3

GLOBAL AGRICULTURAL TRADE POLICIES

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Agricultural protection continues to be the most contentious issue in global trade negotiations.[1] The high protection in industrial countries was the main cause of the breakdown of the Cancún Ministerial Meetings in 2003. Although protection for manufacturing products in both industrial and developing countries has declined significantly and overall trade reforms have been adopted in developing countries, agricultural protection in industrial countries has changed very little.

Until the 1990s industrial countries generally protected agriculture while developing countries generally taxed it (Krueger, Schiff, and Valdes 1992; World Bank 1986). Industrial countries supported their agricultural sectors through subsidies to producers, high tariffs, and other nontariff measures such as import restrictions and quotas. While this protection was acknowledged in the economic literature and in global discussions, its implication for developing countries received much less attention.

Until the late 1980s and 1990s many developing countries generated a large portion of their agricultural gross domestic product (GDP) in lower-efficiency production for the domestic market, supplying the world market with tropical commodities that industrial countries could not easily produce. Some countries exported limited amounts of products, such as sugar and beef, in which they competed with industrial countries under preferential-access programs. Many governments levied export taxes on agricultural products to generate revenues while protecting manufacturing through high tariffs and other import restrictions. These countries also used price controls, exchange rate policies, and other restrictions to keep agricultural prices low for urban consumption. Thus, many policy analysts focused more on the taxation of agriculture and its negative effects on supply in developing countries than on protection in industrial countries.[2] In industrial countries the higher returns created by protection led to capital-intensive and supposedly efficient agricultural sectors, creating the impression that their higher yields reflected comparative advantage rather than public support.

This pattern of incentives began to change with the reforms in developing countries. Over the last two decades many developing countries have moved from taxing agriculture to protecting it.

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Most of this change has come not through increasing protection on agricultural products but through eliminating import restrictions and lowering tariffs on manufactured products, devaluing exchange rates, abandoning multiple exchange rate systems that penalized agriculture, and eliminating export taxes (World Bank 2001; Jansen, Robinson, and Tarp 2002; Quiroz and Opazo 2000).

Meanwhile, reforms in most industrial countries have been modest—despite the inclusion of agriculture under the World Trade Organization (WTO) Uruguay Round of international trade negotiations. Increasing the incentives for agricultural production in many developing countries without lowering the incentives in industrial countries led to overproduction and price declines for many commodities, reducing opportunities for many developing countries to expand exports and rural incomes (see chapter 2).

This chapter evaluates both the broad trends in agricultural protection and the structure of protection in key industrial and developing countries. Specific issues, such as the impact of preferences, decoupled support, and other forms of protection, are covered in the following chapters, as are the structure and levels of protection for selected individual commodities.

Uruguay Round Agreement on Agriculture

Since the 1980s major reforms have been made in protection regimes around the world, both through unilateral reform of tariffs and quantitative import restrictions and through undertakings within the Uruguay Round of multilateral trade negotiations. Most developing countries have eliminated export taxes; average tariffs have declined rapidly; and other import restrictions, such as foreign exchange allocations for import, have effectively disappeared (World Bank 2001).

Industrial countries have also started to reduce distortions in their agricultural trade policies. Agricultural trade policies were brought into the global trade negotiations for the first time in the 1994 Uruguay Round Agreement on Agriculture (URAA). Before then, import barriers in agriculture were coupled with the widespread use of production-related subsidies, such as price supports, which in some countries increased production above the competitive market equilibrium level.

With the intention of aligning agricultural trade rules with the rules applying to trade in other goods, negotiators agreed that all barriers to imports, other than those in place for health and safety reasons, should be subject to tariffs only. Before agreeing on tariff reductions, countries had to convert all border measures to their tariff equivalents—a process called tariffication—by calculating the difference between domestic and world market prices (the price-gap method). Once tariff equivalents were established, reductions were applied to bound tariffs. Developed countries were to reduce tariffs by an average of 36 percent and a minimum of 15 percent over 6 years. Developing countries had lower targets of a 20 percent reduction and a minimum of 10 percent over 10 years.[3] For cases of very high tariffs or import quotas that had allowed in some imports, minimum and current market access opportunities were also negotiated. Usually, a minimal tariff rate (called a tariff rate quota, or TRQ) was set for a limited volume of imports.

With the removal of nontariff measures, some countries were concerned about not being able to prevent sudden surges in imports. To allay these concerns, negotiators agreed that a special agricultural safeguard could be applied to certain products.

The URAA offered limited opportunities for undertaking minimum import commitments for certain products rather than adopting tariffs for them. This option was taken by Japan, the Republic of Korea, and the Philippines for rice and by Israel for certain sheep and dairy products. Japan and Korea have now tariffed their rice imports.

Similar efforts were made to reduce the distorting effect of subsidies. Subsidies were classified by degree of distortion: a Red Box for prohibited subsidies, an Amber Box for subsidies that had to be reduced, and a Green Box for nondistorting subsidies. The negotiators decided to treat export subsidies separately, so the Red Box disappeared, and the Amber Box became the core of the negotiations. A new Blue Box was created to cover direct payments to producers under production-limiting programs that were considered to be less trade distorting than pure market price supports (Ingco and Nash 2004).

Amber Box

To measure domestic support and establish a basis for reductions, a total aggregate measure of support

was created based on support to agriculture during the base period, 1986–88. The measure covered market price support and production-related subsidies to farmers. Each country agreed to reduce its supports on the basis of this measure. Industrial countries committed to reduce support by 20 percent by 2000, and developing countries committed to a 13.3 percent reduction by 2004. Countries with no Amber Box supports agreed not to use supports over a de minimis level of 5 percent (10 percent for developing countries) of the total value of agricultural production.

Green Box

To qualify as a Green Box measure, requiring no reduction, a subsidy must have no or almost no trade-distorting effect and must be provided through publicly funded government programs. Despite these general requirements, the Green Box covers a wide range of programs.

Blue Box

A special exemption from reduction commitments covers payments made under production-limiting programs, provided that the payments are based on fixed areas, crop yields, livestock numbers, or, if the payments are variable, on 85 percent of the base level of production. These payments replaced traditional market support payments in the European Union (EU) and elsewhere that had led to overproduction or had become too expensive to maintain.

Evolution of Agricultural Protection in Industrial and Developing Countries

Review of the experience with the new rules on market access, export subsidies, and domestic support shows only modest effects. One reason is that support levels were at historically high levels during the base period selected (1986–88). In some countries, such as the United States, reforms undertaken before the negotiations were adequate to achieve compliance with the new rules on reducing domestic support (OECD 2001).

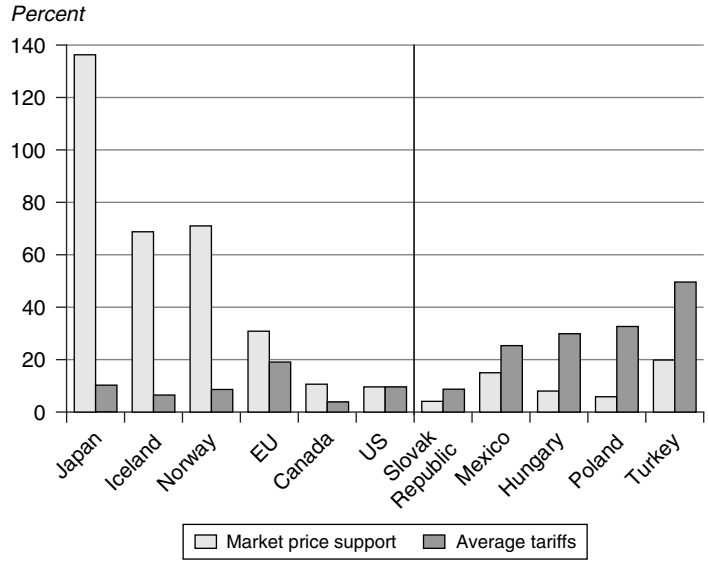
OECD Countries

Two different sets of data are available to estimate the degree of protection in agriculture. The most comprehensive coverage is for OECD (Organisation for Economic Co-operation and Development) countries: all the industrial countries and a few middle-income developing countries. The focus is on selected agricultural commodities that constitute 60–70 percent of domestic agricultural output. Food processing and seafood are generally not covered.

Agricultural protection in OECD countries is measured using three instruments. One is market price support, the difference between domestic and international prices caused by border barriers such as tariffs and quantitative restrictions. It measures the total impact of border barriers on the prices of domestic production and is equivalent to border protection weighted by domestic production. Border barriers are the major tool of protection and account for about 70 percent of total protection in OECD countries. A second instrument is direct support, the direct production-related subsidies given to farmers. A third is the general support given to agriculture through research, training, marketing support, and infrastructure. This instrument is not usually included in overall production support estimates. In addition, many countries have subsidies for consumers. These subsidies generally do not affect production and so are not included in producer support estimates.

The second measure of support is the border protection measured by average tariffs, a measure available for all countries. Both the market support price and the average tariff rate are used to compare protection across time and across countries. Both measures have limitations. Average tariffs measure protection on all agricultural commodities, including products that are not produced domestically, while the market price support measures show only the protection rate for locally produced commodities. In countries such as the United States that produce a large number of agricultural commodities and have a diversified agricultural sector or in which the degree of protection on locally produced and imported commodities is similar, these two measures tend to be very close (figure 3.1). In countries such as Japan where local production is highly specialized or locally produced commodities have different rates of protection from imported commodities, the two measures will differ much more. Average tariffs also fail to give a clear picture of real protection for domestic producers when the variances in tariff rates are large

FIGURE 3.1 Market Price Support and Average Tariffs for Selected OECD Countries
(percent)



Note: Market price support figures are calculated using the 2000 and 2001 average except for the Slovak Republic, which uses just the 2000 average.

Source: Organisation for Economic Co-operation and Development and World Trade Organization Integrated Database.

and the peaks on key domestically produced commodities are very high.

Average tariffs underestimate the real degree of protection given to local producers in industrial countries and overestimate protection in the OECD developing countries (see figure 3.1). Thus the low average tariffs in industrial countries, which are compared with higher average tariffs in developing countries, are highly misleading. Industrial countries protect commodities produced domestically much more than commodities that are not produced locally. Developing countries, in contrast, seem to protect commodities that are not produced locally more than commodities that are.

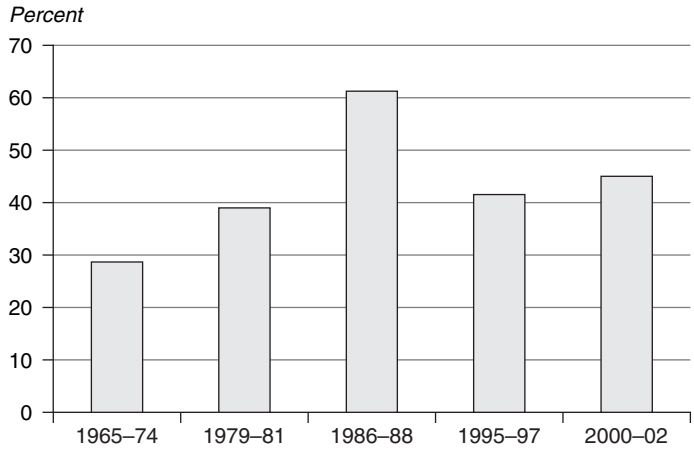
Most of the analysis of protection in OECD countries covers the post-1986 period because systemic data have been collected since then. Other estimates, though not exactly comparable over time, indicate that the 1986–88 baseline was a period of peak protection levels in the OECD (figure 3.2) and that the significant increase in protection took place during the 1960s and 1970s.

Since 1986–88, when data become more consistent, overall protection (total support) for agricultural producers in the OECD, including border protection and direct subsidies, fell from 63 percent of gross agricultural output at world prices to 45 percent in 2000–02 (table 3.1). The contribution of border barriers to total protection came down from 77 percent to about 63 percent. If the 1960s and 1970s are used as the base, however, protection has risen in most OECD countries.

The overall protection rate, which declined rapidly after 1986 to a low of 42 percent in 1995–97, began to rise after 1997 as world agricultural prices declined (figure 3.3). This recent increase is driven both by higher domestic prices compared with international prices and by increases in direct support. This overall cyclical movement is observed in most major countries and groups (European Union, Japan, and the United States). The countercyclical movement of border protection indicates that the concept of full ad valorem tariffication is not complete and that the instruments for increasing protection as global prices decline are still operative. Direct subsidies also increased as world prices declined because most direct subsidies are tied to the differences between a floor and a world price and increase when world prices decline.

The European Union and the United States marginally reduced their overall support during 1986–2002. In the European Union the prices

FIGURE 3.2 Nominal Rates of Agricultural Support in OECD Countries 1965–2002
(percent of total value of production evaluated at world prices)



Source: OECD PSE database, except ABARE (1999) for 1965–74 and author's calculation for 2000–02.

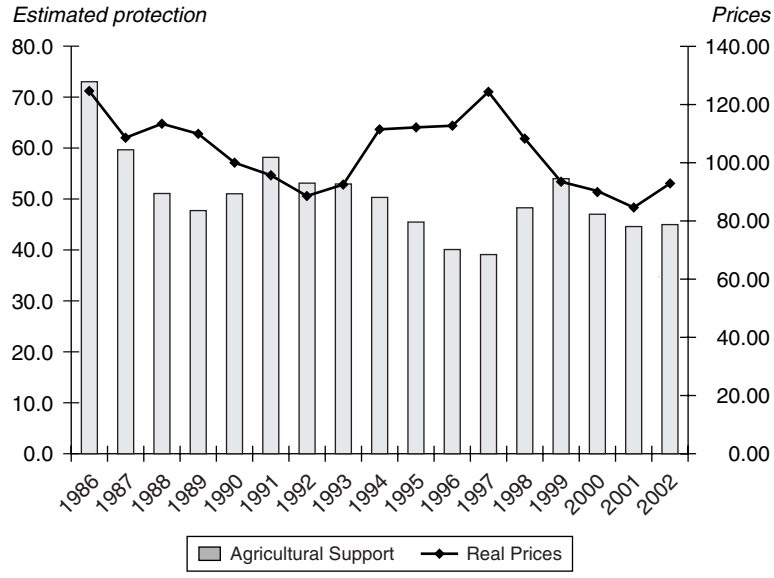
TABLE 3.1 Percentage of Farm Gate Prices Attributable to Border Protection and Direct Subsidies by Country and Group, 1986–2002, Evaluated at World Prices

Country or Group	*Market Price Support (Border Protection)*			*Direct Subsidies*			*Total Producer Support Estimate*		
	1986–88	1995–97	2000–02	1986–88	1995–97	2000–02	1986–88	1995–97	2000–02
OECD	48.2	28.2	28.1	4.3	13.3	16.7	62.5	41.5	44.9
European Union	65.3	28.3	30.3	10.5	20.4	23.1	75.8	48.8	53.4
United States	16.0	7.5	9.3	18.3	7.4	16.9	34.3	14.9	26.2
Japan	145.4	131.7	131.5	16.8	13.0	14.4	162.1	144.7	146.0
Eastern European countries[a]	45.2	8.7	14.1	18.3	4.8	8.0	63.6	13.5	22.1
Australia and New Zealand	4.2	2.8	0.3	6.4	3.9	3.2	10.6	6.8	3.6
Canada	53.1	42.6	10.9	11.1	12.8	12.1	64.2	55.4	23.0
Other developing OECD[b] countries	31.4	38.1	44.2	6.4	8.0	8.4	37.8	46.1	52.6

a. Czech Republic, Hungary, Poland, and the Slovak Republic.
b. Republic of Korea, Mexico, and Turkey.
Source: OECD. PSE Database.

received by farmers were 65 percent higher than international prices in 1986–88 and 30 percent higher in 2000–02. Similarly, in the United States domestic prices declined from 16 percent higher than international prices to 9.3 percent higher. In the United States the primary source of support is direct subsidies to farmers. The level of subsidy stayed around 17 percent, much higher than the level of border barriers. The prices are set at world or close to world levels. During the 1990s the European Union also lowered many domestic prices and moved to support farmers through direct subsidies, some coupled and some partially decoupled. Thus, direct production-related payments to farmers increased from 10.5 percent to 23 percent, partially compensating for the decline in border barriers. So, while the type of support changed from border measure to different forms of

FIGURE 3.3 Rates of Agricultural Support in OECD Countries and Real U.S. Agricultural Price Index



Source: OECD for 1986–2001; author's calculation for 2002. Agricultural price data is from the U.S. Department of Agriculture and is deflated by the manufacturing unit value index.

direct support, there was very little reduction in overall protection (see chapter 5).

Among the middle-income countries of the OECD, the Eastern European countries had the largest reductions in protection, from about 64 percent in 1986–88 to 18 percent in 2000–02. The Republic of Korea always had very high protection, and it has stayed high, with small variations. Mexico and Turkey, which started with low protection, increased it over this period, mainly through higher border protection.

These numbers support the hypothesis that the Uruguay Round did not have a significant impact on the levels of agricultural support in OECD countries, especially the large industrial countries (Ingco 1997; Messerlin 2002; Nogues 2003; OECD 2001). Thus, despite the implicit promise by industrial countries that agriculture would follow the path of manufacturing, with protection rates continuously declining—one of the reasons developing countries embraced trade liberalization—this has not happened.

Other Developing Countries

In contrast to the modest changes in agricultural protection in OECD countries, changes in protection in most developing countries have been significant. From the 1960s to the 1980s, despite high tariffs on agricultural products, most developing countries had negative total protection rates on agriculture, a result of both direct protection, including tariffs and taxes on agricultural products, and indirect protection caused by protection of industry and exchange rate overvaluation (Schiff and Valdes 1992; World Bank 1986). In a sample of 15 developing countries studied by Schiff and Valdes (1992), all but the 3 OECD middle-income countries had negative direct protection rates and negative total protection rates on agriculture. Of the 3 OECD middle-income countries, the total protection rate was marginally positive for the Republic of Korea and Portugal (table 3.2).

The average agricultural tariff in developing countries declined from 30 percent in 1990 to 18 percent in 2000, a significant drop (figure 3.4).[4] These reductions were complemented by elimination of import licensing, most export taxes, and many quantitative restrictions (World Bank 2001). Overvaluation of exchange rates, the main source of the bias against agriculture, decreased or was eliminated during the 1990s in most developing countries. On average, tariffs are now much higher in agriculture than in manufacturing, a reversal of

TABLE 3.2 Agricultural Protection Rates in Selected Developing Countries

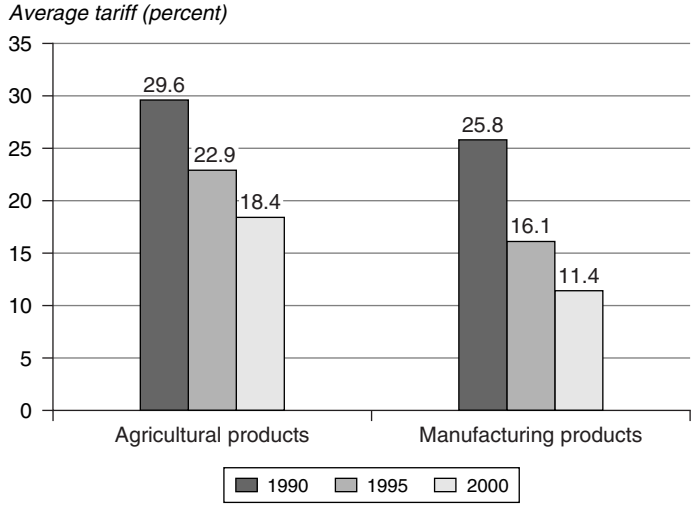
Group	Direct Protection	Tax Due to Industrial Protection	Total Protection
Developing countries[a]	−13.0	−27.8	−35.7
OECD middle-income countries[b]	17.8	−28.4	−3.6

a. Argentina, Brazil, Chile, Colombia, Côte d'Ivoire, Dominican Republic, Egypt, Ghana, Malaysia, Morocco, Pakistan, Philippines, Sri Lanka, Thailand, and Zambia.

b. Republic of Korea, Portugal, and Turkey.

Source: Schiff and Valdes 1992, table 2-1.

FIGURE 3.4 Average Most-Favored-Nation Applied Tariffs for Agricultural and Manufacturing Products in Developing Countries, 1990–2000
(percent)



Note: Tariff rates are simple averages of countries' unweighted tariffs.
Source: TRAINS.

the tendency during the 1980s of greater protection for the industrial sector.

A study of 15 developing countries by Jansen, Robinson, and Tarp (2002) also concludes that the bias against agriculture had been largely eliminated. They find that by the end of the 1990s the economywide system of indirect taxes, including tariffs and export taxes, significantly discriminated against agriculture in only one country, was largely neutral in five, provided a moderate subsidy to agriculture in four, and strongly favored agriculture in five. Quiroz and Opazo (2000), updating Schiff and Valdes (1992) for Latin America, also conclude that direct protection and protection due to higher tariffs in manufacturing have fallen but that exchange rates appreciated, reversing some of the lower protection for exportable commodities.

Current Structure of Agricultural Protection

The overall support given to agricultural producers in OECD countries through higher domestic prices and direct production-related subsidies was $228 billion during 2000–02 (table 3.3). About 63 percent, or $143 billion, of this came from border barriers and market price support, and 37 percent from direct subsidies to farmers. The bulk of the support went to temperate-climate products such as milk, meats, grains, and sugar.

Aggregate support levels in OECD countries vary significantly. Iceland, Norway, and Switzerland have very high levels of support, through both high border protection and high direct payments. At the other extreme, Australia and New Zealand have very low

TABLE 3.3 Agricultural Support in OECD Countries, 2002–02
(billions of U.S. dollars)

Support	United States	European Union	Japan	Emerging Supporters[a]	Eastern European Countries[b]	Total OECD
Who receives support						
Producers	46.97	92.19	47.50	30.49	4.41	227.54
General services	24.29	8.02	12.25	5.98	0.57	53.08
Consumers	22.24	3.64	0.42	0.97	0.06	34.26
Total	93.50	103.85	60.17	37.44	5.05	314.88
Products that receive support						
Milk	11.25	16.11	4.63	2.53	1.03	40.14
Beef and pork	1.99	25.05	3.50	2.63	0.73	36.65
Rice	0.92	0.25	16.47	7.21	na	25.00
Wheat	3.99	8.97	0.89	0.36	0.31	15.31
Corn	6.80	2.41	na	1.32	−0.10	10.64
Other	22.02	39.40	22.00	16.46	2.45	99.81
Source of producer support						
Border measures[c]	16.63	52.24	42.80	25.60	2.81	142.66
Domestic measures[d]	30.34	39.95	4.70	4.89	1.60	84.89

na – not applicable.
a. Republic of Korea, Mexico, and Turkey.
b. Czech Republic, Hungary, Poland, and Slovak Republic.
c. Tariffs and tariff equivalents of other border measures.
d. Direct payments to producers.
Source: OECD 2003 and authors' calculations.

support levels. Japan and the Republic of Korea have high support levels mainly through higher tariffs and quantitative restrictions. In between are the European Union toward the higher end and Canada toward the lower end.

This section evaluates tariff regimes for agricultural products for 6 industrial and 24 developing countries within the context of the objectives of the Uruguay Round. The selection of countries was constrained by the lack of recent detailed tariff schedules for most countries.[5]

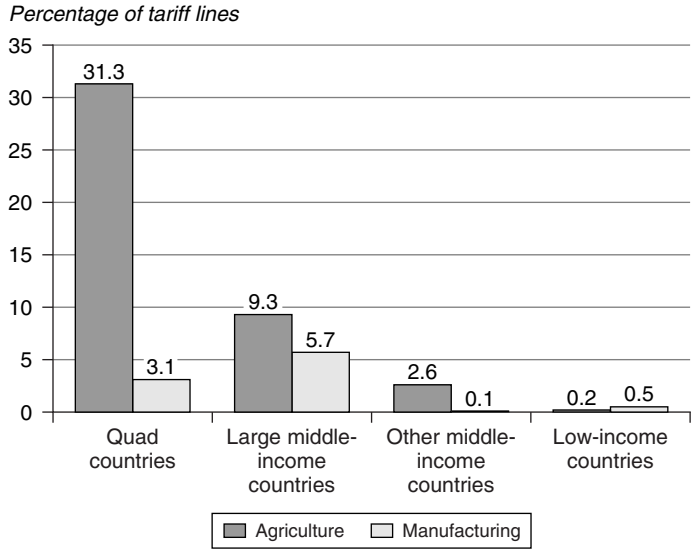
The countries are placed in four groups for analysis: the Quad countries (Canada, the European Union, Japan, and the United States); eight large middle-income countries with significant agricultural sectors (Brazil, China, India, the Republic of Korea, Mexico, South Africa, Russian Federation, and Turkey); eight other middle-income countries, to ensure regional balance (Bulgaria, Costa Rica, Hungary, Jordan, Malaysia, Morocco, Philippines, and Romania); and eight low-income countries (Bangladesh, Guatemala, Indonesia, Kenya, Malawi, Togo, Uganda, and Zimbabwe). The analysis focuses on tariffs because they are the only comparable measure of protection and support across countries and because lower, more transparent tariff structures were a key objective of the Uruguay Round.

Tariff Transparency

The objective of achieving greater transparency of protection levels through tariffication has not been fully realized, especially in the key industrial countries and some middle-income countries. Many tariffs are still specific, compound, or mixed, making it almost impossible to estimate real protection levels, since these will change with the price of imports. Protection rates rise as the world prices of products decline, increasing protection levels for lower-priced products originating from developing countries.[6]

Transparency in agriculture is significantly greater in developing countries than in industrial

FIGURE 3.5 Non-Ad-Valorem Tariff Lines as a Share of Total
(percent)



Note: Covers tariff lines with specific, compound, or mixed duties.
Source: World Trade Organization Integrated Database (most-favored-nation applied duties).

countries (figure 3.5). Of the 24 developing countries in the sample, only 4 have non-ad-valorem rates in more than 5 percent of tariff lines—Bulgaria (13.5 percent), South Africa (25 percent), Russian Federation (31 percent), and Turkey (6 percent)—all of them middle-income countries. Of the remaining 20 countries, 4 have them in less than 5 percent of tariff lines, 5 in less than 1 percent; 11 have none. Within the Quad, Japan has specific, compound, or mixed rates in 15 percent of its tariff lines, Canada in 24 percent, the United States in 40 percent, the European Union in 44 percent, and Norway, with the highest share of any industrial country, in 54 percent. The European Union also has duties that vary according to the content of the products in 4 percent of its tariff lines, and the United States in 1 percent of its tariff lines. Thus, transparency of tariff rates is consistently weaker for industrial countries and a few middle-income countries than for most developing countries.

The pattern of specific duties varies across countries. In the United States almost all categories of products have non-ad-valorem rates between 30 and 60 percent of tariff lines. In the European Union some product groups, such as milk, grains, sugar, and beverages have non-ad-valorem duties in more than 90 percent of tariff lines. In the developing countries that have specific duties, they are clustered within a few product groups. For example, in Malaysia they are on tobacco and alcohol products, in Mexico on chocolate and confectionary products, sugar, nuts, and spices.

Specific duties are found almost exclusively in agriculture. For example, in the United States, which has the highest percentage of non-ad-valorem duties in manufacturing, only 8 percent of tariff lines in manufacturing are non-ad-valorem, compared with 43 percent in agriculture. The European Union has almost no non-ad-valorem duties in manufacturing, but 44 percent of its tariff lines in agriculture have non-ad-valorem rates. Thus the use of specific duties is not a general administrative arrangement but is limited to agriculture.

More detailed analysis of the incidence of specific duties suggests that they are being used primarily as an instrument of disguised protection. First, the average ad valorem equivalents of specific duties, where available, are much higher than the average ad valorem rates, as shown for four countries that reported the ad valorem equivalents of non-ad-valorem rates (table 3.4). This suggests that reported average duties are seriously underestimated for countries with a large proportion of non-ad-valorem duties.

TABLE 3.4 Average Ad Valorem and Specific Duty Rates
(percent)

Country or Group	Average ad Valorem Tariff	Average ad Valorem Tariff Equivalent of Specific Duties	Share of Non-ad-Valorem Lines
Australia	1.2	5.0	0.9
United States	10.6	35.2	43.6
European Union	21.6	58.0	40.4
Jordan	8.1	11.7	0.8

Note: Average applied, out-of-quota, ad valorem, and ad valorem equivalents of non-ad-valorem tariffs for which equivalents are reported.
Source: World Trade Organization Integrated Database (most-favored-nation applied duties).

TABLE 3.5 Proportion of Non-Ad-Valorem Tariff Lines by Degree of Processing
(percent)

Country or Group	Raw	Intermediate	Final
Norway	41.39	58.84	68.53
European Union	22.05	45.27	57.54
United States	37.91	43.05	41.34
Canada	17.14	23.01	30.20
Russian Federation	11.79	9.74	53.06
Turkey	0	5.22	12.70

Note: Tariff Lines containing specific, compound, or mixed duties, as a percentage of all lines.
Source: World Trade Organization Integrated Database (most-favored-nation applied duties).

Second, the share of tariff lines with non-ad-valorem duties increases with the degree of processing and is highest in final products, which are generally classified under food-processing industries. For example, in the European Union, the share of non-ad-valorem tariff lines is 22 percent for raw materials but 43 percent and 58 percent for intermediate and final products (table 3.5). In the Russian Federation the share of non-ad-valorem duties in tariff lines is 12 percent for raw materials but 53 percent for final products.

Levels of Tariff Protection

The conversion of nontariff barriers to tariffs under the Uruguay Round Agreement on Agriculture was an important step forward, but in most industrial and developing countries average agricultural tariffs are much higher than average tariffs for non-agricultural products and continue to restrict trade (table 3.6).

The tariff data presented here, especially for industrial and some middle-income countries, seriously underestimates actual border protection for domestic producers. Specific duties are not reflected in the averages, and they are generally higher than ad valorem rates (see table 3.4). The reported ad valorem equivalents of specific duties for the European Union and the United States are much higher than the ad valorem rates. Assuming the same pattern for Canada and Japan, which have non-ad-valorem rates for 25 percent and 15 percent of their tariff lines, respectively, Quad average tariffs are being significantly underestimated. The degree of bias is indicated by the third column in table 3.6 showing the proportion of tariff lines to which the average tariffs apply.

Except for Canada, which has a large proportion of non-ad-valorem tariffs without equivalents, average tariffs are much higher in agriculture than in manufacturing. The difference is especially pronounced in the European Union, where the

TABLE 3.6 Average Agricultural Tariffs, Selected Country Groups and Years
(percent)

Country or Group	Agriculture	Manufacturing	Share of Lines Covered in Agriculture
Quad countries	10.7	4.0	86.7
Canada (2001)	3.8	3.6	76.0
Japan (1999)	10.3	3.7	85.5
United States (2001)	9.5	4.6	99.4
European Union (1999)	19.0	4.2	85.9
Large middle-income countries[a]	26.6	13.1	91.3
Other middle-income countries[b]	35.4	12.7	97.7
Lower-income countries[c]	16.6	13.2	99.8

Note: Most-favored-nation, applied ad valorem, out-of-quota duties.

a. Brazil (2001), China (2001), India (2000), the Republic of Korea (2001), Mexico (2001), Russian Federation (2001), South Africa (2001), and Turkey (2001).

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

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

Source: World Trade Organization Integrated Database (most-favored-nation applied duties).

average tariff is 19 percent in agriculture and 4.2 percent in manufacturing. Among developing countries the results are similar, with a few exceptions such as Brazil and Indonesia, whose manufacturing tariffs are marginally higher (less than 1 percentage point). Only in Malaysia are tariffs much higher in manufacturing (9.7 percent) than in agriculture (2.8 percent).

Developing countries in the sample have higher agricultural tariffs than industrial countries, with Morocco (64 percent), the Republic of Korea (42.2 percent), and Turkey (49.5 percent) having the highest average tariff rates, and Indonesia (8.5 percent) and Malaysia the lowest (2.8 percent). Again, it is important to recall that average tariffs in countries with a high share of non-ad-valorem rates in tariff lines are seriously underestimated; examples are the Russian Federation (a non-ad-valorem rate in tariff lines of 31 percent), South Africa (25 percent), Bulgaria (14 percent), and Turkey (6 percent).

In addition, average tariffs are not reflective of protection because the tariffs have wide dispersion and very high peaks. While tariffs on average are lower in industrial countries, significant tariff peaks indicate high rates of protection for specific products—almost 1,000 percent in the Republic of Korea, 506 percent in the European Union, and 350 percent in the United States.[7] Many low-income countries have lower peaks and variance than many of the middle-income countries (table 3.7). Furthermore, actual protection for local producers is much higher than these average tariffs in industrial countries and much lower than the average tariffs in selected developing countries, as shown previously (see figure 3.1).

The difference between average rates and maximum tariff rates and the relative domestic price differences for local production measured by market price support data from the OECD indicate that protection is very uneven, with domestic production being protected much more significantly. Japan, with an average tariff of 10 percent and a maximum ad valorem tariff of 50 percent, has estimated market price support of 130 percent. The difference can only be attributed to specific duties not included in the data set. The situation is similar for the European Union, with an average tariff of about 19 percent and market price support of 30 percent. For both Japan and the European Union, tariffs for many locally produced items are very high. For example, in the European Union average tariffs are 34.6 percent for grains, 54.6 percent for milk and milk products, and 32.5 percent for meats.

Another issue is the product coverage of the tariffs presented here and included in the market price support measures used by the OECD. The tariffs reported here include seafood, tobacco and cigarettes, wine, and tropical products, none of which is included in the market price support measures for

TABLE 3.7 Tariff Peaks and Variance in Selected Countries
(percent)

Country or Group	Average Tariff	Maximum Tariff	Standard Deviation	Share of Lines Covered
Canada	4.1	238.0	13.5	74.2
Japan	10.9	50.0	10.1	84.8
United States	9.9	350.0	26.5	99.5
European Union	19.0	506.3	27.3	85.9
Republic of Korea	39.9	917.0	107.9	97.9
Brazil	13.2	55.0	5.6	100.0
Costa Rica	14.2	154.0	18.0	100.0
Morocco	67.4	376.5	70.6	100.0
Indonesia	8.9	170.0	25.6	100.0
Malawi	16.5	25.0	8.5	100.0
Togo	15.6	20.0	6.1	99.9
Uganda	13.6	15.0	3.2	100.0

Note: Most-favored-nation, out-of-quota, applied tariffs.
Source: World Trade Organization Integrated Database.

TABLE 3.8 Tariff Rate Escalation in Agriculture, Selected Country Groups and Years
(percent)

Country or Group	Raw	Intermediate	Final	Average	Share of Lines Covered
Quad countries	6.1	9.3	14.8	10.7	86.7
Canada	1.4	3.4	6.5	3.8	76.0
Japan	4.2	10.2	15.9	10.3	85.5
United States	5.5	7.1	12.6	9.5	99.3
European Union	13.2	16.6	24.3	19.0	85.9
Large middle-income countries[a]	21.9	23.3	34.4	26.6	91.3
Other middle-income countries[b]	21.6	31.7	49.0	35.4	97.7
Lower-income countries[c]	13.2	14.8	23.0	16.6	99.8

Note: Most-favored-nation applied, ad valorem, out-of-quota duties.
a. Brazil (2001), China (2001), India (2000), the Republic of Korea (2001), Mexico (2001), Russian Federation (2001), South Africa (2001), and Turkey (2001).
b. Bulgaria (2001), Costa Rica (2001), Hungary (2001), Jordan (2000), Malaysia (2001), Morocco (1997), Philippines (2001), and Romania (1999).
c. Bangladesh (1999), Guatemala (1999), Indonesia (1999), Kenya (2001), Malawi (2000), Togo (2001), Uganda (2001), and Zimbabwe (2001).
Source: World Trade Organization Integrated Database (most-favored-nation applied duties).

the OECD countries. If seafood, beverages, tobacco, and noncompetitive tropical products are excluded, the average tariff rises from 3.8 percent to 10.4 percent in Canada and from 10.7 percent to 24.7 percent in Japan (excluding specific tariffs). This supports the hypotheses that the low average tariffs are misleading and that protection is uneven and focused primarily on selected domestically produced commodities.

Tariff Escalation

Protection escalates with the level of processing in almost all countries and across all products (table 3.8). Escalation slows diversification into value added and processed products. The manufacturing component of agriculture and food processing have very high rates of protection.

TABLE 3.9 Tariff Escalation in Selected Agricultural Product Groups
(percent)

Product	European Union	United States	Japan
Traditional tropical products			
Coffee			
Raw	7.3	0.1	6.0
Final	12.1	10.1	18.8
Cocoa			
Raw	0.5	0.0	0.0
Intermediate	9.7	0.2	7.0
Final	30.6	15.3	21.7
New expanding products			
Fruits			
Raw	9.2	4.6	8.7
Intermediate	13.3	5.5	13.2
Final	22.5	10.2	16.7
Vegetables			
Raw	9.9	4.4	5.0
Intermediate	18.5	4.4	10.6
Final	18.0	6.5	11.6
Seafood			
Raw	11.5	0.6	4.9
Intermediate	5.1	3.2	4.3
Final	16.2	3.5	9.1

Note: Most-favored-nation applied, ad valorem, out-of-quota duties.
Source: World Trade Organization Integrated Database.

Tariff escalation occurs in all types of products, not just those produced in industrial countries. Data on products with low tariffs on raw commodities, both traditional products (coffee and cocoa) and new products (fruits and vegetables, seafood), show that tariff escalation is common to both (table 3.9). Tariffs are extremely low on the raw stages of traditional products, whereas the final stages and processed products have extremely high tariffs. Similar tariff escalation is apparent in fruits and vegetables, which are supposed to be less protected and in which developing country exports have expanded.

In addition, these averages mask very high peaks on individual products. In the United States maximum tariffs are 136 percent on final fruit products and 186 percent on cocoa products. In the European Union the maximum rates are 98 percent and 146 percent on processed fruits and vegetables and 63 percent on cocoa products. And again, many of the final product tariffs are non-ad-valorem, meaning that the averages underestimate the full extent of high tariffs.

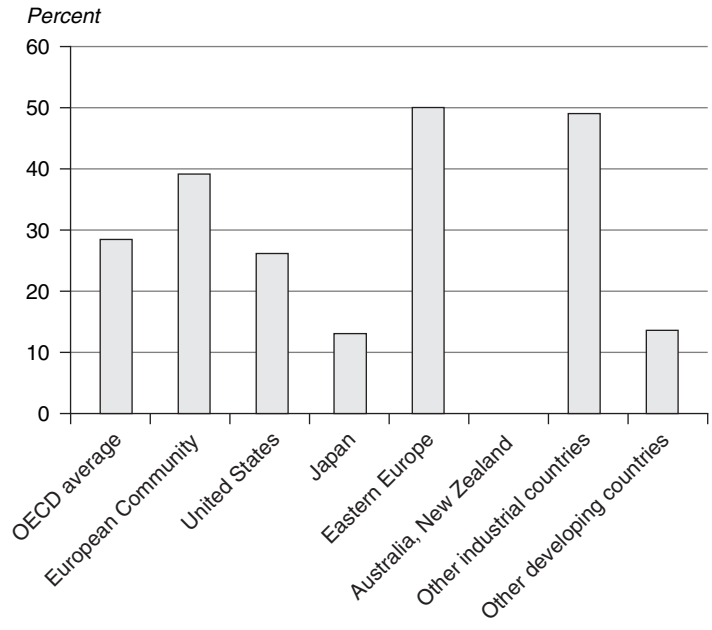
Tariff Rate Quotas

Tariff rate quotas, designed to ensure some degree of market access despite protection, have resulted in more complex tariff regimes. While the number of tariff lines under tariff rate quotas is small, these lines cover some of the main commodities produced in OECD countries. According to OECD data, almost 28 percent of domestic agricultural production is protected by tariff rate quotas. Rates range from a high of 68 percent in Hungary to 38 percent in the European Union and 26 percent in the United States to 13 percent in Japan (figure 3.6). Australia and New Zealand have no tariff rate quotas.

Export Subsidies

Although lower tariffs and the move toward direct production subsidies are beginning to reduce the need for export subsidies in agriculture (they have been illegal on nonagricultural products since

FIGURE 3.6 Share of Output under Tariff Rate Quotas
(percent)



Source: OECD, Agricultural Market Access Database (AMAD).

1955), export subsidies continue to distort world markets. The European Union accounts for almost 90 percent of all OECD export subsidies. The Uruguay Round Agreement on Agriculture placed limits on export subsidies for individual commodities but allowed some flexibility. With usage levels low early in the implementation period, when world prices were high, several countries carried forward unused export subsidy credits for later use. Circumvention, through the subsidy elements of export credits, export restrictions, and revenue-pooling arrangements in major products, is a concern.

Even if tariffs were eliminated altogether along with the official export subsidies, current agricultural production subsidies would keep the domestic and export price of many commodities lower than their costs of production in industrial countries. By lowering production costs, production subsidies favor industrial-country producers over developing-country producers, who do not receive direct subsidies. Consider cotton subsidies in the European Union and the United States. Tariffs are zero, and domestic prices are the same as world or export prices (Baffes 2004; Watkins 2003). Yet in the United States in 2001, production subsidies effectively increased the prices farmers received (or reduced their costs of production) by 51 percent, leading to increased production that depressed the world price. U.S. export prices were 58 percent of the average costs of production for wheat, 67 percent for corn, and 77 percent for rice (Watkins 2003). The move toward replacing border barriers with direct subsidies in industrial countries will increase the importance of these implicit export subsidies.[8]

Implications of Reform

One trade reform proposal that would have cut agricultural tariffs substantially was put up by Stuart Harbinson, chairman of the agricultural negotiations in the Doha Round of the WTO trade negotiations (DRIFE 2003). The proposal was rejected by industrial-country trade ministers as too radical, however, and brought the Cancún Ministerial Meetings to a close. The implications of this proposal in terms of actual tariff outcomes is presented below as an illustration.

Harbinson proposed that industrial countries cut average agricultural tariffs 60 percent on bound tariffs above 90 percent, 50 percent on bound tariffs between 15 and 90 percent, and 40 percent on bound tariffs below 15 percent.[9] For developing

TABLE 3.10 Tariffs in the European Union and the United States Before and After Average Reduction from Applied Tariffs under the Harbinson Proposal
(percent)

	United States				*European Union*			
	Before Harbinson		*After Harbinson*		*Before Harbinson*		*After Harbinson*	
Product	Average	Peak	Average	Peak	Average	Peak	Average	Peak
Raw	5.5	350.0	2.7	140.0	13.2	131.8	6.9	52.7
Intermediate	7.1	159.3	3.8	63.8	16.6	284.8	8.3	113.9
Final	11.7	180.8	6.2	72.3	26.8	506.3	13.1	202.5
Overall	8.8	350.0	4.6	140.0	19.7	506.3	9.9	202.5

Note: The analysis excludes cigarettes and alcoholic drinks.
Source: World Trade Organization Integrated Database.

TABLE 3.11 Tariffs in Selected Developing Countries Before and After Average Reductions from Bound Rates
(percent)

	Costa Rica		*India*		*Jordan*		*Korea, Rep. of*	
Category	Average	Peak	Average	Peak	Average	Peak	Average	Peak
Before Harbinson	49.0	245.0	115.3	300.0	21.5	180.0	50.8	917.0
After Harbinson	33.8	147.0	72.3	180.0	14.9	108.0	33.2	550.2
Current applied rates	13.1	154.0	36.7	115.0	18.5	120.0	42.7	917.0

Note: The analysis excludes cigarettes and alcoholic drinks.
Source: World Trade Organization Integrated Database.

countries and for products that are not considered strategic, average tariffs would be cut 40 percent for bound tariffs above 120 percent, 35 percent for tariffs between 60 percent and 120 percent, 30 percent for tariffs between 20 percent and 60 percent, and 25 percent for tariffs below 20 percent. These cuts would be implemented over 5 years for industrial countries in equal installments and over 10 years for developing countries (WTO 2003).

While the proposed cuts look significant—some groups have called them radical—their impact would not be as great as might appear. For developing countries the key issue is reductions from the bound, not the applied, rates. Most developing countries have bound their tariffs at relatively high rates, but applied rates are much lower. If cuts are made to the bound rates, countries would get credit for the unilateral reforms, but the reductions would not lead to significant actual reductions in tariffs.

For the United States and the European Union, average effective tariffs would be halved by the end of the reform process under an optimistic scenario in which all tariffs are cut by the average rate from the applied rates (table 3.10).[10] EU tariffs would come down from 20 percent to about 10 percent, while U.S. tariffs would drop from 9 percent to below 5 percent. Even so, the average agricultural tariffs in both areas would remain significantly higher than the average manufacturing tariffs of 4.2 percent in the European Union and 4.6 percent in the United States. Tariff peaks would remain above 200 percent in the European Union and above 140 percent in the United States.

For developing countries the optimistic scenario lowers all the bound rates by the amount of the average cut. Cuts from bound rates do not significantly lower protection in most developing countries. At the end of 10 years the Harbinson reform would leave bound tariffs significantly above the currently applied rates in Costa Rica and India and only marginally below the current applied rates in Jordan and the Republic of Korea (table 3.11).

Because these results would hold for most developing countries, existing levels of protection in the developing world would not be significantly reduced under the Harbinson proposals or under any other proposals that start with bound rates.

Thus even significant cuts in tariffs by industrial and developing countries will leave agricultural sectors with highly distorted tariff structures. In addition to average cuts, however designed, there has to be an agreement on tariff peaks, which should be capped at reasonably low rates.

Conclusion

Within OECD countries, budgetary subsidies and subsidies from consumers (through high tariffs and quantitative restrictions on domestic production of selected commodities) to agricultural producers totaled about $228 billion in 2000–02, or 45 percent of farm revenues. That was down from 62 percent in 1986–88 but is still very high. Some 63 percent of this support was through the higher prices associated with border protection and 37 percent through direct subsidies. In developing countries almost all support is generated through border barriers.

Average agricultural tariffs in industrial countries, when they can be measured, are two to four times higher than average manufacturing tariffs. Even at that, these averages seriously underestimate the actual level of protection to local producers. Almost 30 percent of domestic production in OECD countries is protected by tariff rate quotas. More than 40 percent of the tariff lines in the European Union and the United States include specific duties, which make it difficult to calculate average tariffs, obscure actual levels of protection, and penalize developing countries that supply cheaper products. Tariff peaks as high as 500 percent confront imports from developing countries. Tariffs also rise by degree of processing, creating a highly escalating tariff structure that limits access to processed food markets.

Developing countries, too, have maintained high border protection and have higher average agricultural tariffs than industrial countries. What is worse, many of the protectionist developing countries are middle-income economies, where the demand for agricultural products is growing rapidly. These countries are beginning to resemble industrial countries in their structure of protection. More generally, as taxation of agriculture diminishes in developing countries, reactive protection in response to industrial-country agricultural support is increasing. Many developing countries have increased protection of domestic food products against cheaper, subsidized exports from industrial countries.

Although official export subsidies may be small and shrinking, implicit export subsidies resulting from domestic support are increasing, lending unfair advantage to industrial-country producers. In the United States and the European Union, domestic and export prices of cotton are the same—but those prices are less than half the average cost of production. Similar differences exist for many other products, a gap that will increase as industrial countries move from protection through border barriers and high support prices to support through coupled or partially decoupled subsidies.

Two other dynamics complicate protection. First, many agricultural policies are anticyclical, with protection increasing when agricultural prices are low. Thus protection levels fell as commodity prices increased in the early 1990s and then rose again as prices declined in the late 1990s. Second, rapid and sustained technical progress in agriculture has lowered the costs of production and thus lowered prices. Countries that have been able to enjoy the benefits of technological change have managed to maintain their production and compete with subsidized production.

Significant reforms are needed to make a dent in rural poverty in most developing countries (see chapter 2). Given the magnitude of the distortions in the agricultural sectors in all countries, the proposals for reform have been quite modest. Yet even the modest proposals have not been accepted by the key industrial countries.

A few simple issues stand out. Given the complexity of the protection regimes, all non-ad-valorem tariffs should be converted into ad valorem tariffs. Variances in tariff rates are so high that the only way to reduce protection significantly is through binding ad valorem, nonseasonal tariff caps that are gradually reduced to zero or to very low levels. Otherwise, high tariffs on selected products will continue under all modalities of reform. Finally, direct support programs have to be fully decoupled from production in industrial and

middle-income countries (see chapter 5), and other instruments have to be used to support the rural sector in these countries.

Notes

1. Annex 3 in the attached CD-ROM contains detailed tariff tables for 31 countries.

2. For example, most of the policy work on agricultural policies in the World Bank in the 1970s and 1980s focused on supply enhancement and the elimination of taxation of agriculture.

3. These were simple averages and were not weighted for the volume of trade. Thus some countries made large reductions in tariffs that were already low (from 2 percent to 1 percent, for example, for a 50 percent reduction), while making only the minimum reduction in sensitive product groups with high tariffs.

4. It has not been possible to generate consistent agricultural manufacturing and agricultural tariffs for earlier years.

5. The annex in the attached CD-ROM presents the detailed structure of tariffs for the individual countries and the year for which the tariff information applies for each country. The years are also presented in table 3.6.

6. For example, EU duties on wine are 13 euros a hectoliter, or about $0.15 a bottle. For a $1 (c.i.f.) bottle of wine from developing countries such as Bulgaria and Moldova, that gives a high tariff rate of 15 percent. For a $10 dollar bottle of wine from California, the tariff rate would be just 1.5 percent, a very low one.

7. Peaks for the European Union and the United States are all specific tariffs, whereas the variance and peaks for Canada and Japan probably do not reflect the real peaks because specific duties are excluded.

8. Elimination of the Peace Clause, which effectively prohibited legal action against implicit export subsidies, could change the legality of having domestic costs much higher than export prices. Decoupling payments to producers from production levels is another alternative that would allow income support to farmers but eliminate its link with production decisions (see chapter 5).

9. These are average cuts, so actual cuts in each line could be lower.

10. The European Union and United States were selected because there are tariff equivalents for the specific duties. The data for the European Union are for 1999, the last year for which the tariff equivalents were available. The difference between bound and effective rates is very small in most industrial countries and for ease of presentation, the reductions were taken from the effective rates.

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