CHAPTER 13

Trade Controls in Practice

How prevalent are government restrictions on international trade? How have these restrictions evolved over time? Why do they change when they do? In Chapter 11 we suggested that trade controls should be considered an act of public choice. Here we explore the ups and downs of actual trade restrictions in the United States. Actually, make that downs and ups. The United States and its major trading partners have undertaken a long collaborative effort to lower the general level of restrictions. However, the very success of this process bred a reactive swing toward *managed trade*, in which lowered tariffs are replaced by other types of restrictions to shelter important (and politically powerful) industries.

13.1 Tariffs: Levels and Trends

Without doubt, tariffs and other governmental restraints on trade have curbed international specialization and reduced world economic welfare. It is known, for example, that regions of the United States, trading freely with one another, are far more specialized in production than independent industrial nations of comparable size.[1] We consider the long-run pattern in the United States, then refer briefly to broader patterns.

Makers of public policy in the United States were little impressed with the virtues of international trade until the last six decades. As Figure 13.1 shows, the American tariff through much of the nineteenth century averaged 40 percent or more on dutiable imports. It reached its high point in 1932 as a result of the Smoot-Hawley Act of 1930, then began a substantial decline that was caused in part by American participation in the multinational tariff reductions. The average duty paid on *total* imports declined even more than did customs revenue on dutiable imports as duty-free imports (often raw materials) became more important. The decreased reliance on tariffs as a source of federal governmental revenue was striking. Customs revenues, now less than 1 percent of the federal government's budget receipts, were 89 percent in 1821 (when they were the only tax that was easy to collect).

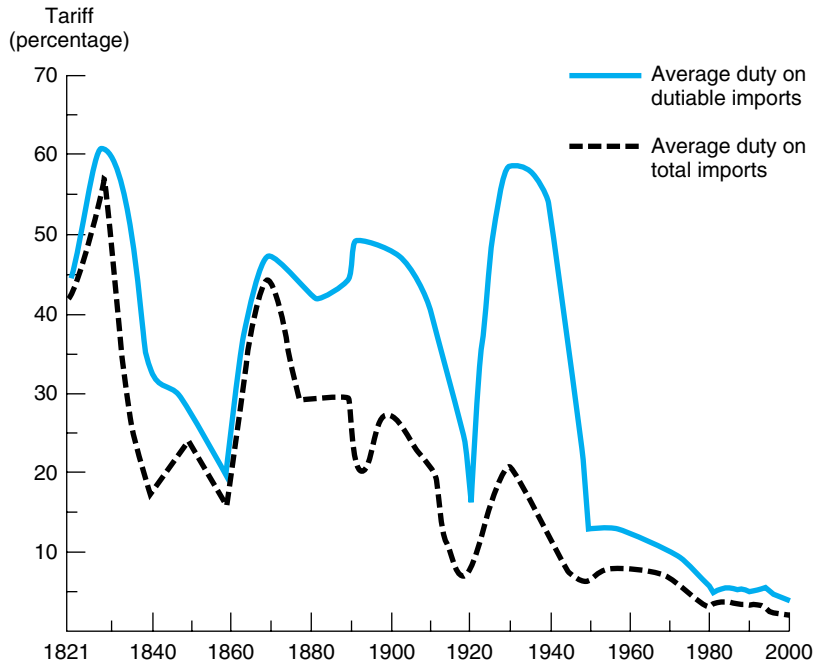
The history of tariff legislation is fascinating for its insights into the process of public decision making. Early in the nineteenth century, America became a high-tariff country mainly for two reasons. One was acceptance of the infant-industry argument that tariffs actually would raise real income by promoting economic development. The other

[1]John McCallum, "National Borders Matter: Canada–U.S. Regional Trade Patterns," *American Economic Review,* 85 (June 1995): 615–623.

FIGURE 13.1

Long-Run Trend in U.S. Tariffs

Average duty collected on dutiable imports was high until the 1930s, then fell sharply. Average duty on total imports has fallen more because a larger proportion of imports has become duty-free.



reason was nationalism and a collective distaste for things British, notably imported British goods. Throughout the nineteenth century, changes in the tariff reflected shifts in regional political strength—the manufacturing states in the Northeast benefited from tariffs while the primary-product exporters of the South suffered. The Civil War swung the power balance decisively toward the manufacturers and enshrined a high tariff for the rest of the century.

The process that brought this drastic reduction of average tariffs for the United States has worked for other industrial countries as well. Industrial countries' average tariffs on manufactures are now typically just a few percent. They tend to be very low for differentiated goods and for the products of science-based industries, higher and more variable in mass production industries, and highest for labor-intensive products and some processed natural resources. This pattern is close to the one seen in U.S. tariffs, analyzed in Chapter 11. Whatever the political mechanism that has produced this sectoral pattern, it seems common to most of the industrial countries.

If many manufactures coast past the tariff collectors in industrial countries, agricultural produce is not so lucky. The following data show the size of the advantages

over foreign producers conferred on domestic farmers by the United States, Japan, and most European countries (members of the European Union):

	Wheat	Sugar	Beef
United States	40.7%	68.4%	9.0%
Japan	99.7	69.7	61.9
European Union	31.0	32.8	43.5

These figures encompass the combined effect of tariffs and other direct restrictions on imports, plus subsidies given to domestic farmers.[2]

13.2 Multilateral Tariff Reduction

What accounts for the *90 percent* drop in U.S. tariffs between the early 1930s and the present day? The answer to this question lies in the policy change that accounted for half of the decline—a program initiated by the United States, whereby nations join in simultaneous reductions of their tariffs.

Evolution of the Trade Agreements Program

In the face of mountainous tariff rates imposed by the Smoot-Hawley Act of 1930, it was no wonder that the U.S. share of world trade dropped from 16 to 11 percent in the next five years. The world total also declined as international trade shriveled in the face of the Great Depression of the 1930s. The combined effect on U.S. exports of the depression and of retaliatory increases in other countries' tariffs prompted a major shift in trade policy in 1934. Congress authorized the president to negotiate agreements with foreign trading partners to lower tariffs hampering American exports. In return, U.S. tariffs would be cut on selected goods exported by the partner. The president could offer to cut the rates of duty set by the Smoot-Hawley Act up to 50 percent. By 1940 the United States had entered into bilateral trade agreements with twenty partners, thereby establishing a ritual for these accords.

If the tariffs reduced by the agreement were not offsetting some specific failure of the market, their reduction should have increased world welfare. Did they also increase the welfare of each participating country? How were they consistent with the setting of tariffs through a process of political choice? One possible answer comes from the role of tariffs in extracting monopoly profits from international trade (the optimal tariff). If the tariff-cutting importer is large enough to influence its terms of trade, or if it merely *thinks* it gives benefits to foreigners by reducing its tariff, the reciprocal trade agreements make some sense. A tariff reduction now raises the world price of the imported good to the exporter's benefit. The size of this benefit depends on the initial volume of trade (as well as on the size of the tariff concession). This terms-of-trade

[2]U.S. Department of Agriculture estimates for 1982 to 1987. Summarized by Joachim Zietz and Alberto Valdes, "The Growth of Agricultural Protection," in Takatoshi Ito and Anne O. Krueger, eds., *Trade and Protectionism* (Chicago: University of Chicago Press, 1993), pp. 115–143.

gain to the exporter is a loss to the importer unless its tariff was higher than optimal. The importer might not gain from cutting a single tariff (even though the world does), but the importer's terms-of-trade loss on one product can be offset by its gain as an exporter when a reciprocal agreement is signed. In addition, these gains and losses are more likely to cancel each other out if each party cuts tariffs on the same initial volume of trade.[3]

That all parties might gain through reciprocal tariff-cutting agreements is consistent with the political economy of tariffs. Suppose that a country has high tariffs in place, the result of the political processes described in Chapter 11. The government knows that national economic welfare has been impaired; it would like to reduce the tariffs and raise national welfare but cannot get rid of tariffs one at a time. Therefore, it proposes a broad tariff-cutting agreement with its trading partners, which will benefit most of its export producers as well as consumers generally. Enough voters might perceive that they benefit significantly from the package that a majority coalition forms in favor of it. Both this process of forming coalitions in favor of freer trade and the monopoly-tariff story probably help explain the success of reciprocal trade agreements.

The bilateral trade agreements program was running out of steam by the end of the 1930s. It was replaced in the postwar period by a process of multilateral bargaining in which countries increasingly bundled together their offers to reduce tariffs. Ultimately, the cuts took the form of consent on a common, across-the-board reduction in all tariffs. In the so-called Kennedy Round of multilateral tariff bargaining, completed in 1967, the chief industrial countries agreed on a target of a 50 percent across-the-board cut in all tariff rates. Each country could propose to except some of its tariffs from the cut, presumably where unacceptable injury to domestic industries would result. Bargaining proceeded over the size of the exceptions lists, rather than over the 50 percent cut itself. The participants agreed to weighted-average tariff cuts of approximately 35 percent, making the Kennedy Round the most sweeping tariff reduction since these rounds began.

The Tokyo Round (1973–1979) continued the procedure of the Kennedy Round but also tackled the thorny problem of nontariff barriers to trade. In the tariff-cutting part of the agreement, the industrial countries agreed to reduce their tariffs, on average, by another third over an eight-year period. Most of the major countries lowered individual tariffs by a formula that shaves more off those tariffs that were higher initially.

The Uruguay Round (1986–1994) featured another general reduction in tariffs of 40 percent. Also, the industrialized nations agreed to eliminate tariffs among themselves on the products of ten important industries, including construction equipment, farm machinery, furniture, medical equipment, paper, pharmaceuticals, and steel. Overall, it brought trade-weighted average tariffs in the developed economies down from 6.3 to 3.9 percent; in the developing countries from 15.3 to 12.3 percent; and in the

[3]Elements of monopoly and product differentiation in individual product markets probably contribute to causing the prices of a country's imports net of tariff to rise when a tariff is reduced. A study of U.S. tariff reductions in the 1950s found that nearly half of the price effects took the form of increased external prices, rather than reduced prices (including tariff) to domestic consumers. See M. E. Kreinin, "Effect of Tariff Changes on the Prices and Volume of Imports," *American Economic Review,* 51 (June 1961): 310–324.

Eastern European economies in transition from 8.6 to 6.0 percent.[4] The Uruguay Round's major accomplishment, however, was to attack other types of restrictions and distortions. It encouraged uniform national laws protecting intellectual property—patents, copyrights, and trademarks. These property rights mitigate an important market failure: If the pharmaceutical firm's new wonder drug or the writer's literary creation can be freely copied by others, their incentive to invest in developing these products is greatly reduced. However, a nation heeding the welfare of its own consumers lets them copy foreigners' intellectual property (see Section 12.4). The Uruguay Round made a start at reducing the heavy protection given (by various devices) to agriculture, textiles and apparel, and certain other sectors. These were to be converted to tariffs—which makes the severity of the restrictions plain to hapless consumers—and were then supposed to undergo reduction at targeted rates.

The Doha Round was launched in 2001 with an agreement focused on the developing countries, which had by and large sat out the earlier rounds—maintaining heavy protection of their domestic industries but also facing heavy protection in markets for their agricultural products and labor-intensive manufactures. Approximately 150 nations including many developing countries are involved in the Doha Round discussions, and the agenda is slanted toward their interests. The industrial countries agreed to discuss the protection and subsidies given to their farmers, and services (business services, international air travel) are on the agenda. Agricultural subsidies of the developed countries have been the most bitterly contested issue. They are extensive in the United States, and indeed subsidies for agricultural exports have been a central policy of the European Union. At the end of 2005, the United States and European Union formally reached a conditional commitment to end these subsidies by 2013. The firmness of that commitment is unclear, and in any case export subsidies (cotton from the United States, dairy products and sugar from the European Union) are a small part of the protection given industrial countries' agriculture (production subsidies, price supports, high tariffs on imports).[5] Also included in Doha's agenda are national policies that can indirectly distort trade—either by their use or disuse: competition policy, government procurement, and so on.

World Trade Organization

One of the Uruguay Round's accomplishments was to create the World Trade Organization (WTO), an international organization. It replaced the General Agreement on Tariffs and Trade (GATT), a network of international agreements that had been in place since 1947–1948. Apart from managing the trade agreements program, the WTO's key function is to provide a framework for resolving alleged violations of GATT/WTO rules. Suppose that country *A* raises a tariff that it had previously committed in a trade

[4]United Nations, *World Economic and Social Survey, 2001*, Table V.2. Average tariff rates understate their true values when they are weighted by the imports that get in over the tariff rather than the imports that are kept out.

[5]Also promised in late 2005 was duty-free access to industrial countries' markets for most exports from a group of the world's poorest countries. This pledge discriminates against the *next* poorest countries and runs counter to the commitment to nondiscriminatory reduction in trade barriers.

agreement to "bind." Exporting country *B* believes its interests are harmed and lodges a complaint. If conciliation efforts fail, a panel of other WTO members hears the two parties' cases. The disputants are obligated to work out a solution within the framework of the panel's decision, although there is a formal appeals procedure. A solution to the dispute might involve *A* cutting its tariff on some other product(s) imported from *B*. If *A* declines to "make good," as a last resort the WTO panel authorizes *B* to make specific retaliatory increases in its tariffs on goods imported from *A*. The key feature of this procedure is that via their WTO membership, countries are committed to accept whatever agreement is worked out before the WTO panel. This averts escalating tit-for-tat rounds of trade restriction that were commonplace in the 1930s. In the WTO's first decade of operation, the plaintiffs (both the United States and others) won quite large proportions of the cases they brought. In a majority of cases, the losing defendant brought itself into compliance. The WTO is "democratic" in the sense that all countries have equal standing before the organization; in 2001 developing countries filed approximately 80 percent of the complaints. Their typical small sizes, however, limit their ability to use the WTO's procedure of retaliating. They are unlikely to find in their imports goods in which they have the market influence to inflict significant punishment on the defendant.[6]

The United States has been a fairly active plaintiff before the WTO, and sometimes a defendant as well. In 2000 the United States was charged by the European Union with maintaining an illegal export-subsidy arrangement in the form of a tax exemption for income from export sales booked through an organization called a Foreign Sales Corporation (FSC). With the United States facing WTO-authorized sanctions on $4 billion of U.S. exports, Congress passed a bill ending the FSC arrangement—but recasting the tax benefit in another form. The European Union agreed to withhold retaliation until 2001 when the WTO was expected to rule on this new arrangement. The United States in 1999 had assailed E.U. policies that favored bananas imported from the Caribbean over imports from U.S.-owned plantations in Central America. The United States imposed 100 percent tariffs on $300 million a year of European products (mostly luxury goods) until the dispute was resolved (2001).

Gains from Trade Liberalization

Trade liberalization is always controversial. With the progressive reduction of tariffs by the industrial countries, some observers have begun to wonder whether the real welfare gains warrant the political effort involved. To discuss this and other problems of quantifying the welfare effects of trade controls, economists commonly rely on the partial-equilibrium analysis displayed in Figure 10.1. A number of economists have estimated the deadweight losses expected to be recovered from the Uruguay Round.[7]

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[6]Anne O. Krueger, ed., *The WTO as an International Organization* (Chicago: University of Chicago Press, 1998); Jeffrey J. Schott, *WTO 2000: Setting the Course for World Trade* (Washington, DC: Institute for International Economics, 1996).

[7]Summarized by Alan V. Deardorff, "Economic Effects of Quota and Tariff Reductions," in Susan M. Collins and Barry P. Bosworth, eds., *The New GATT: Implications for the United States* (Washington, DC: Brookings Institution, 1994), pp. 7–27.

The estimated increases in world gross domestic product range from 0.7 to 1.3 percent; these are permanent gains expected to be realized by the time the changes are fully phased in. Although not every country necessarily gains (there can be terms-of-trade losses from reducing tariffs for countries that exploited monopoly power), no losers are identified, although the gains range from 0.6 percent for the least developed countries to 2.1 percent for some European countries that are not yet members of the European Union. As we expect from Figure 10.1, the proportional increase in trade (5 to 20 percent expected) is larger than the expected increase in welfare.

13.3 Devices for Special Protection

The rounds of trade agreements seem to benefit from a welcome mechanism of "political economy" within the participating countries, in the form of coalitions of the majority of a country's economic interests that obtain shares of the gains from removing trade restrictions. Symmetrically, we rarely see countries choosing to tighten their trade restrictions across the board. We do, however, observe particular import-competing interests that hang on to protection, or even gain more of it, evading the general move toward freer trade. Some instances apparently involve plain and simple political clout strong enough to evade the majority coalition. Others exploit special forms of protection that permit concealment of the true incidence of protection from the general public.

We start with some descriptive statistics that expose the magnitude of the problem. Although successive rounds of largely across-the-board tariff cutting took place under the GATT and WTO, many countries were providing special deals for selected import-competing sectors.

One study[8] estimated that the proportion of countries' trade subject to nontariff barriers had risen as follows:

	1966	1986
	(%)	(%)
United States	36	45 (12)
European Union	21	54 (19)
Japan	31	43 (14)
All developed countries	25	48 (16)

Although the increase shown here is evident on any reckoning, the levels may prompt an overpessimistic interpretation. Nontariff barriers are defined to include both nontariff measures specifically intended to restrict trade and various domestic policies (technical or health and safety standards, border tax adjustments, etc.) that incidentally impose extra costs on foreign suppliers. If only the former restrictions are considered, the lower figures shown in parentheses apply for 1986. These are still high, however, and they have increased greatly.

[8]Sam Laird and Alexander Yeats, "Trends in Nontariff Barriers of Developed Countries, 1966–1986," *Weltwirtschaftliches Archiv,* 126, 2 (1990): 299–326.

Theory of Quantitative Restrictions

A quantitative restriction (QR) has basically the same effect as a tariff, yet its incidental differences are important. The similarity is shown when we turn back to Figure 10.1. Given domestic demand and supply and the world price P_w, a tariff of P_t imposed by the government will shrink the volume of imports from KL to MN. This outcome could equally well be obtained by the government's allowing only MN imports to enter the market. With the market purely competitive, this volume of imports will allow the market to clear only at the price P_t. The Uruguay Round obligated countries to perform this calculation and reveal to consumers the tariff-equivalents of the highly restrictive quotas in use for agricultural products. E.U. quotas have the effect of tariffs of 178 percent on dairy products, 152 percent on sugar. United States tariff-equivalents for these products are 93 and 92 percent, respectively. Japan imposes a tariff-equivalent of 326 percent on dairy products and 152 percent on wheat.

Given this basic equivalence, tariffs and quotas can have important differences in practice. Some of these depend on what happens to the revenue representing the gap between the foreign and the domestic price. The tariff generates government revenue equal to area 3 in Figure 10.1. When imports are limited by quota, ordinarily no tariff is collected, yet the privilege of buying abroad at P_w and selling domestically at P_t is obviously valuable. The government might auction off licenses to import to the highest bidder. Competitive bidding by would-be importers would wipe out this potential profit and hand the government the same revenue as if it levied the tariff equivalent. Conversely, the government might give away import licenses to the domestic importers, in which case they capture the proceeds. If the government awards the licenses to foreign exporters, their country gains the scarcity rent. Note that the world welfare cost of the restriction is the same in each case. The method of administering a quota only redistributes income.[9]

Voluntary Export Restraints

A special type of quantitative restriction now in widespread use is the so-called voluntary export restraint (VER), whereby the importing nation induces the exporting countries to curtail their shipments. This device simply hands over area 3 to the exporters, who are expected to charge the price that clears the market for the restricted volume of sales. It is equivalent to an export tax. A VER obviously maximizes the cost to the importing country's real income of restricting imports. We will speculate on why the choice of VERs has been so popular among importing-country governments.

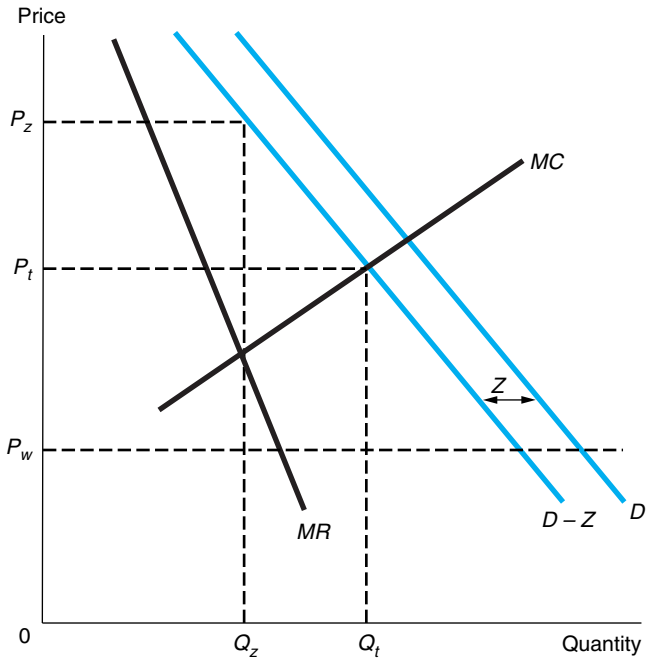
Another difference between tariffs and quotas arises if the domestic industry is not perfectly competitive because a tariff and quota that let in the same volume of imports have different effects on the domestic price. We consider the case of a single, monopolistic domestic seller, shown in Figure 13.2. The world price is P_w, the monopoly's marginal cost is MC, and domestic demand is D. A quota of Z causes the

[9]At one time the Japanese government was financing its entire international commercial intelligence network (JETRO) from its cut of the profits of importers licensed to bring quota-restricted bananas into Japan.

FIGURE 13.2

Tariffs and Quotas with Monopoly

The same quantities of imports Z would enter with an import quota of Z and a tariff of $P_t - P_w$. However, the fixed quota gives the monopoly more power, with the domestic price raised to P_z, higher than the tariff that would let in the equilibrium volume of imports Z.



monopoly to select its most profitable output by ceding this much of the market and maximizing its profit on the residual demand of $D - Z$. MR is marginal revenue corresponding to this residual demand. The monopoly selects a quantity of output Q_z that equates marginal revenue to marginal cost and commands a price of P_z. Now we must find the tariff that makes Z the equilibrium volume of imports. The country (and the monopoly) are price-takers on the world market, so that a tariff raises the world price inside the country but still leaves the monopoly facing an exogenous price. If that price were P_t, the monopoly would select output Q_t, which equates MC to the constant marginal revenue indicated by the tariff-ridden world price P_t. Q_t and Z satisfy domestic demand at P_t, which is therefore an equilibrium price. P_z considerably exceeds P_t. The intuition behind this difference is that the quota caps the amount of imports and leaves the monopoly facing a (net) domestic demand that is imperfectly elastic. The tariff, however, allows the quantity of imports to expand when the monopoly raises its price.

Management through VERs

The United States seldom imposed quotas unilaterally on imports of manufactured products, but it has used VERs extensively to regulate the quantities of goods that exporters ship to the United States. The VERs began with an informal agreement with Japan in 1957 to limit exports of cotton textiles in order to protect that U.S. industry. It proliferated into the Multifiber Arrangement, an umbrella agreement covering

bilateral quotas negotiated among a number of exporting and importing countries. We pick up the story of the Multifiber Arrangement in the next section.

The restrictiveness of VERs can be assessed by calculating export-tax equivalents of these quotas, like the import-tax equivalent of a quota administered by the importing country. Hamilton, however, used the even more direct method of obtaining data from Hong Kong on the market values of quota allocations. That is, what competitive Hong Kong producers will pay for the privilege of exporting a given lot to a particular destination should equal the difference between their costs and the goods' sale value at the destination. He found tariff equivalents of 27 percent for the United States and 14 percent for the European Union; added to the conventional tariffs that continue to apply to these imports, the combined trade barriers are 56 percent for the United States, 33 percent for the Union.[10]

VERs have been very popular with the United States and other developed-country governments. Besides the thicket surrounding the Multifiber Arrangement, by 1986 at least 99 additional VERs covered other exports (steel, electronics, footwear, transportation equipment). Why their popularity? The answer probably lies in the bargaining power possessed by foreign exporters. When a large customer such as the United States raises its trade barriers, it certainly inflicts short-run losses on foreign exporters and may permanently worsen their terms of trade. Exporting countries often have ways of retaliating, such as restricting imports from the United States. In addition, the United States may appear to be less protective if foreigners "voluntarily" restrain their exports than if U.S. quotas are imposed.

One outcome of the Uruguay Round was an agreement that members should convert their quantitative restrictions and VERs into standard tariffs. It is unlikely, though, that the last of them will be seen any time soon.

13.4 Special Protection in Action

The U.S. government like other trading nations keeps open several channels for domestic interest groups seeking protection. One (the escape clause) provides temporary relief for domestic industries that suffer owing to protection reduced in one of the GATT rounds. Another (countervailing duties) permits a domestic industry to obtain increased tariffs to offset subsidies provided to their foreign competitors. In this section we examine several in detail.

Antidumping Measures

Clearly the most important form of special protection is antidumping policy. On its face this policy addresses price discrimination (see Section 12.3) by exporters who charge lower prices abroad than at home. Specifically, it provides relief to domestic producers competing with imports sold at a lower price than in the exporter's home market. The

[10]Carl Hamilton, "An Assessment of Voluntary Restraints on Hong Kong Exports to Europe and the USA," *Economica,* 53 (August 1986): 339–350.

relief available to the injured producers takes the form of a tariff equal to the difference between the imports' sale price and their "normal" selling price abroad. A producer's charge of dumping triggers an investigation by both the U.S. Department of Commerce to determine whether dumping is taking place and by the U.S. International Trade Commission to determine whether the domestic industry is thus being harmed. If each agency makes a positive finding, duties to offset the dumping margin (which are imposed provisionally as soon as the determination of dumping is made) become permanent subject to periodic review. Another possible outcome is a negotiated agreement with the exporters to raise their prices. In the abstract the effect of dumping on welfare is equivalent to that of price discrimination. That practice in general can either raise or lower the welfare of all parties affected by it. In the country that is "dumped on," the gain from lower prices to consumers exceeds the loss of rents to competing producers.

Antidumping (AD) cases have become the main systematic route to obtaining special protection in the United States and other countries as well. They sprang into prominence in the 1980s, with 29 countries adopting antidumping legislation from 1987 to 1997. The most prolific sources of antidumping complaints have been import-competing producers in the United States, the European Union, Canada, New Zealand, and Australia. The United States has generated more AD cases than any other country (in excess of 700 from 1980 to 1994).

This epidemic of AD cases may seem surprising. Economic theory says that only monopolies undertake price discrimination. Are that many monopolies sending dumped goods across the high seas? The administration of U.S. (and probably that of other countries) AD laws provides the answer to that question. Exactly how does the Department of Commerce measure the exporter's home price? It may take the price in the exporter's home market or in another export market. Or it may determine "fair value," a constructed price that would cover all fixed and variable costs and provide a generous profit margin.[11] The Commerce Department is free to use information provided by the plaintiff. The fair value is obviously prone to a stacked outcome, and indeed the Commerce Department almost always finds dumping (98 percent of cases brought from 1995 to 1998) regardless of the method used. A finding that dumping occurs may rest on only a single export transaction, which could well be a random event. The International Trade Commission usually finds injury (83 percent of 1999 to 2002 cases). Another procedural quirk is important. Approximately a fourth of U.S. AD cases are settled informally, through some agreement between the import-competing plaintiffs and their competitors abroad (perhaps with the U.S. government lending a hand). The natural outcome of such an agreement is a price set collusively by the firms or some sort of VER.

Let us consider the outcomes of U.S. AD cases. Over a fifteen-year period, an estimated quarter of them were settled before reaching a decision. The remaining three quarters divided about equally between rejection and imposition of an AD tariff. In the cases that proceed to a decision, the levels of the resulting AD duties are high. The

[11]Constructed fair values are used mainly although not only in cases involving economies in transition, where many prices may make no claim to market-clearing status.

average "fair value" in the exporters' home market exceeds the export price by more than 40 percent. In the cases that involve an AD duty actually levied (that is, the domestic industry is found to be injured), the average duty is approximately 16 percent (but 50 percent or more in a fifth of the cases).[12] Imports naturally retreat: When the AD duty exceeds 50 percent, imports on average decline 73 percent, and their prices (after paying duty) rise 3 percent. The quarter of cases that were withdrawn also call for scrutiny. These include so-called innocent cases such as the plaintiff deciding that its case looks too weak. However, a substantial number of withdrawals stemmed from agreements being reached between the plaintiffs and accused import suppliers to adhere to higher (collusive) prices in the U.S. market. Sometimes the government intervened, so the result was essentially a VER. One study found that the restriction of the offending imports was as large in these privately settled cases as when the AD duty was formally imposed.

Considerable evidence indicates that firms act strategically to game the AD system. The exporter who loses an AD case finds its export demand shrunk, and its best move is to raise its export price. When the AD duty is reviewed by the regulators, it will likely be reduced. In fact, AD duty rates in force on average clearly shrink over time, indicating that the exporters reduced their price discrimination margins. A study of AD plaintiffs in the European Union found that they raised their price-cost margins by as much as 50 percent on average following an AD case. Governments also behave strategically in deciding whether the domestic industry has suffered injury. When the U.S. International Trade Commission decides whether the complaining domestic industry has suffered injury, it looks over its shoulder at the likely wrath the United States will encounter with the foreign government in question. Thus a finding of injury is less likely when the exporting country is a large importer of American goods and when it has shown itself prone to take trade disputes to the WTO or its GATT predecessor.[13]

The annual welfare cost to the United States of the AD policy has been placed at $4 billion, an impressively large loss although smaller than the $10 billion charged to the next trade restriction we examine, the Multifiber Arrangement.

Multifiber Arrangement

The Multifiber Arrangement (MFA) was a broad system of quantitative restrictions and tariffs that regulated trade in textiles and apparel. It was terminated at the beginning of 2005, but its experience conveys important lessons about quantitative trade restraints in labor-intensive and footloose industries. The main lesson that comes from the MFA's experience is the tangle of regulations that results from attempting to manage trade in a footloose industry by quantitative measures. The MFA's origin in 1961

[12]Thomas J. Prusa, "On the Spread and Impact of Anti-Dumping," *Canadian Journal of Economics,* 34 (August 2001): 5911–6611.

[13]Bruce A. Blonigen and Jee-Hyung Park, "Dynamic Pricing in the Presence of Antidumping Policy: Theory and Evidence," *American Economic Review,* 94 (March 2004): 134–153; Josef Konnings and Hylke Vandenbussche, "Antidumping Protection and Markups of Domestic Firms," *Journal of International Economics,* 65 (January 2005): 151–165; Bruce A. Blonigen and Chad P. Bown, "Antidumping and Retaliation Threats," *Journal of International Economics,* 60 (August 2003): 249–273.

lay in the U.S. industry's pleas for relief from competition with imports from Japan, which were growing rapidly despite long-standing high U.S. tariffs (Japan's period of rapid economic development was just beginning). One quantitative restriction led to another. Restrictions were placed on (say) cotton fabric for men's shirts, raising the price of that fabric in the U.S. market. That increase squeezed the shirt-making sector of the U.S. apparel industry, leading to a quantitative restriction on imports of men's cotton shirts from Japan.[14] Other countries (Hong Kong, say) could now profit by exporting cotton fabric and shirts to the United States. To sustain the higher U.S. prices owing to the restrictions on Japan, Hong Kong fabric and shirts came under quantitative restrictions. Higher prices on cotton fabric and shirts raised the profitability of selling fabric and shirts of manufactured fibers to the United States, so the quantitative restrictions were extended to those as well. Some manufacturers moved their plants from Japan and Hong Kong to countries not yet under control. Finally, the low-cost Asian producers, fenced off from the U.S. market, tended to increase their exports to European countries, which then imposed their own quantitative restrictions. This chain of substitutions led to a labyrinthian international network of quantitative controls, the MFA.

How were the benefits and costs of the MFA divided? The exporting countries were handed the task of administering the quotas, so they (or their citizens) picked up the rents created by the quotas (area 3 in Figure 10.1). Furthermore, U.S. domestic producers' share of the U.S. apparel market is fairly small, so that the welfare loss to U.S. consumers was offset only by a small gain picked up by the protected domestic producers (area 1 in Figure 10.1).

A given country's textile production might flourish not because it offers the world's lowest cost location but because it has not yet been snared in the network of controls. In recent years the organization of the U.S. apparel market has changed, with large retailers ordering their stocks of goods electronically and expecting delivery of their orders within a short period of time. This innovation gave a large advantage to producers located near the United States—Mexico and the Caribbean. Those countries' quotas came to be strongly constraining while a number of Asian export categories no longer filled their quotas.

The MFA may be gone, but the urge of industrial countries to protect their textiles and apparel industries has not. The MFA's end naturally coincided with a large increase in exports from China's efficient and low-cost factories; the value of imports of Chinese textiles and apparel to the United States in the first half of 2005 was 58 percent greater than in the first half of 2004. The U.S. government imposed quantitative restrictions on several categories of Chinese goods. This action was not without some legal basis; when China joined the WTO, an agreement was made that other countries could impose safeguards if Chinese goods caused "material injury" to their domestic industries.

[14]This effect of protection on vertically related production processes is of quite general importance. The incidence of a tariff on a finished good depends on the elevation of its selling price. If tariffs are also imposed on inputs into the finished good, its producers' variable costs are elevated and its *effective protection* is reduced. Another way to look at effective protection is that what matters is the effect of tariffs on a production process's slice of value added—the difference between the selling price and the cost of intermediate inputs.

Conversely, trade restraints applied to particular exporters violate basic WTO principles of nondiscrimination. In response, China itself first quintupled the (small) export tax it had imposed on these goods, no doubt as a political signal but also to ensure China a cut of any trade restriction rents. However, China soon removed the export tax and pursued a more aggressive posture regarding the U.S. quotas. The United States has continued to make more textiles categories subject to quotas. European countries have joined the procession, placing their own import quotas on Chinese textiles. The MFA takes on zombie properties—dead but not departed.[15]

U.S. Sugar Market

The next case deals with the protection of sugar producers in the United States. The special protection of sugar typifies the protection given to several other agricultural sectors in the United States and other countries (notably the European Union). These agricultural products share several properties unattractive to producers. The price in the international market for sugar is highly variable, making its production a risky business. The risk is compounded by the product's high fixed cost, especially cane sugar.[16] The sugar refiners with whom sugar growers deal are large concentrated firms. Sugar producers evidently can present themselves as deserving a governmental helping hand. The United States imports approximately 15 percent of the sugar it consumes. Domestic production is substantial—cane in the South, beet in the Upper Midwest—a distribution that bolsters the sector's political influence. The protection regime thus can take the simplest form. The government sets a target domestic price. In recent years it has been approximately double the world price (20 cents vs. 10 cents a pound). The government estimates the quantity of imports that, marketed along with domestic sugar, would make 20 cents a pound the market-clearing price.[17] The quota has been imposed by means of a two-step tariff—a low rate for sugar quantities up to the target import quantity, 150 percent of the world price for quantities greater than the quota. It is a valuable opportunity to export sugar bought or produced at 10 cents to the United States to sell at 20 cents. The United States chooses to dole out this rent to each of some forty sugar-producing countries, by giving each the right to supply some share of the quota quantity. The annual cost to U.S. consumers (deadweight loss plus the rent transferred to foreign and domestic producers) is approximately $11 billion.

The U.S. sugar protection regime can usefully be compared to that of the European Union, which produces enough beet sugar to make it a net exporter. E.U. authorities' target support price, higher than that of the United States, is maintained by assigning each producer a (maximum) quota for its sales on the domestic (E.U.) and foreign markets. The target price much exceeds the world price, so the European Union dips

[15]Both under the MFA and recently, quotas were set to constrain the rate of growth of imports rather than their level. This feature suggests that the importing government sought to limit its domestic industries' rates of contraction rather than ensuring its output level.

[16]An identical product can also be obtained from sugar beets, which involve less fixed costs.

[17]The government protects itself against forecasting errors by means of the right to impose marketing quotas on U.S. sugar processors, limiting what they can sell if imports are larger than expected.

heavily into general tax revenue to subsidize these exports. (The United States as a net importer avoids any cost to the government.) In late 2005 the European Union announced a major change in its sugar policy—the end of its export subsidy. The domestic price would remain much higher than the world price, and government funds would assist the exit of approximately a third of E.U. sugar producers. This policy change, to be phased in over four years, responded to the intense criticism of the export subsidy by WTO members.

We have seen that schemes of special protection always generate incidental distortions and costs. The largest single input cost for cheap candy is sugar, and U.S. producers (once concentrated around Chicago) have moved much of their production to Canada and Mexico, where they can buy sugar at the world price. Although the United States and Canada have joined in a free-trade area that eliminates nearly all tariffs between the two countries (see Chapter 14), a special provision keeps the Canadians from buying 10-cent sugar on the world market and reselling it to Americans at 20 cents. Finally, a large share of the U.S. domestic sugar market has been taken by a new product, high fructose corn syrup. Produced from domestic corn, it is a perfect substitute for sugar in beverages (although not in other uses). Its production costs less than the government-supported domestic sugar price but more than the world price (and cost of efficient cane-sugar producers). These excess production costs add to the total economic costs of the sugar price-support scheme.

13.5 Prospects for Special Protection

What can we say about the prospects for the world trading system, taking these patterns of general and special policy into account? The extensive reduction of tariffs through the GATT/WTO has inevitably squeezed a number of import-competing sectors. Some of these do (and others do not) enjoy sufficient lobbying and rent-seeking resources to hang on to their protection. So the existence of some loopholes such as antidumping and countervailing power is inevitable in the behavior of the public-choice process. The coalitions of beneficiaries from freer trade that have sustained the successive GATT/WTO rounds have probably been as successful as one could hope on limiting the amount of entrenched special protection. Furthermore, although some of the special protection is deeply entrenched and long lived, much of it (MFA, for example) has functioned to limit the rate of expansion of an efficient supplier's exports rather than permanently stalling or repelling it.

In Chapter 14 we consider another general force for trade liberalization: free-trade areas (generally, preferential trading arrangements) among selected country groups. Although these conflict in important ways with the central principles of the GATT/WTO arrangements, they are on balance complements in pursuit of the general goal of removing inefficient protection.

Some entrenched forms of protection will hang on indefinitely. The protection of low-skill labor-intensive industries is a nearly universal policy preference. A study of nontariff barriers in forty-one countries found them higher where real wages per

worker were low and declining, and tariffs (although high) were capped by commitments under GATT.[18] A social preference for helping the poor may be at work, and helping them through tariff-created job opportunities may be a more attractive policy than handing over cash. Indeed, the ongoing debate over trade policies has become entangled with several other policy objectives in the disputes over globalization. Protection warranted by a preference for helping the poor is at least a coherent economic policy position. Less coherent is the antiglobalists' proposal that the United States should restrict imports from developing countries to punish the corporations operating in those countries for not treating their employees more generously. Another tangle has arisen between trade policy and environment policy. Standard economic analysis (Chapter 10) regards environmental quality as a costly good, like any other. The possibility then arises that some producing locations incur lower (marginal) costs of pollution abatement than others, opening up an opportunity for mutually beneficial trade with other countries afflicted with higher marginal abatement costs. Some environmentalists, however, take the position that economic activity in general harms the environment, and we should be seeking less rather than more real output from the economy, for the sake of the environment. Standard economic analysis points out that greater potential economic output offers us the opportunity to consume more public and private goods of all sorts, including (if we choose) heavy spending on improving the environment.[19]

13.6 Summary

Over the last sixty years, tariffs imposed on manufactured goods by the United States and other industrial countries have been reduced greatly, but governmental restrictions still substantially restrict world trade (for example, the exchange of primary products for manufactures between the industrial and developing countries). Little of the remaining protection has any obvious justification in terms of economic models of national welfare.

The industrial countries' success in reducing tariffs came through a series of reciprocal reductions initiated by the United States in the 1930s. These reductions were broadened into multilateral and increasingly across-the-board reductions. The recent Uruguay Round went far, not only in lowering tariffs but also in protecting intellectual property rights, seeking to curb special protection, and improving the governance of international trading relations. Two interpretations are offered of how multilateral tariff reductions were able to raise world economic welfare. The reductions might have effected a truce in nations' mutually destructive efforts to improve their terms of trade. Or the multilateral reductions might have aided domestic political alliances able to defeat protectionist interests in import-competing industries.

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[18]Jong-Wha Lee and Philip Swagel, "Trade Barriers and Trade Flows across Countries and Industries," *Review of Economics and Statistics,* 79 (August 1997): 372–382.

[19]For an attempt to clarify the anti-globalization position, see Alan V. Deardorff, "What Might Globalism's Critics Believe?" *The World Economy,* 26 (May 2003): 639–658. The analysis of trade and environmental quality is developed in Section 14.6.

Running counter to the multilateral reduction of tariffs, countries have retained avenues through which certain industries could seek protection. It often comes in the form not of tariffs but quantitative restrictions and voluntary export restraints (VERs). A quantitative restriction can be stated as a tariff equivalent, but its magnitude is more easily concealed from the consumers who are harmed by it. VERs are in essence export taxes collected by the producing country, a transfer from the importer's treasury.

Restrictions on dumping (price discrimination in favor of the importing country) have become a highly popular form of special protection. U.S. producers enjoy easy access to them because the government almost always finds that dumping has occurred and usually that the domestic industry has suffered injury. An antidumping duty on one source of imports often causes other countries to expand their exports. This (likely inefficient) shift of production was a major drawback of the Multifiber Arrangement (MFA), a recently lapsed network of quantitative restrictions on textiles and apparel. In 2005 strong signs indicated that the network of controls was being reassembled. The U.S. sugar industry gets protection by means of a target domestic price picked by the government, which then imposes a quantitative restriction on imports. The quota imports plus the domestic production supplied at the target price should yield a market equilibrium.

CHAPTER PROBLEMS

1. You are asked to estimate the welfare cost of a tariff imposed in a market like that depicted in Figure 10.1. You are told that imports were $100 million before the tariff and $50 million (valued at world prices) after it was imposed; the tariff rate is 20 percent. Can you estimate the approximate loss in national welfare because of the tariff?
2. Suppose the trade restriction described in the preceding problem were related not to a tariff but to a voluntary export restraint. Then what would the welfare loss be?
3. Exporting countries sometimes administer export restraints by creating transferable rights to export to the restricted market, which domestic manufacturers can trade among themselves. Suppose you learn that Hong Kong shirtmakers pay $20 for the privilege of exporting a dozen shirts to the United States and the shirts have a world market value of $60. What conclusions can you draw about the tariff equivalent of the export restraint?
4. You are a domestic manufacturer persuading the government to protect your industry. You can secure either a 20 percent tariff or a fixed quota that is equivalent to it. You expect the market to grow in real terms. Will that fact affect whether you choose the tariff or the quota?
5. Governments in some European countries are believed to make substantial use of industrial subsidies to avert the contraction of some industrial sectors. What difference does it make for national welfare whether the subsidy applies to domestic sales, export sales, or both? Governments do not find it easy to raise tax revenues to finance such subsidies. Does that fact help explain why such governments would rather subsidize an industry's export sales than its sales in the domestic market?

6. In 1986 the United States and Japan reached an agreement setting minimum prices on Japanese semiconductor chips sold by Japanese manufacturers not just directly to the United States but also to all other export markets. At the time, producers in both countries had considerable excess capacity because demand was unexpectedly low. Explain why chip prices in Japan plummeted and why chip buyers in developing countries started to obtain their supplies from intermediaries and brokers in Japan.
7. The United States manages its protection of the sugar industry without (ordinarily) restricting domestic producers' production. The European Union in its similar arrangement finds such restrictions necessary. Why the difference?

SUGGESTIONS FOR FURTHER READING

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