies in the WTO. (See Box 2 on page 39 for a discussion of U.S. and EU export subsidy programs.)

Which Countries Have the Highest Export Subsidy Rates?

When export subsidies are expressed as a percentage of the value of exports, Switzerland-Liechtenstein jumps above the European Union, with subsidies equal to 9.3 percent of total export value compared with the EU's 6.6 percent (see Figure 4 on page 40). The latter takes a strong second place, however. The Czech Republic and Norway are a distant third and fourth place at 1.6 percent. U.S. subsidies are only 0.1 percent of total export value, and Australia's are only 0.004 percent. (A lack of data on the value of exports prevented the computation

Table 16.

Amber-Box Support Reported by the European Union, by Product as a Percentage of the Value of Production

Product	2000	2001	Average, 2000–2001
Tinned Pineapple	108.3	108.3	108.3
Tobacco	96.1	94.9	95.5
Pears for Processing	68.2	82.4	75.3
Butter	71.3	71.3	71.3
White Sugar	66.1	64.1	65.1
Skimmed Milk Powder	66.7	60.6	63.7
Rice	66.2	52.0	59.1
Cotton	63.7	52.2	58.0
Apples	67.7	47.5	57.6
Tomatoes for Processing	49.5	60.9	55.2
Lemons	59.9	40.9	50.4
Figs for Processing	53.4	46.2	49.8
Beef	52.4	47.0	49.7
Plums for Processing	36.9	50.9	43.9
Peaches for Processing	47.5	38.1	42.8
Pears	47.7	33.3	40.5
Rye	42.7	33.6	38.2
Barley	41.0	33.1	37.0
Triticale	39.0	33.6	36.3
Cucumbers	34.2	34.0	34.1
Apricots	32.2	19.6	25.9
Olive Oil	25.7	25.6	25.6
Tomatoes	28.9	22.2	25.6
Courgettes	22.0	23.3	22.7
Peaches and Nectarines	22.1	19.6	20.8
Artichokes	14.6	26.2	20.4
Mandarins	18.1	22.6	20.3
Sorghum	22.3	15.5	18.9
Satsumas	23.8	12.5	18.2
Common Wheat	21.5	13.8	17.7
Oranges	17.4	17.7	17.5
Cherries	18.3	14.9	16.6
Clementines	17.7	14.4	16.0
Plums	14.7	15.3	15.0
Table Grapes	15.9	13.1	14.5
Maize	15.6	9.3	12.4
Wine	5.4	6.4	5.9
Aubergines	0[a]	0	0

Continued

Table 16.

Continued

Product	2000	2001	Average, 2000–2001
Cauliflower	0[a]	0	0
Pigmeat	0[a]	0	0
Common Wheat, Maize, Barley, Rye, Triticale, and Grain Sorghum	0[a]	0	0
Potatoes for Processing to Starch	0[a]	0	0
Milk	0	0	0
Durum Wheat	0	0	0
Oats	0	0	0
Chickpeas, Lentils, and Vetches	14.4	[b]	
Grapes for Processing	0	[b]	
Bananas	[b]	[b]	
Citrus Fruit for Processing	[b]	[b]	
Silkworms	[b]	[b]	
Lemons for Processing	[b]	[b]	
Hops	[b]	[b]	
Fruit and Vegetables Not Mentioned in R.2200/96[c]	[b]	[b]	
Dried Fodder	[b]	[b]	
Seed for Sowing	[b]	[b]	
Hemp	[b]	[b]	
Flax Fiber	[b]	[b]	

Source: Congressional Budget Office based on subsidy and value-of-output data from reports to the World Trade Organization by the European Union.

a. Indicates that the value was actually positive but was de minimis (less than 5 percent of the value of production) and therefore set equal to zero in the amber-box-subsidy calculation.

b. Indicates that the percentage could not be calculated because the value of production was not available.

c. R.2200/96 refers to the European Union's Council Regulation No. 2200/96 on the common organization of the market in fruits and vegetables.

of subsidy rates for Cyprus, Mexico, the Slovak Republic, Panama, and Venezuela, so it is unclear where they would fall in the ranking.)

It should be noted that most countries do not subsidize all exports—only certain products. The subsidy rates for those products might be significantly higher than the average rate for all agricultural exports of the country.

Export Subsidy Bindings Are Substantially Higher Than Actual Export Subsidies

As was the case with tariffs and amber-box domestic subsidies, bound values for export subsidies for most countries are substantially higher than the actual values that have been granted each year from 1998 through the present (see Table 17). The European Union's most recent reported export subsidy total was less than one-third the EU's final bound value. The most recent total for Switzerland-Liechtenstein's export subsidies was 46 percent below their total bound value. The U.S. and Czech

Table 17.

Agricultural Export Subsidies by Countries with Subsidy Reduction Commitments

(Millions of current U.S. dollars)

	1998	1999	2000	2001	2002	2003	2004	Average Reported Value, 1998–Present	Final Bound Value
European Union	5,977	5,989	2,553	2,305	2,958			3,956	9,195
Switzerland-Liechtenstein	292	290	188					257	352
Norway	77	128	45	32				71	73
United States	147	80	15	55	32			66	594
Czech Republic	42	35	24					34	167
Poland	14	55	37	22				32	500
Turkey	29	28	27					28	105
Panama	11	13	16	14	10	10		12	0
Slovak Republic	12	12	12	7	12	16		12	51
Hungary	12	13	8	4	5	12	4	8	70
Colombia	20	0	0					7	287
Venezuela	6							6	27
Cyprus	3							3	14
Israel	1	1	0	5	6	4		3	43
Romania	3	7	5	0	0			3	115[a]
South Africa	3	5	3	0	0			2	88
Mexico	2							2	553
Australia	1	2	0	0	0	0		1	65
Indonesia	0	0	0					0	22
Brazil	0	0	0	0				0	75
Iceland	0	0	0	0	0			0	18
Canada	0	0						0	322
Bulgaria	0	0	0	0				0	127
Uruguay	0	0	0	0	0	0		0	1
New Zealand	0	0	0	0	0	0		0	0
Total, All Countries	**6,651**	**6,659**	**2,933**	**2,442**	**3,023**	**41**	**4**	**4,501**	**12,860[a]**

Source: Congressional Budget Office based on foreign-currency-denominated subsidy data from World Trade Organization, *Export Subsidy Commitments: Note by the Secretariat, Addendum,* TN/AG/S/8/Rev.1/Add.1 (January 31, 2005) and member-country reports to the World Trade Organization made after that date; and exchange-rate data from International Monetary Fund, *International Financial Statistics.*

Notes: Numbers are based on the reports that the countries in question had made to the World Trade Organization (WTO) as of June 30, 2005. A blank space in a given year means that the country in question has not reported its subsidies for that year.

Most countries' commitment levels are denominated in foreign-currency units, as are those countries' reported subsidies. CBO converted the numbers to dollar values using the average exchange rates for the calendar years in question. The numbers reported by some countries are for year-long periods (such as fiscal years) that overlap with but are not identical to the calendar year. Furthermore, even for those countries that report for the calendar year, most of the exports—and therefore most of the export subsidies—may have occurred at a particular time of year when the exchange rate was slightly different from the average for the calendar year. Therefore, the numbers should be viewed as approximate values.

China committed to eliminating all export subsidies immediately upon admission to the WTO in December 2001.

a. The number given for the final bound value for Romania is for the bound value in 2000 rather than the final bound value that occurs in 2004, and the total for all countries assumes the 2000 value for Romania. Neither the Romanian reports to the WTO nor the WTO documents that summarize countries' export subsidy reports give sufficient information to determine how to convert the bound value into dollars for any other year.

Box 2.

Agricultural Export Subsidies in the United States and the European Union

In the United States, direct payments to exporters are authorized under the Export Enhancement Program (EEP) and the Dairy Export Incentive Program, although no payments have been made under EEP in recent years. Payments to exporters are based on competitive bidding through which exporters receive subsidies on the basis of their ability to provide products for export with the lowest subsidy cost. Before EEP payments dropped off in the mid-1990s, most of them subsidized exports of wheat, although some of them also subsidized exports of flour, poultry, eggs, feed grains, pork, barley malt, and rice.

The U.S. government also makes so-called Step 2 payments to exporters and domestic mills whenever the price of U.S. upland cotton exceeds the world price. Because the program pays U.S. cotton users at the expense of users of foreign cotton, a World Trade Organization dispute panel has ruled that payments under the program constitute prohibited export- and import-substitution subsidies. The same panel also ruled that the U.S. Export Credit Guarantee program effectively functions as an export subsidy for all of the commodities it benefits because it does not charge premiums sufficient to cover its cost. As a result, the Administration has proposed legislation to terminate the Step 2 program and has taken administrative actions to reduce subsidy rates under export credit guarantee programs.

Finally, the United States has two market-development programs—the Market Access Program and the Foreign Market Development Program—under which projects for developing overseas markets for U.S. products are jointly funded by the federal government and industry groups. Those two programs are exempt from reduction commitments under the Uruguay Round Agreement on Agriculture.

The European Union's (EU's) Common Agricultural Policy has generally maintained internal EU commodity prices at levels higher than prices in the world market. Consequently, the EU has had to provide substantial export subsidies (in terms of total dollar value) for agricultural products from the EU to be competitive in the world market. As in the United States, payments to exporters in the EU are based on competitive bids.

totals were substantially less than half of their respective bound values.

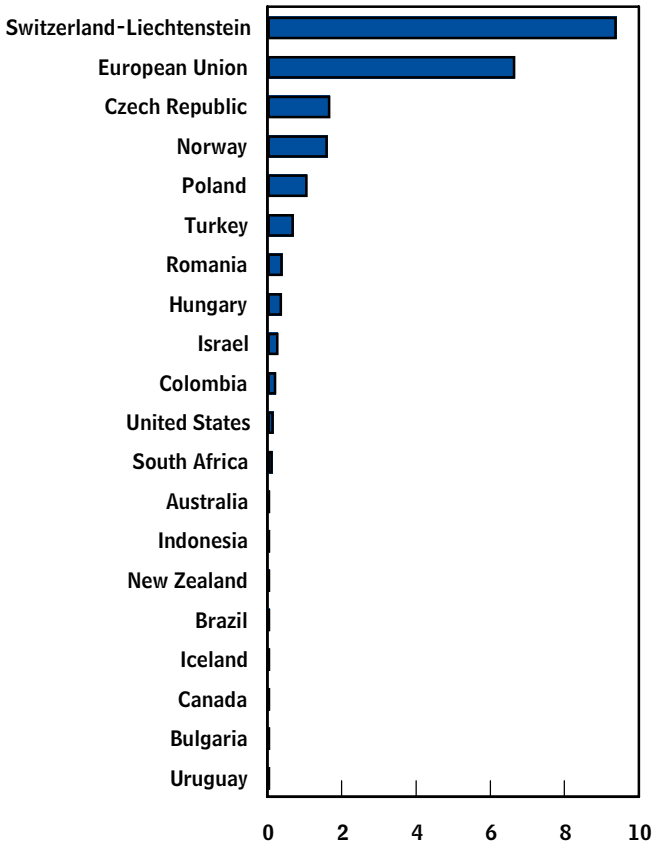
Unlike tariffs and amber-box domestic subsidies, which are subject only to negotiated reductions from bound levels under the Doha Round framework agreement, the Doha Ministerial Declaration calls for "reduction of, with a view to phasing out, all forms of export subsidies," and the framework agreement says, "The following will be eliminated by the end date to be agreed: Export subsidies as scheduled ...." If the final Doha Round Agreement does indeed include such language, then export subsidies will be eliminated regardless of whether the phaseout schedule is framed in terms of actual subsidies or bound values—unlike the case of tariffs and amber-box subsidies, for which reductions of bound values could occur with little, if any, effect on actual tariffs and subsidies. Nevertheless, if the substantial difference between actual and bound values is not taken into consideration in the phaseout schedule, the result could be a schedule having little or no effect on actual subsidies until the very end, at which time actual subsidy reductions will be sudden and substantial.

A qualification to that conclusion is that, in contrast to amber-box subsidy bounds, export subsidy bounds are on a product-by-product basis. The numbers in Table 17 are the sums of all of the product-specific bounds for each country. If countries typically have subsidies very close to the bound for a number of products and equal to or nearly equal to zero for the others, then a 15 percent reduction in all export subsidy bounds will cause roughly a 15 percent reduction in actual subsidies. However, that is

Figure 4.

Countries with Export Subsidy Reduction Commitments Ranked by Average Annual Rate of Reported Export Subsidies, 1998 to Present

(Percentage of agricultural export value)



Note: Numbers are based on subsidy data reported to the World Trade Organization by the countries in question as of June 30, 2005. The most recent reports by most countries are for 2002 or earlier. Availability of export data further restricts the years and countries for which rates can be calculated. The averages for Switzerland-Liechtenstein and the Czech Republic are each based only on rates for 1999 and 2000. See Table C-3 on page 53 for sources, additional notes, and more-detailed numbers, including subsidy rates for each year.

not the case for the European Union, by far the largest user of export subsidies, as will be shown below.

Which Products Receive the Most Export Subsidies?

Because of the dominance of the European Union in the use of export subsidies around the world, the breakdown of EU export subsidies by product is a fairly good measure of the export subsidies against which U.S. farmers and exporters of various agricultural products must contend.

The EU products receiving the greatest dollar value of export subsidies in 2002 (the most recent year for which the EU has reported) were dairy products, beef, and sugar (see Table 18). More precisely, the category receiving the largest dollar value of such subsidies was other milk products (that is, milk products other than butter, butter oil, cheese, and skimmed milk powder) at $563 million, followed by butter and butteroil at $515 million, incorporated products at $391 million, sugar at $276 million, beef at $269 million, and cheese at $253 million. (The category of "incorporated products" refers to subsidies of agricultural products that are contingent on their incorporation in exported products. It refers to subsidies not of particular products but of particular uses of products and therefore is not particularly helpful in determining which products receive the most export subsidies.) The subsidy total for sugar was down considerably from earlier years. It received $890 million in export subsidies in 1998, making it the EU's most heavily subsidized product in terms of dollar value in that year.

Unfortunately, countries are not required to report the value of their exports by product category—only the quantity. Therefore, it is not possible to calculate the subsidy rates by product category.

Recalling the discussion from the previous section, it is of interest to note that the subsidies in 2002 for all of the product categories were significantly lower than their final bound values. Hence, the conclusion stands that if the phaseout of export subsidies is structured in terms of bound values and those values are not reduced substantially early on, there will be little effect on actual subsidies for some time.

A Final Note

Countries' agricultural policies are not static. As noted earlier, China entered the WTO in December 2001, and its accession agreement required significant reductions in its agricultural tariffs. The agreement also placed constraints on China's domestic and export subsidies. In addition, in recent years, the United States, the European Union, and various other countries have negotiated a number of free-trade agreements, which might affect some of the countries' tariff averages (depending on

Table 18.

Agricultural Export Subsidies Reported by the European Union, by Product

(Millions of current U.S. dollars)

Product	1998	1999	2000	2001	2002	Average Reported Value, 1998–2002	Final Bound Value
Other Milk Products[a]	850	966	379	360	563	624	861
Incorporated Products[b]	642	768	383	369	391	510	512
Beef Meat	720	775	354	348	269	493	1,547
Sugar	890	502	344	432	276	489	616
Coarse Grains	856	779	177	101	158	414	1,292
Butter and Butteroil	320	356	312	291	515	359	1,170
Wheat and Wheat Flour	560	543	100	8	133	269	1,592
Cheese	167	252	220	169	253	212	422
Skimmed Milk Powder	215	360	24	33	154	157	340
Pigmeat	399	259	31	18	14	144	236
Alcohol	136	233	88	47	85	118	119
Poultry Meat	100	80	52	54	85	74	112
Rice	29	28	30	27	24	27	45
Fruit and Vegetables, Fresh	35	40	25	19	14	27	65
Wine	33	28	22	21	16	24	48
Eggs	19	15	7	5	5	10	54
Fruit and Vegetables, Processed	5	6	4	3	3	4	10
Rapeseed	0	0	0	0	0	0	34
Olive Oil	0	0	0	0	0	0	67
Raw Tobacco	0	0	0	0	0	0	50
Total	**5,977**	**5,989**	**2,553**	**2,305**	**2,958**	**3,956**	**9,195**

Source: Congressional Budget Office based on foreign-currency-denominated subsidy data from World Trade Organization, *Export Subsidy Commitments: Note by the Secretariat, Addendum,* TN/AG/S/8/Rev.1/Add.1 (January 31, 2005), and World Trade Organization, *Notification*, G/AG/N/EEC/52 (February 16, 2005), which is the European Union's report to the WTO of its export subsidies for 2002; and on exchange-rate data from International Monetary Fund, *International Financial Statistics.*

a. Products other than skimmed milk powder, butter and butteroil, and cheese.

b. Refers to subsidies for agricultural products that are contingent on their incorporation in exported products.

whether the averages include preferential tariffs or are restricted to most-favored-nation rates). Further, the 2002 U.S. farm bill could have increased U.S. domestic support totals and rates. In the opposite direction, the European Union has in recent years enacted reforms of its Common Agricultural Policy as a result of that policy's substantial cost as more countries are admitted as members. Finally, amounts of subsidies granted by many countries vary with conditions in the market that fluctuate from year to year.

Seen in that light, the numbers presented in this paper, although as up-to-date as CBO was able to obtain, are nevertheless more dated than one would like. The tariff averages, depending on the table, are based on tariffs in 2002, 2001, or even earlier. The domestic and export subsidy numbers are taken from members' reports to the WTO up through June 30, 2005, but many of those members are slow to make their reports. The most recent reports of the European Union and the United States are for 2001. Consequently, it would be useful if some sort of

check was available to indicate whether the conclusions drawn in this paper are still valid.

Such a check is indeed available. The Organization for Economic Cooperation and Development publishes a number of measures of the magnitudes and combined effects of its members' agricultural tariffs and other barriers, domestic subsidies, export subsidies, and any other policies with significant effects relating to agriculture. The measures cover only OECD members, which are a small and select group of countries compared with those covered by the tables above; further, the measures do not follow the nomenclature of the various WTO subsidy boxes. However, the countries covered include many of the countries that dominate agricultural trade and subsidies, and preliminary estimates of the OECD's measures are available for as recent as 2004. Hence, they provide a useful update to the numbers given above.

The measures are discussed in Appendix B. Here it is sufficient to note that they support the proposition that the conclusions drawn above from the tariff- and subsidy-rate data remained true at least as recently as 2004. The countries that most severely distort their agricultural markets in favor of their own farmers are the members of the European Free Trade Association—Iceland, Norway, and Switzerland-Liechtenstein—and Japan and Korea. They in turn are followed by the European Union. Canada, Mexico, and the United States are significantly less distorting than the European Union, and Australia and New Zealand are the least distorting of the group. The product markets most distorted by OECD members as a whole are those for rice and sugar.

APPENDIX

A

Caveats on Tariff Comparisons

Several caveats must be kept in mind when comparing tariff statistics. First, there is no ideal average statistic to use. One commonly used statistic is the simple unweighted average of the tariff rates imposed by the countries—which is calculated by adding up all of the tariff rates and then dividing by the number of tariffs. However, that calculation treats tariffs applied to goods that the country imports very little of the same as it treats tariffs applied to goods that it imports substantial quantities of. Further, one country might have numerous lines in its tariff schedule for a given product, assigning many different tariffs based on slight variations in characteristics of the product, whereas another country might have only one line assigning the same tariff to all variations of the product. Everything else being equal, if the product is one for which the tariffs are high, the resulting simple average for the first country would be higher than that for the second.

Another commonly used statistic is the trade-weighted average, in which each tariff is weighted by the value of imports coming into the country under that tariff. The weighting procedure solves the two problems just cited for the simple average, but it introduces another. A very large tariff will substantially reduce the value of imports coming into a country, resulting in a small weight on that tariff in the average. Consequently, a trade-weighted average tends to be biased downward and therefore to understate the significance of the tariffs imposed by a country. That is especially true if the country has a number of extremely high tariffs that almost or completely shut off trade in the products in question—which is in fact the case for many countries with regard to agriculture.

Still another statistic one can use is the median, which is the middle tariff when one arrays all of the tariffs imposed by the country from highest to lowest. (If there are two middle tariffs, which occurs when the total number of tariffs is even, the median is the average of the two middle tariffs.) A median lower than the corresponding simple average indicates the presence of a number of extremely high tariffs. A few medians are presented in this paper.

A second caveat concerns the fact that a large number of tariffs in the agricultural sector in many countries are specific, or have components that are specific, rather than ad valorem. *Specific* means that the tariff or tariff component is defined in terms of a specific amount of money for a given quantity of the import, such as 50 cents per bushel of wheat. *Ad valorem* means that the tariff is defined in terms of a specified percentage of the value of the import. A January 2001 survey of agricultural tariffs around the world found that 44 percent of tariff lines in the United States and the European Union were specified in non-ad valorem terms.[1] Another more recent study excluded 24 percent of Canada's agricultural tariff lines and 14 percent of Japan's and the European Union's agricultural tariff lines from its tariff averages because of problems relating to non-ad valorem tariffs.[2]

Specific tariffs raise two significant issues. First, to average them in with ad valorem tariffs, it is necessary to calculate ad valorem equivalents of the specific tariffs. To do that requires the use of price data for the products in question. Information on the relevant prices is difficult or even impossible to find for many products, and analysts often are forced to use prices for related but not identical products

1. Paul Gibson and others, *Profiles of Tariffs in Global Agricultural Markets*, Market and Trade Economics Division, Economic Research Service, U.S. Department of Agriculture, Agricultural Economic Report No. 796 (January 2001), p. 5.

2. World Bank, *Global Economic Prospects and the Developing Countries 2004* (Washington, D.C.: World Bank, 2003), Chapter 3, p. 118.

or some other approximation. Some analysts simply leave specific tariffs out of the calculation of average tariffs, averaging only ad valorem tariffs. Leaving specific tariffs out of the calculation might not be a problem if there were reason to believe that the average ad valorem equivalent of specific tariffs was approximately the same as the average ad valorem tariff. Unfortunately, there is reason to believe otherwise. The January 2001 survey found that for the 129 countries it examined, the average ad valorem tariff binding in agriculture was 58 percent, whereas the average ad valorem equivalent of non-ad valorem tariffs was 123 percent.[3] Consequently, whether one chooses to include specific tariffs in the calculation can have a substantial effect on the resulting average tariff.

A second issue regarding specific tariffs is that their ad valorem equivalents change when the price of the product in question changes. In particular, whenever prices are low and domestic farmers feel the need for increased protection, the ad valorem equivalent of a specific tariff increases to provide that increased protection. That fact is particularly relevant in agriculture, which experiences low prices whenever good weather and other circumstances combine to produce a large harvest around the world and high prices whenever the harvest is small. The net result is that a specific tariff might be either more or less protective, on average, over time than the ad valorem equivalent that an analyst calculates using price data for a given point in time.

A third caveat regarding tariff averages concerns the treatment of tariff-rate quotas (TRQs). The 2001 survey uses the over-quota tariffs from TRQs in the calculation of its averages because they represent "the marginal binding constraint on additional trade" (assuming the quotas in question are filled and over-quota quantities of the goods are being imported). Some analysts may instead use the average of the in-quota and over-quota tariffs in the calculation of the overall average tariff. Over-quota tariffs are substantially higher than in-quota tariffs, so the way one treats them in the calculation can substantially affect the resulting average.

A final caveat is that the tariffs countries impose change over time, and even relatively recent studies published in the past year or two calculate their averages for some countries on the basis of the tariffs imposed in 2001, 2000, or even 1999. Some of the studies cited in this paper are several years old. One study might calculate a different average for a country than another does simply because it used more- or less-recent data. For the most part, that problem is relevant only to applied tariffs, not bound tariffs, because most of the studies calculating averages of bound tariffs used the final bound tariffs after full implementation of the Uruguay Round Agreement on Agriculture with all of the reductions it required over time. A related problem, however—the aforementioned fact that the ad valorem equivalents of specific tariffs change over time—is more serious.

The caveats presented here have two important implications. One is that different studies often will have slightly different average tariff rates for the same country—and sometimes the differences will be more than slight. The other is that the tariff averages presented in this paper should not be viewed as precise measures of protection but instead as rough indicators.

3. Gibson and others, *Profiles of Tariffs in Global Agricultural Markets*, p. 5.

APPENDIX

B

Some Measures of the Combined Effects of Protection, Domestic Support, and Export Subsidies

The Organization for Economic Cooperation and Development (OECD), which consists primarily of the major industrialized countries of the world, publishes a number of measures of the combined effects of agricultural tariffs and other barriers, domestic support, export subsidies, and any other policies with significant effects relating to agriculture. The measures cover only OECD members but are available up through 2004 for all members—considerably more recent than the numbers presented in the main body of this paper. The values for 2004 indicate that the major conclusions of the paper continue to hold true at least insofar as they relate to OECD members.

The members that most severely distort their agricultural markets in favor of their own farmers are European Free Trade Association members Iceland, Switzerland, and Norway followed by other high-income, food-importing countries such as Japan and Korea. They, in turn, are followed by the European Union (25). Canada, Mexico, and the United States are significantly less distorting than the European Union, and Australia and New Zealand are the least distorting of the group. The product markets most distorted by OECD members as a whole are those for rice, sugar, milk, and beef and veal, in that order.

Protection from Competition

One of the measures the OECD publishes is the producer nominal protection coefficient (pNPC), which measures the competitive advantage of a country's agricultural sector in its home market resulting from the combined effects of domestic output subsidies and trade protection such as tariffs. Formally, it is the ratio of the average price received by a country's farmers at the farm gate, including subsidy payments based on output, to the world price. Thus, a pNPC of 2 would mean that farmers' selling price plus output-based subsidy payments are equal to twice the world price. A pNPC of 1 would indicate that the policies of the country in question provide no net protection to its agricultural sector.

By that measure, OECD countries provide substantial protection to their agricultural sectors (see Table B-1). The average pNPC for OECD countries is 1.28, meaning that, on average, OECD countries' domestic agricultural sectors receive a 28 percent higher price (including output subsidies) than do competing imports because of trade protection and output subsidies. The five most protective countries—each with a coefficient higher than 2.2—are Iceland, Korea, Norway, Switzerland, and Japan. The European Union (25) is seventh at 1.29—just barely higher than the OECD average of 1.28. The United States is ninth at 1.11. New Zealand and Australia are last at 1.02 and 1.00, respectively.

By far the most protected products, on average, by OECD countries are rice and sugar, with pNPCs of 3.76 and 2.36, respectively. Least protected are wheat, eggs, oilseeds, and wool, each with a pNPC of 1.08 or less.

Support for Producers from Taxpayers and Consumers

A second measure the OECD publishes is the producer support estimate (PSE). The producer support estimate is the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm-gate level, arising from policy measures that support agriculture, regardless of their nature, objectives, or impacts on farm production or income. In addition to government budgetary payments for subsidies, the PSE

Table B-1.

Producer Nominal Protection Coefficients for 2004

	Coefficient
All Products, by Country	
Iceland	3.03
Korea	2.55
Norway	2.41
Switzerland	2.36
Japan	2.20
Turkey	1.30
European Union (25)	1.29
Entire OECD	1.28
Canada	1.13
United States	1.11
Mexico	1.09
New Zealand	1.02
Australia	1.00
Entire OECD, by Product	
Rice	3.76
Sugar	2.36
Milk	1.50
Beef and Veal	1.26
Other Commodities	1.24
Poultry	1.23
Pigmeat	1.22
Maize	1.20
Sheepmeat	1.19
Other Grains	1.15
Wheat	1.08
Eggs	1.07
Oilseeds	1.06
Wool	1.02

Source: Organization for Economic Cooperation and Development, *Agricultural Policies in OECD Countries: Monitoring and Evaluation 2005, Highlights* (Paris: OECD, 2005), Tables 1.3 and 1.6.

Notes: The producer nominal protection coefficient is the ratio of the average price received by producers at the farm gate (including output-based subsidy payments) to the border (or world) price.

Values given are preliminary estimates as of the date of publication of the source.

includes the higher prices consumers pay as a result of trade protection and market price support policies.

As measured by the PSE, the support OECD member countries provide to their agricultural sectors is substantial—equal to 30 percent of gross farm receipts, on average (see Table B-2). The ranking of countries by that measure is almost identical to the ranking by the producer nominal protection coefficient. The same five countries top the ranking by PSE that top the ranking by pNPC, although in a somewhat different order. All five have PSEs in excess of 50 percent of gross farm receipts. The PSE of the European Union (25) is 33 percent—slightly higher than the OECD's 30 percent and almost twice the United States'18 percent. Australia and New Zealand provide the least support, with respective PSEs of 4 percent and 3 percent of gross farm receipts.

The product receiving the most support, on average, by OECD countries is rice, with support equal to three-quarters of gross farm receipts. Sugar is in second place, with support at almost three-fifths of gross farm receipts. Eggs and wool get the least support, on average—less than 10 percent of gross farm receipts each.

Broader Measures of Support

In addition to the direct support to agricultural producers that is measured by the producer support estimate, governments also have other policies that redound to the benefit of agriculture and agricultural producers. One group of policies consists of general support for the agricultural sector as a whole, such as research and development, agricultural training and education, infrastructure, and marketing and promotion. The OECD provides estimates of such support by its member countries, which it calls its general services support estimate (GSSE). A second group of policies consists of transfers from taxpayers to consumers (such as the portion of food stamps and food aid spent on domestic agricultural products). Such transfers are included in the broadest OECD measure of support for agriculture—the total support estimate (TSE)—which is equal to the PSE plus the GSSE plus transfers from taxpayers to consumers.

For each member country, the OECD publishes the total monetary amount of the TSE as well as its percentage of gross domestic product (GDP). By the latter measure, several less-well-off OECD members rank higher than they do when ranked by the PSE (see Table B-3). Turkey

Table B-2.

Producer Support Estimates for 2004

(Percentage of value of gross farm receipts)

	Coefficient
All Products, by Country	
Iceland	69
Switzerland	68
Norway	68
Korea	63
Japan	56
European Union (25)	33
Entire OECD	30
Turkey	27
Canada	21
United States	18
Mexico	17
Australia	4
New Zealand	3
Entire OECD, by Product	
Rice	75
Sugar	58
Other Grains	43
Sheepmeat	37
Milk	36
Beef and Veal	34
Wheat	33
Maize	31
Oilseeds	27
Other Commodities	24
Pigmeat	21
Poultry	20
Eggs	9
Wool	6

Source: Organization for Economic Cooperation and Development, *Agricultural Policies in OECD Countries: Monitoring and Evaluation 2005, Highlights* (Paris: OECD, 2005), Tables 1.3 and 1.6.

Notes: The producer support estimate is the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm-gate level, arising from policy measures that support agriculture, regardless of their nature, objectives, or impacts on farm production or income. It includes higher prices paid by consumers as a result of trade-protection and market-price-support policies, as well as gross transfers from taxpayers to agricultural producers arising from policy measures based on current output, area planted/animal numbers, historical entitlements, input use, input constraints, and overall farming income.

Values given are preliminary estimates as of the date of publication of the source.

ranks highest by that measure with a TSE of 4.12 percent of GDP. Its high ranking may reflect that agriculture remains a larger segment of its economy than is the case in more-industrialized countries because its industrial sectors have not grown to the extent that those sectors in the wealthier countries have. Turkey is followed by the same five countries that top the ranking by the two other OECD measures previously discussed. The European Union (25) ranks seventh at 1.16 percent—equal to the average for all OECD countries. The United States is ninth at 0.93 percent. New Zealand and Australia are last at 0.42 percent and 0.26 percent, respectively.

The policies measured by the general services support estimate have at most a minor distorting effect on trade, and they are the kinds of policies that have generally been allowed in nonagricultural sectors with little if any restriction by the succession of postwar multilateral trade agreements up through the Uruguay Round Agreement. On the other hand, the European Union has argued that food aid to foreign countries effectively acts as an export subsidy, and it has resisted negotiating reductions in export subsidies unless food aid is also discussed at the same time. Hence, it is of interest to examine how countries rank when GSSE is removed from the TSE, resulting in a measure equal to the PSE plus transfers from taxpayers to consumers—all expressed as a percentage of GDP.

The ranking by that measure is very similar to the ranking by the TSE. A fairly small percentage of the European Union's TSE consists of its GSSE, so the European Union (25) rises from seventh to sixth, with 1.07 percent of its GDP devoted to non-GSSE support. By contrast, a fairly large percentage of the United States' TSE consists of its GSSE. Its ranking remains at ninth, with 0.64 percent of its GDP devoted to non-GSSE support—about three-fifths of the EU's number.

Table B-3.

General Services Support Estimates for 2004

	Total Support Estimate (Percentage of GDP)	General Services Support Estimate (Percentage of Total Support Estimate)	Total Support Excluding General Services (Percentage of GDP)
Turkey	4.12	3.5	3.97
Korea	3.39	11.4	3.00
Iceland	1.94	7.9	1.79
Switzerland	1.75	6.4	1.64
Japan	1.30	19.8	1.04
Norway	1.28	7.5	1.18
European Union (25)	1.16	8.1	1.07
Entire OECD	1.16	17.4	0.96
Mexico	0.95	12.7	0.83
United States	0.93	31.4	0.64
Canada	0.75	23.7	0.57
New Zealand	0.42	35.4	0.27
Australia	0.26	41.9	0.15

Source: Congressional Budget Office based on data from Organization for Economic Cooperation and Development, *Agricultural Policies in OECD Countries: Monitoring and Evaluation 2005, Highlights* (Paris: OECD, 2005), Table 1.1 and Tables 2.1-2.13.

Notes: The general services support estimate is the annual monetary value of gross transfers to general services provided to agriculture collectively, arising from policy measures that support agriculture regardless of their nature, objectives, or effects on farm production, income, or consumption. It includes research and development, agricultural training and education, infrastructure, and marketing and promotion.

The total support estimate is the annual monetary value of all gross transfers from taxpayers and consumers arising from policy measures that support agriculture, net of the associated budgetary receipts, regardless of their objectives and effects on farm production and income or on consumption of farm products. It is equal in value to the producer support estimate plus the general services support estimate plus transfers from taxpayers to consumers (such as the portion of food stamps and food aid spent on domestic agricultural products).

Values given are preliminary estimates as of the date of publication of the source.

APPENDIX

C

Detailed Domestic and Export Subsidy-Rate Statistics

The following tables contain the detailed subsidy-rate numbers behind Summary Figures 2 and 4 and Figures 2, 3, and 4.

Table C-1.

Total Domestic Support Reported by Countries to the World Trade Organization as a Percentage of Agricultural Output Value

	1998	1999	2000	2001	2002	2003	2004	Average Reported Value, 1998–Present
Iceland[a]	137.41	142.08						139.75
Norway[a]	122.08	130.22	133.86	126.56				128.18
Switzerland-Liechtenstein[a]	82.86							82.86
Japan	39.16	37.79	37.58	37.57	35.11			37.44
United States	34.04	40.08	39.15	36.34				37.40
European Union	40.62	37.62	36.28	34.30				37.21
Korea[a]	26.16	23.72	23.00					24.29
Israel	22.41	20.12	21.10	20.92	16.63			20.23
Slovak Republic[a]	13.98	14.22	21.59	14.88	12.07	13.28		15.00
Hungary	13.73	13.40	11.04	14.59	15.85			13.72
Canada	11.05	13.24	14.53					12.94
Mexico[a]	11.49							11.49
Czech Republic[a]	5.70	8.55	9.90	10.98	9.22			8.87
Estonia			8.32	6.48	11.80			8.87
South Africa	7.86	7.63	6.47					7.32
Jordan			10.05	7.01	4.06			7.04
Poland[a]	7.31	6.54	6.94	3.27	7.76			6.37
Australia	5.02	4.72	4.56	3.89	7.02	6.00		5.20
Tunisia	5.69	5.28	4.28	4.68				4.99
Chile	2.63	3.21	3.93	5.15	4.80			3.94
Romania	4.10	3.04	4.50	3.30	2.20			3.43
Uruguay	2.26	2.53	2.93	3.59				2.83
Bulgaria	1.68	2.28	2.03	1.62				1.90
New Zealand[a]	2.17	2.32	1.72	1.32	1.68	1.87		1.85
Macedonia						1.14		1.14
Turkey[a]	1.58	1.27	0.66	0.28				0.95
Burundi[b]	0		>0		>0		>0	>0[c]
Bolivia[b]	0	0	0					0
Ecuador[b]	0	0	0					0
El Salvador[b]	0	0	0	0	0			0

Continued

Table C-1.

Continued

	1998	1999	2000	2001	2002	2003	2004	Average Reported Value, 1998–Present
Gabon[b]	0	0	0					0
Haiti[b]		0						0
Hong Kong[b]	0	0	0	0	0	0		0
Macau[b]	0	0	0	0	0	0	0	0
Madagascar[b]	0	0						0
Myanmar[b]	0	0	0					0
Qatar[b]							0	0
Singapore[b]	0	0	0	0	0	0		0
Uganda[b]	0							

Source: Congressional Budget Office based on foreign-currency-denominated subsidy data from "Table 2—Use of Bound Total AMS Commitments by Member, 1995-2004," in World Trade Organization, *Total Aggregate Measurement of Support: Note by the Secretariat,* TN/AG/S/13 (January 27, 2005); "Direct Payments under Production-limiting Programmes (Article 6.5 of the Agreement on Agriculture—"Blue Box") by Member, 1995-2003," in World Trade Organization, *Blue Box Support: Note by the Secretariat,* TN/AG/S/14 (January 28, 2005); "Table 1—Value of Product-specific and Non-product-specific De Minimis Support by Member, 1995-2003," in World Trade Organization, *De Minimis Support: Note by the Secretariat,* TN/AG/S/16 (February 1, 2005); and member-country reports to the World Trade Organization; foreign-currency-denominated value-of-production data from "Annex 2—Value of Total Agricultural Production as Notified in Members' Domestic Support Notifications, 1995–2003," in World Trade Organization, De Minimis Support: Note by the Secretariat, TN/AG/S/16 (February 1, 2005); dollar-denominated value-of-production data from *Producer and Consumer Support Estimates, OECD Database 1986-2003,* on the Web site of the Organization for Economic Cooperation and Development; and exchange-rate data from International Monetary Fund, *International Financial Statistics*.

Notes: Numbers are based ultimately on subsidy data reported to the World Trade Organization by the countries in question as of June 30, 2005. A blank space indicates that the country has not reported its subsidies for the year in question.

The following countries have agreed to WTO subsidy commitments but have never reported their subsidies or lack thereof to the WTO and therefore are not included in this table: China, Croatia, Lithuania, Moldova, Papua New Guinea, and Taiwan. The following countries reported their subsidies or lack thereof to the WTO for at least one of the years from 1995 through 1997 but not for any year since and therefore are not included in this table: Bahrain, Benin, Botswana, Fiji, Gambia, India, Kenya, Nigeria, Peru, and Sri Lanka.

a. Indicates percentages calculated using OECD data instead of WTO data for the value of production. In principle, it is possible that the WTO and the OECD do not include exactly the same array of products in their definitions of the agricultural sector, which could cause their numbers to differ. For those countries for which both WTO data and OECD data were available, the two sets of numbers were exactly the same in some instances and approximately the same in others. Only in one or two years for one or two countries were the numbers significantly different.

b. Indicates no output data available. Percentages assumed to be zero on the basis of the fact that the country reported no subsidies and the assumption that the country has at least a small amount of agricultural output.

c. Burundi reported that its only subsidies in 2000, 2002, and 2004 were those in the special and differential box and did not report their magnitude.

Table C-2.

Amber-Box Support Reported by Countries to the World Trade Organization as a Percentage of Agricultural Output Value

	1998	1999	2000	2001	2002	2003	2004	Average Reported Value, 1998–Present
Iceland[a]	112.7	112.7	114.8					113.4
Norway[a]	58.7	61.8	59.9	60.6				60.2
Switzerland-Liechtenstein[a]	42.1							42.1
European Union	21.9	20.5	17.9	15.9				19.1
Slovak Republic[a]	13.3	12.9	15.0	12.5	3.2	3.6		10.1
Hungary	9.1	6.1	8.6	10.7	11.5			9.2
Israel	11.6	8.1	9.6	7.8	7.7			9.0
Japan	7.7	7.9	7.8	7.5	8.2			7.8
United States	5.4	9.1	8.9	7.3				7.7
Korea[a]	5.3	4.9	5.3					5.2
Mexico[a]	5.1							5.1
Czech Republic[a]	0.8	3.8	4.3	4.2	4.1			3.4
Canada	2.7	3.3	2.7					2.9
Poland[a]	1.9	1.9	2.6	3.3	2.7			2.5
South Africa	1.9	1.8	0.9					1.5
Tunisia	1.9	0.8						1.4
Australia	0.4	0.2	0.6	0.7	0.7	0.6		0.5
Macedonia						0.5		0.5
Bulgaria	0.4	0.3	0.4	0.7				0.4
Jordan			0.01	0	0.13			0.04
Burundi[b]	0		0		0		0	0
Chile	0	0	0	0	0			0
Estonia			0	0	0			0
New Zealand	0	0	0	0	0	0		0
Romania	0	0	0	0	0			0
Turkey	0	0	0	0				0
Uruguay	0	0	0	0	0	0		0

Source: Congressional Budget Office based on sources listed in Table C-1 on page 50.

Notes: This table lists only countries that have rates of reported *total* support greater than zero. In addition to those countries, all countries listed in Table C-1 as having rates of reported total support equal to zero also have rates of reported amber-box support equal to zero for the same years.

See Table C-1 for additional notes.

a. Indicates percentages calculated using OECD data instead of WTO data for the value of production. In principle, it is possible that the WTO and the OECD do not include exactly the same array of products in their definitions of the agricultural sector, which could cause their numbers to differ. For those countries for which both WTO data and OECD data were available, the two sets of numbers were exactly the same in some instances and approximately the same in others. Only in one or two years for one or two countries were the numbers significantly different.

b. Indicates no output data available. Percentages assumed to be zero on the basis of the fact that the country reported no subsidies and the assumption that the country has at least a small amount of agricultural output.

Table C-3.

Agricultural Export Subsidies by Countries with Subsidy Reduction Commitments as a Percentage of Agricultural Export Value[a]

	1998	1999	2000	2001	2002	2003	Average Reported Value, 1998–Present
Switzerland-Liechtenstein		11.32	7.33				9.33
European Union	9.9	10.15	4.33	3.97	4.65		6.60
Czech Republic		1.95	1.28				1.62
Norway		2.82	1.05	0.79			1.55
Poland	0.38	1.82	1.20	0.65			1.01
Turkey	0.58	0.63	0.71				0.64
Romania	0.34	0.80	0.55	0.00	0.00		0.34
Hungary	0.4	0.53	0.31	0.13	0.18	0.36	0.32
Israel		0.11	0	0.45	0.38	0.21	0.23
Colombia	0.5	0	0				0.17
United States	0.21	0.12	0.02	0.08	0.05		0.10
South Africa	0.09	0.14	0.13	0	0		0.07
Australia	0.01	0.02	0	0	0	0	0.004
Indonesia	0	0	0				0
New Zealand	0	0	0	0	0	0	0
Brazil	0	0	0	0			0
Iceland	0	0	0	0	0		0
Canada	0	0					0
Bulgaria		0	0	0			0
Uruguay	0	0	0	0	0	0	0

Source: Congressional Budget Office based on foreign-currency-denominated subsidy data from World Trade Organization, *Export Subsidy Commitments: Note by the Secretariat, Addendum,* TN/AG/S/8/Rev.1/Add.1 (January 31, 2005) and member-country reports to the World Trade Organization made after that date; dollar-denominated agricultural export data from World Trade Organization, *International Trade Statistics* (various years), on the WTO's Web site; and exchange-rate data from International Monetary Fund, *International Financial Statistics*.

Notes: Numbers are based on the reports that the countries in question had made to the World Trade Organization in accordance with the Uruguay Round Agreement on Agriculture as of June 30, 2005. A blank space in a given year means that the country in question has not reported its subsidies for that year.

No country other than Hungary has reported on its export subsidies for 2004, and Hungary's subsidy rate cannot be calculated because its export value is not available.

Most countries' commitment levels are denominated in foreign-currency units, as are those countries' reported subsidies. CBO converted the numbers to dollar values using the average exchange rates for the calendar years in question. The numbers reported by some countries are for fiscal years or some other year that overlaps with but is not identical to the calendar year. Furthermore, even for those countries that report for the calendar year, most of the exports—and therefore most of the export subsidies—may have occurred at a particular time of year when the exchange rate was slightly different from the average for the calendar year. Therefore, the numbers should be viewed as approximate values.

a. The following countries have export subsidy reduction commitments but are not included in this table because of a lack of agricultural export data: Cyprus, Mexico, Slovak Republic, and Venezuela.

Glossary

Agreement on Agriculture. An agreement among members of the World Trade Organization that regulates policies that distort agricultural trade. The agreement is a component of the Uruguay Round Agreement.

Amber box. A category of domestic support for agriculture under the Uruguay Round Agreement on Agriculture. All domestic subsidies, price supports, and other domestic support for agriculture that do not fall into one of the other four categories (green box, blue box, special and differential box, or de minimis support) fall into the amber box by definition. Amber-box support was limited and reduced by the Agreement on Agriculture.

Applied tariffs. The tariffs actually applied by a country, as opposed to the tariff bindings (or bounds) agreed to by the country in the Agreement on Agriculture. Applied tariffs may equal or lie below tariff bindings but may not exceed them.

Binding/bound/bound rate. A maximum limit on a tariff or subsidy agreed to by a country as part of the Uruguay Round Agreement. For example, a tariff binding is a limit on the tariff rate that the country can impose on a specified product.

Blue box. A category of domestic support for agriculture under the Agreement on Agriculture. Direct payments under production-limiting programs fall into the blue box if they are based on fixed areas and yield, on a fixed number of livestock, or on 85 percent or less of the base level of production. Those payments are distinguished from the fully decoupled payments that fall into the green box by the fact that they (the blue-box payments) are dependent on the existence of production (which the green-box decoupled payments are not) but do not directly relate to the current quantity of production. Blue-box support is not limited by the Agreement on Agriculture, and there is no requirement to reduce it.

De minimis support. A category of domestic support for agriculture under the Agreement on Agriculture. Two related kinds of measures are considered de minimis: (1) product-specific support not falling into the green, blue, or special and differential boxes and for which the total value of the support does not exceed 5 percent of the total value of production of the product in question for developed countries and 10 percent for developing countries; and (2) non-product-specific support not falling into the first three boxes and for which the total value of the support does not exceed 5 percent of the value of total production of all agricultural products for developed countries and 10 percent for developing countries. De minimis support is not limited by the Agreement on Agriculture other than by the defining percentages, and there is no requirement to reduce it.

Doha Round. The current round of multilateral trade talks under the auspices of the World Trade Organization. The round was initiated in Doha, Qatar, on November 14, 2001, with the Doha Ministerial Declaration, and a framework agreement for the talks was reached on July 31, 2004. Although a number of issues are under negotiation, the subject of most attention and contention is the liberalization of world agricultural markets.

Domestic support. Domestic policies such as domestic subsidies, price supports, and research and development, whose purpose is to support domestic agricultural producers. Policies preferentially directed at exports are not included in domestic support.

European Free Trade Association (EFTA). A free-trade area created in 1960 that encompasses Iceland, Liechtenstein, Norway, and Switzerland.

European Union (EU). The European Union is a multinational entity created by the Maastricht Treaty of 1993. For many years, the EU and its predecessors (the most recent of which was the European Community) have worked toward economic and political integration of its member countries. The EU has free trade among its members, a common trade policy toward the rest of the world, and some other aspects of economic policy in common. Decisions regarding the common policies are made by various governing institutions of the EU, including the European Parliament, the Council of the European Union, the European Commission, the Court of Justice, and the Court of Auditors. In 2004, the EU admitted 10 new members, raising its total membership from 15 to 25 countries.

Export subsidies. Direct payments, tax preferences, and an array of other beneficial policies for producers and economic actors that are contingent on the export of agricultural products.

General Agreement on Tariffs and Trade (GATT). Originally signed in 1947, the GATT is an agreement among nations establishing rules of international trade that have progressively lowered trade barriers and liberalized trade. The last major GATT agreement was concluded in 1994, the so-called Uruguay Round, and resulted in the creation of the World Trade Organization in 1995.

Green box. A category of domestic support for agriculture under the Agreement on Agriculture. The green box includes measures that the negotiators deemed to have little or no distorting effects on trade or production. Among the measures deemed as such are agricultural and environmental research programs, extension and advisory services, infrastructure services (such as roads, port facilities, and water supply facilities), marketing and promotion services, public stockholding for food security purposes, domestic food aid, income support that is decoupled from production, payments for financial relief from natural disasters, various kinds of structural adjustment, payments for environmental and conservation programs, and regional assistance programs for disadvantaged regions. Because negotiators viewed green-box support as benign, it is not limited by the agreement.

Market access. The terms and conditions under which imports enter a country. Most discussion of market access in agriculture currently focuses on tariffs and tariff-rate quotas.

Nontariff barriers. Government policies that restrict trade, including such things as limitations on quantities of imports (quotas), licensing and standards, and government procurement policies and practices but excluding taxes on imports.

Organization for Economic Cooperation and Development (OECD). An organization of 30 member states committed to democratic government and market economics, notably in the current context of trade liberalization. Its membership consists primarily of industrialized countries, including (among others) the United States, Japan, and many of the industrialized countries of Europe.

(Import) Quota. A quantitative limit on the amount of a given good that a government allows to be imported into the country, such as a restriction limiting imports of sugar to a specified number of tons per year.

Special and differential box. A category of domestic support for agriculture under the Agreement on

Agriculture. The special and differential box is for "measures of assistance, whether direct or indirect, to encourage agricultural and rural development [that] are an integral part of the development programmes of developing countries, investment subsidies which are generally available to agriculture in developing country Members, and agricultural input subsidies generally available to low-income or resource-poor producers in developing country Members."[1]

Tariff. A tax on imports. Tariffs may be specific or ad valorem or some combination of the two. A specific tariff is a specific amount of money levied for a specific quantity of the good imported, such as one dollar per bushel of wheat. An ad valorem tariff is a tariff equal to a given percentage of the value imported.

Tariff equivalent. The tariff rate that would provide equivalent protection to a nontariff restriction on trade—in other words, that would raise the domestic price by the same amount as the nontariff measure. For example, a quota has the effect of raising the price of the good to which it applies. The tariff equivalent of a quota is the rate of import tax that would raise the price of the good by the same amount as the quota.

Tariff line. A line in the schedule of tariffs levied by a country that assigns a given tariff to a given product or group of products.

Tariff-rate quota. A form of tariff in which one tariff rate applies to imports up to a given quota level and a higher tariff rate applies to imports in excess of that quota level. Tariff-rate quotas were imposed by many countries in response to the twin requirements of the Agreement on Agriculture that all nontariff import restrictions be converted to equivalent tariffs and that the conversion not reduce the access of foreign exporters to the country making the conversion—in other words, that it not reduce the quantities that they are able to export to the country in question.

Total aggregate measure of support (total AMS). The total value of a country's amber-box measures of support.

Trade-weighted average tariff. A tariff average in which each tariff is weighted by the value of imports subject to that tariff. It is calculated by multiplying each tariff by the value of imports subject to that tariff, adding all of the resulting products, and dividing the sum by the sum total value of imports of all products. The weighting process ensures that tariffs affecting substantial quantities of trade count more than tariffs affecting little or no trade. However, because high tariffs tend to discourage imports and therefore lower the weights of those tariffs in the calculation, trade-weighted averages tend to understate the significance of countries' tariff protection.

Uruguay Round. A round of multilateral trade negotiations under the auspices of the GATT that took place from September 1986 through April 1994.

Uruguay Round Agreement. The agreement reached in the Uruguay Round of multilateral trade negotiations. The agreement created the World Trade Organization and contained the Agreement on Agriculture as one of its components. It took effect on January 1, 1995.

World Trade Organization (WTO). A multilateral institution created by the Uruguay Round Agreement to administer that agreement and adjudicate disputes arising under it. As of October 2004, the WTO had 148 member nations.

1. Article 6, paragraph 2 of the Agreement on Agriculture.