CHAPTER 11

# The Political Economy of Protection

It would be naive to suppose that nations pursue commercial policy only after carefully weighing the pros and cons for the entire community. Instead, special sections or groups often find that their interests can be served by interfering with free trade despite a loss to others in the economy. Indeed, these groups often find that the potential gains from protection are worth a substantial investment of resources and lobbying efforts. The political process frequently rewards a minority with strong convictions, accompanied by relatively mild losses to each member of a majority. In addition, special circumstances may seem to warrant restrictive trade policies, although deeper analysis would reveal that other weapons in a nation's fiscal armory are more effective or impose lower social costs. Protection is frequently a second-best device in achieving social goals.

## 11.1 Protection as a Device for Raising Revenue

Long before the progressive income tax and other sophisticated instruments were devised to provide governments with necessary revenues, the government agent at the port of entry typically extracted a toll on the inflow of merchandise from abroad. Any tariff rate that is not so high as to be prohibitive is a source of revenue. Although modern industrial states rarely rely on customs duties to provide government income (less than 1 percent in the United States), developing regions often do.

The relationship between a tariff's impact on real income and on tariff revenue is expressed in Figure 11.1. A zero tariff yields no revenue. Tariff rate $t_1$ is assumed to be prohibitive, so higher rates of duty also yield no revenue. In the diagram it is assumed that revenues rise continuously, reaching a peak at rate $t_2$, and fall continuously to zero at rate $t_1$ as imports dwindle. The crucial point to notice is that the revenue maximizing rate, $t_2$, exceeds the optimal tariff rate, $t_0$. An algebraic proof is provided in the supplement to Chapter 11. The geometric argument is provided in Figure 11.2.

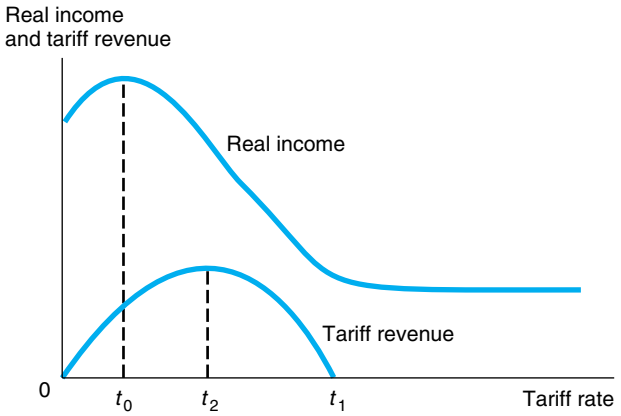
Production in Figure 11.2 is assumed to be locked in at corner point $A$ along the $TAT'$ transformation curve. This simplifies the argument.[1] Consumption point $B$ along

[1]The argument is strengthened if production responds along a smoothly bowed-out transformation schedule.

**FIGURE 11.1**

**Tariff Revenue and Real Income**

The curve showing tariff revenue reaches a peak at a higher tariff rate than does the curve showing real income.




indifference curve $y_0$ shows equilibrium with a tariff that has driven the *domestic* relative price of food imports to the height shown by lines 1 and 2.[2] Therefore distance *CA* measures the tariff revenue in food units. Suppose the existing tariff rate maximizes tariff revenue (at rate $t_2$ in Figure 11.1). Note what this implies: A slight increase in the tariff rate would leave tariff revenue (virtually) unaltered—at *AC* in Figure 11.2. If the relationship between real income and tariff revenue illustrated in Figure 11.1, where real income is falling at rate $t_2$, is to be confirmed, an increase in the tariff rate in Figure 11.2 must push consumers onto a lower indifference curve. This it does—they move from *B* on curve $y_0$ to *D* on curve $y_1$. Therefore the tariff rate that maximizes revenue ($t_2$) must exceed the optimal tariff rate ($t_0$).

That these two critical rates are not equivalent underscores the point that pursuing commercial policy for revenue purposes is not optimal strategy. Thus, if at current tariff levels an increase in the rate would lower tariff revenues, the current levels are too high for optimal welfare. Furthermore, if the rate should lie between $t_0$ and $t_2$ in Figure 11.1, a *reduction* in the tariff rate would raise real income even though it would also reduce tariff revenue. This remark was relevant to the discussion in the U.S. Congress when approval was given to the tariff reductions embedded in the Uruguay Round of GATT agreements that led to the establishment of the World Trade Organization. Partly at issue was the loss of tariff revenue that such trade liberalization would create. Such a loss is not indicative of a loss of real income, especially when the tariff cut is in conjunction with other countries reducing their barriers.

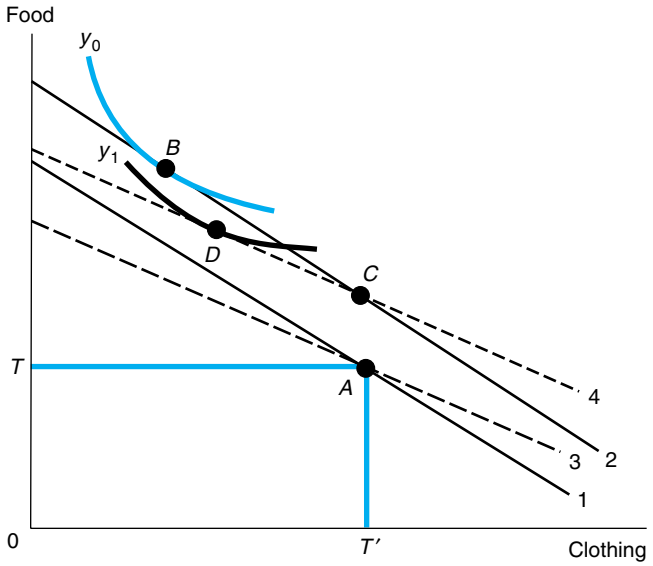
It is well at this point to recall that for a small country that cannot influence the world prices of what it buys and sells, the optimal tariff rate is zero. A tariff to raise revenue must then be rationalized by other arguments, such as the ease of collection on international commerce as compared with local sales or income taxes.

[2]The relative *world* price of clothing would be shown by the slope of a line connecting production point *A* with consumption point *B*.

**FIGURE 11.2**

**The Maximum Revenue Tariff Exceeds the Optimal Tariff**

Tariff revenue is shown by distance *CA*. Near a tariff that maximizes revenue, a small increase in the tariff rate will not change tariff revenue. Consumption point *D* is on a lower indifference curve than point *B* and corresponds to a higher tariff.




## 11.2 Commercial Policy as a Second-Best Device

Just as a tariff is not the only instrument of commercial policy, interference in trade via quotas, tariffs, or other devices does not represent the only set of tools to attain *other* ends that some governments deem socially useful. That is, commercial policy might be utilized to affect the general pattern of prices, outputs, and employment where other noncommercial policies such as production subsidies or sales taxes could more directly achieve desired ends. Is a subsidy to production better or worse than a tariff? It depends very much on the policy objective. The tariff can often be used to help implement some social objective, but it proves frequently to be *second best* to some alternative policy instrument. The following three cases suffice to make the general point.

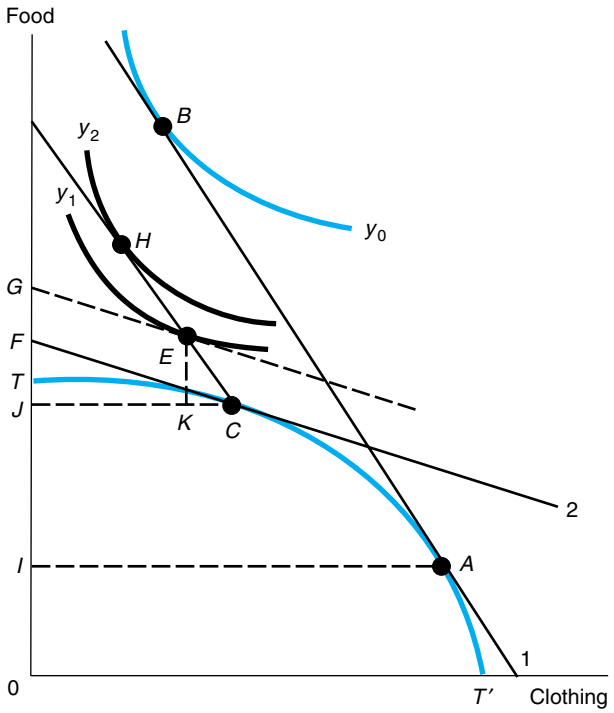
**1.** *Production goals*. Suppose the free-trade level of production of some commodity is thought to be too low. Perhaps labor receives special valuable training in the production of this item, or perhaps the community feels it should rely more on its own production should foreign supplies be threatened in the future. (Witness the arguments about American dependence on foreign energy sources.) What is the optimal policy for encouraging greater domestic production?

The stage is set in Figure 11.3. The country is initially in a free-trade equilibrium at world prices reflected by the slope of line 1: Production is at *A*, consumption at *B*, and thus the country imports food. Now suppose the country wants to increase *production* of food. Compare the two alternative policies available to accomplish this end—a *tariff* on imports of food or a *subsidy* to producers of food. Assume the desired production target is to raise food output from 0*I* to 0*J*.

**FIGURE 11.3**

**Tariffs vs. Production Subsidies to Achieve a Production Goal**

Free-trade production is at *A* and consumption at *B*. If *0J* level of food production must be undertaken, a tariff that raises food's relative price at home to line 2 is sufficient. Consumption is then at *E*. A production subsidy could yield the same result for producers but at a lower cost in welfare. Consumption is at *H*.




A tariff on food can be analyzed as in the preceding chapter. A duty high enough to move production to point *C* raises the domestic relative price of food to that shown by line 2. What is consumption behind this tariff wall? The consumption bundle must lie on an indifference curve whose slope reflects relative *domestic* prices, and it must have the same value as production point *C* at *world* prices. This is point *E*, and restricted imports are *EK*, matched at world prices by clothing exports *KC*.

The alternative strategy involves providing a subsidy to food producers sufficient once again to reach production point *C*. World food prices are reflected in line *HEC*, parallel to line 1, and food producers receive the higher (subsidized) price shown by line 2. But now home consumers are free to buy at world prices, and the best such point for them is *H* on curve $y_2$, which represents a higher level of satisfaction than does *E* on indifference curve $y_1$.

The moral of this comparison is clear. The objective is assumed to be a production goal. This can be achieved at a lower cost in terms of forgone real income if the instrument used focuses precisely on this goal. A production subsidy does exactly that, whereas a tariff (needlessly) distorts prices to consumers.[3]

**2.** *Consumption goals*. Analogous remarks can be made about the desire that some governments express to restrict consumption of some items below the levels that

[3]This analysis can be found in W. M. Corden, "Tariffs, Subsidies, and the Terms of Trade," *Economica,* 24 (August 1957): 235–242.

the community would voluntarily choose in a free-trade situation. For example, the government may wish to restrict the private sector's consumption of automobiles or other items it deems to be unnecessary luxuries.

A tariff can accomplish the purpose, but so could a direct tax on consumption of the luxury item. These are different instruments. A tax on consumption raises the price to consumers above the world level but leaves producers to face world competition at world prices. By contrast, a tariff raises the domestic price to producers as well as consumers and encourages a transfer of domestic resources away from exportables and toward production of the luxury item. If the government's desire is solely to restrict *consumption,* needless losses are involved by using a tariff, for the production shift away from exportables causes the value of income produced at world prices to fall below its free-trade level.

Arguments for tariffs are often aimed at altering the production or consumption pattern of a free-trade regime. Heeding the pleas of special consumer or producer interests involves a loss of welfare to the nation as a whole. Because the tariff affects both consumption and production, using it to alter either the former or the latter makes this loss larger than necessary. A more efficient instrument is a production tax or subsidy to change production or a consumption tax or subsidy to control consumption. In each case the instrument that works most directly on the objective should be used.

**3.** *Domestic distortions and environmental considerations*. Market prices are not always perfect indicators of social costs and benefits. Occasionally elements of monopoly or of externalities in production or consumption distort market prices away from levels that represent social opportunity costs and values. For example, a commodity that enters a country's export lists may appear to have a low cost of production—and thus be exported—because pollution damage involved in the production process is not taken into account. (Firms may be dumping effluents into the country's streams and harbors at no cost to themselves but at considerable damage to the community.) In such cases it is possible to argue that levels of free trade are not optimal. Instead, those who would attempt to restrict exports (and imports) seem to find natural allies in ecologists and environmentalists. Once again, however, it can be shown that trade restrictions offer only a second-best solution to a problem that is better met directly by consumption or production taxes that attempt to remedy the distortion.

The notion of "fair price" for such items as coffee imported from Latin America has become popular, especially on college campuses. Basically the notion is that the manner in which commodities are produced, and the wages received by labor, affect the utility of the consumers of such commodities. For example, the wages of coffee laborers may be considered too low, so that higher prices would willingly be paid by consumers if it could be ascertained that the coffee beans were grown in situations in which laborers received a higher ("fair") wage. However, such interference in prices can be shown to be second best relative to direct transfers to the underpaid laborers.[4]

[4]For a simple discussion of the so-called fair price issue making use of transformation curves and indifference curves such as in Figure 11.3, see Dennis Yanchus and Xavier de Vanssay, "The Myth of Fair Prices: A Graphical Analysis," *Journal of Economic Education* (Summer 2003): 235–240.

If social and private costs differ, there is not only the danger that export levels may be too high or too low; it is also possible that the *pattern* of trade itself is distorted. To return to the pollution example, suppose that private marginal production costs, excluding pollution costs, fall short of costs in the rest of the world by less than the costs of pollution abatement. In such a case, forcing producers to bear these costs would entail that the industry shift from being net exporters to becoming importers.

The reason export taxes (or import tariffs) are second-best devices in these examples is that it is either production or consumption levels that are distorted from their socially optimal level, *not* trade levels. Commercial policy, which affects both domestic consumption and production, is usually inefficient as a device for controlling either separately.[5]

## 11.3 Protection and Rent-Seeking Activities

The automobile industry and the steel industry in the United States are among many that feel threatened by foreign competition. What attitude toward tariffs or other protective devices would be expected from an autoworker trained in tasks that have little application outside the auto industry, or from the owner of a specialized machine that cannot be used for any purpose other than making autos? Productive factors tied to one industry or occupation are very much affected by trade and commercial policies. Special interests and specific factors employed in import-competing industries usually favor trade restrictions.

If protection favors inputs specific to import-competing production, a counterargument for free trade can be mounted by factors tied to the nation's export industries. With many industries making up the economy, each import-competing industry that gains protection demands more of each general factor of production, such as unskilled labor, which tends to raise the price of that factor and squeeze the earnings of specialized factors of production in all exporting industries. Somewhat different implications for interest groups come from the Heckscher-Ohlin model of production and trade. Suppose that production in any industry requires only the services of two broad-based factors, capital and labor. Further, suppose that a capital-rich country takes advantage of trading opportunities to import commodities that would be produced by labor-intensive techniques at home. A tariff that drives up the domestic price of these items serves to drive up the real wage as well. As shown by Stolper and Samuelson (a result discussed in Chapter 6), a change in relative commodity prices gets transmitted into magnified changes in the returns to the two productive factors. In their setting one factor—labor—unambiguously gains from the tariff; the other factor—capital—loses.[6]

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[5]As remarked by Alan Deardorff of the University of Michigan, employing tariffs to attain a consumption goal or a production goal is like performing acupuncture with a fork.

[6]For research on the question of whether employed factors tend to support protection for the industry in which they are employed (as would make sense for specific factors), see William A. Brock and Stephen P. Magee, "The Economics of Special Interest Politics: The Case of the Tariff," *American Economic Review,* 68 (May 1978): 246–250. A model describing how tariffs in a democratic system can reflect factor ownership patterns (whether of the Heckscher-Ohlin variety or the specific-factors type) is developed by Wolfgang Mayer, in "Endogenous Tariff Formation," *American Economic Review,* 74 (December 1984): 970–985.

## Tariffs and Political Choice

Several general models of policy choice in a democratic society can be linked directly to these economic models of trade restrictions and income distribution.

**1.** *Voting model.* One model addresses the democratic voting process. Its core could not be simpler: Each citizen gets one vote, so the economic policy chosen should be the policy expected to raise the welfare of a majority of the voters. On its face this model suggests a political preference for only those tariffs that maximize national welfare. The majority should certainly favor a policy that yields the greatest possible increase in national income (for example, by eliminating inefficient tariffs) and then divides up the gain so all the voters (or a majority, in any case) are better off. The trouble with this interpretation is that in actuality, losers are seldom compensated. Voters rationally size up a policy for its effect on their own real income if they keep the winnings or suffer the losses that come their way. A tariff proposal then wins if it redistributes income from a minority to a majority. For example, assume that the United States is a capital-rich country and that capital income is more concentrated among voters than is labor (wage) income. Then a majority will vote for tariffs to redistribute income from capital to labor. This voting model has an obvious affinity for the Heckscher-Ohlin approach.

**2.** *Lobbying model.* Another model of tariff determination stresses interest groups. It assumes that groups lobby, support friendly candidates for office, and in other ways invest in securing political action favorable to the interest group. Sellers making up an industry are such a group. They rationally invest in securing tariff protection up to the point where the present value of the last benefits gained just equals the investment needed to secure them. Spending resources to gain access to a protected income stream is called *rent-seeking*.[7] One problem then is to explain which interest groups succeed in buying policies that advance their interests. This leads to the theory of collective action, which stresses the difficulty of organizing a group to secure benefits that are a collective gain to the group. It is difficult because group members can expect to enjoy the benefits even if they do not contribute to meeting the costs of securing them. The most effective groups are already organized for another purpose (professional and trade associations), or they consist of small numbers of beneficiaries (a concentrated industry with few sellers), so the problem of "free riders" is more easily solved. Members of geographically dispersed groups (bankers and steel fabricators) can readily catch the ears of many members of Congress. Consumers, in contrast, have

[7]Anne O. Krueger, "The Political Economy of the Rent-Seeking Society," *American Economic Review,* 44 (June 1974): 291–303, emphasizes the magnitudes of rent-seeking outlays in some developing regions, where they may take the forms of bribery, putting relatives of government officials on the payroll and passing out lucrative subcontracts to individuals with ties to persons important in the public sector. Expansion of plant capacity can be stimulated, even if it leads to excess capacity, if licenses for importing inputs are tied to a plant's capacity. Krueger quoted rough estimates that rent-seeking expenditures equal 7 percent of national income for India (1964) and about 15 percent of GNP for Turkey (1968). Rent-seeking is discussed more generally in James Buchanan, Gordon Tullock, and Robert Tollison, eds., *Towards a General Theory of the Rent-Seeking Society* (College Station: Texas A&M University Press, 1980); and Jagdish Bhagwati, "Directly Unproductive Profit-Seeking (DUP) Activities," *Journal of Political Economy,* 90 (October 1982): 988–1002.

the dice loaded against them: They are numerous, and each has only a small monetary stake in the policy that affects them. The interest-group approach is closely aligned with the specific-factors model, and it clearly can explain the persistence of tariffs that do not contribute to national welfare. A modern extension of the lobbying model has the government maximizing a combination of the support it can gather from lobbying groups and the votes it can get from the general public by maximizing the nation's social welfare.[8]

**3.** *Conservative social welfare function.* Yet another approach notes that the government's job is to maintain certain collective goods, including a social sense that people are being treated fairly and not suffering unreasonably from economic misfortunes. This approach suggests that tariffs will protect low-income persons, such as unskilled labor. It also predicts that tariffs will be raised when an industry's competitive position is significantly undermined, causing unanticipated losses and unemployment. The hypothesized conservative social welfare function is not a decision mechanism but an attitude or value that might explain where and when voters will support a given policy proposal or lobbyists will most readily find a sympathetic ear.

Political scientists have explored the factors that decide whether voting or lobbying dominates the setting of a particular policy, such as controls on international trade. With an election coming, each political party seeks to get itself elected. It selects a package to offer the voters that it hopes will appeal to a majority. The voters do not expend much effort informing themselves about the parties' positions, so the parties choose to emphasize only a few issues that many voters believe make a lot of difference to their welfare. Trade policy will become a party platform highlight only if a large group (a majority?) shares a common interest. If broad interests conflict (say, capital versus labor), the political parties take opposed positions, with one favoring "labor" and one serving "business."

Suppose the electorate responds to no such broad appeals but that the specific factors in individual industries each have strong interests in gaining protection for themselves or warding off the grabs for protection by other industries (their suppliers, for example). The government needs some mechanism to deal with such demands and conflicts. It likely organizes some regulatory bureau that is instructed to "do the right thing" and respond to the special interest demands so that they do not clutter the desks of top elected officials.

In the United States until the 1930s, the political parties did offer the voters conflicting general positions on tariffs—the Republicans promised high tariffs to import-competing capital and industrial labor, and the Democrats pledged low tariffs to export-oriented agriculture. Since then, trade policy has largely fallen out of the parties' competition for votes. Decisions come increasingly under bureaucratic determination subject to lobbying influences.[9]

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[8]Gene M. Grossman and Elhanan Helpman, "Protection for Sale," *American Economic Review*, 84 (September 1994): 833–850.

[9]The preceding analysis draws on Daniel Verdier, *Democracy and International Trade: Britain, France, and the United States, 1860–1990* (Princeton: Princeton University Press, 1994).

**TABLE 11.1**

Characteristics of Industries in Relation to Levels of Protection Given by U.S. Tariffs, Nominal and Effective, After Kennedy-Round Reductions

| | Industries Ranked by Level of Protection | | | |
|---|---|---|---|---|
| Industry Characteristics and Tariff Measure | Highest Quarter | Second Quarter | Third Quarter | Lowest Quarter |
| Labor intensity (measured by payrolls as percentage of all factor payments) | | | | |
| Nominal | 46% | 50% | 53% | 45% |
| Effective | 47% | 48% | 52% | 44% |
| Level of labor skill (measured by payroll per worker) | | | | |
| Nominal | $6,000 | $6,700 | $7,200 | $7,100 |
| Effective | $6,000 | $6,600 | $7,500 | $6,900 |
| Size of manufacturing establishment (measured by value added per establishment in $M) | | | | |
| Nominal | $1.8[a] | $1.4 | $2.2 | $3.6 |
| Effective | $1.5[a] | $1.6 | $3.2 | $2.6 |

*Source:* Tariff rates—Robert E. Baldwin, *Nontariff Distortions of International Trade* (Washington, DC: Brookings Institution, 1970), pp. 163–164; other data—U.S. Bureau of the Census, *1967 Census of Manufacturers: Summary and Subject Statistics* (Washington, DC: Government Printing Office, 1971), Table 3. Effective protection takes account of tariffs on an industry's inputs.

[a]The "ordinance and accessories" sector was omitted from this class. The large establishments producing military wares hardly seem relevant to testing the effect of tariff protection.

## Evidence on U.S. Tariff Structure

Pending our review of trade policy decisions in Chapters 13 and 14, it is helpful to examine patterns in the height of tariff protection given to various U.S. industries for what they suggest about tariff determination processes. Table 11.1 shows the results of a simple test on the levels of protection that prevailed in the 1970s.[10] For each manufacturing industry, the average levels of both nominal and effective rates of protection were measured (including nontariff barriers, discussed in Section 13.3). Industries were ranked from the most protected to the least protected, and the ranked list was divided into quarters. Some traits of the industries included in each of the four quarters were then averaged.

Does the tariff protect labor-intensive industries? The labor intensity of an industry can be measured roughly by the share that payrolls constitute of payments to all the factors of production it employs (the industry's value-added). The top two lines of

[10]We go back to these old rates because they should reflect voting-based determinants more than later U.S. tariffs, which are increasingly affected by broad international agreements we describe in Chapter 13. In fact, the relative protection given to different goods changed little between the 1930s and 1970s; see Real P. Lavergne, *The Political Economy of U.S. Tariffs* (New York: Academic Press, 1983).

Table 11.1 show that the least-protected industries are indeed the least labor intensive. For the other three quarters, however, the hypothesis fails. The most heavily protected industries are not very labor intensive. This does not strongly confirm the prediction of the majority of voters that tariffs favor labor-intensive industries.

Does the tariff protect low-skilled labor? If the political process aims in part to redistribute income to the less fortunate or to those who have suffered reductions in their incomes, high tariffs should protect industries that employ low-skill and low-wage labor. The next part of Table 11.1 shows that the low-wage industries do get the highest protection. Evidence cited in Chapter 13 confirms that products of low-wage labor receive high levels of protection in many countries. However, there is an awkward qualification to this apparent widespread indication of social concern. Although the jobs and wages of low-wage households may benefit from protection, their real incomes as consumers suffer seriously. That is because groups of goods prominent in the purchases of low-income households pay high tariffs (8.7 to 13.8 percent); groups of luxury goods pay much lower rates. Does a tariff on low-wage imports benefit the poor as workers more than it taxes them as consumers?[11]

Does the tariff protect small (or big) business? The lobbying, or interest-group, model suggests that industries with small and widely dispersed production units can influence political decisions at low cost, thus securing high protection. But the collective character of tariff benefits suggests that high protection goes to large, concentrated sellers. Thus the theoretical predictions conflict. In any event, Table 11.1 suggests rather strongly that protection favors small establishments.

That U.S. tariffs protect low-wage and small-scale industries emerges from other, more sophisticated versions of Table 11.1. The finding indicates that tariffs redistribute income toward the less fortunate, but it may also support the lobbying model: Industries with the greatest comparative disadvantage also have the most incentive to invest in high tariffs.[12] Whatever the basis for their clout, industries that secure high tariffs also win heavy nontariff protection. So do geographically dispersed industries, consistent with the way congressional voting on tariff legislation reflects the interests of industries in congressional home districts.[13] The evidence does support the political economy approach to explaining levels of nontariff protection.

## Interconnections Among Special Groups

A general theme running throughout our discussion of international trade theory is that the various parts of the economy are interconnected. Thus a resource discovery or technological breakthrough that benefits one part of the economy is apt to harm some other sectors—this is the phenomenon of the Dutch Disease. It suggests that any use of the political process to favor the real income of some special interest may cause other

[11]Edward Gresser, "Toughest on the Poor: America's Flawed Tariff System," *Foreign Affairs*, 81 (November 2002): 9–14. Furthermore (in terms of Figure 10.1), domestic production of low-wage goods tends to be small and declining, making area 1 small relative to area 3.

[12]Edward John Ray, "The Determinants of Tariffs and Nontariff Trade Restrictions in the United States," *Journal of Political Economy,* 89 (February 1981): 105–121.

[13]Ray, "The Determinants of Tariffs," Table 4; Robert E. Baldwin, *Trade Policy in a Changing World Economy* (Chicago: University of Chicago Press, 1988), Chapter 3.

sectors to lose and indeed to mount countereforts. The political maneuvering surrounding the vote on the NAFTA accord in the U.S. Congress in the fall of 1993 well illustrated the point.

In particular, consider the market in durum wheat. This is a hard wheat used to make pasta and certain cereals, and in the United States it is grown in the north-central states such as Montana and the Dakotas. It is also grown in Canada, and the Canadians have obtained approximately a 20 percent share of the American market, enough to encourage politicians in the north-central states to try to obtain quotas on Canadian imports in exchange for their support in letting Mexico into a NAFTA agreement when it came to a vote in the U.S. Congress in the fall of 1993. But at that time the price of durum wheat was high in the United States, partly as a consequence of a federal crop-restriction program for American producers, and partly because, at the same time, the Department of Agriculture was subsidizing exports of durum wheat to other countries. Thus the restriction program coupled with export subsidies led Canadian exporters to enter the U.S. market. The interconnections did not stop there. Foreign pasta producers (primarily in Italy and Turkey) who obtain durum wheat at lower prices than their American counterparts then had an advantage in exporting pasta to the United States—such exports roughly doubled between 1985 and 1993. Furthermore, subsidized wheat exports threaten exports of unsubsidized American corn.[14] This kind of tangled web has been repeated in other markets. American garment makers used to complain that foreign firms had an unfair competitive advantage; they were able to obtain American cotton at lower prices than American firms because of our program to subsidize cotton exports.

## 11.4 Growth, Protection, and Welfare

If a country devotes newly available resources to its traditional export sectors, won't this encourage a drop in export prices? In any country in which growth is biased toward exportables, that country's terms of trade will tend to worsen.

This kind of argument loses its force if the country under discussion is too small to affect world prices of its export commodity. Suppose this is the case, but nonetheless the developing country has imposed tariffs on imports to support an import-competing industry over and above its free-trade level. It was argued in Chapter 10 that such a diversion of resources entails real income losses. More can be said, however. As this country grows, the more resources it devotes to the protected import-competing sector, the more its potential real income gains from growth are cut back. In extreme cases, growth at home could even result in a loss of welfare.

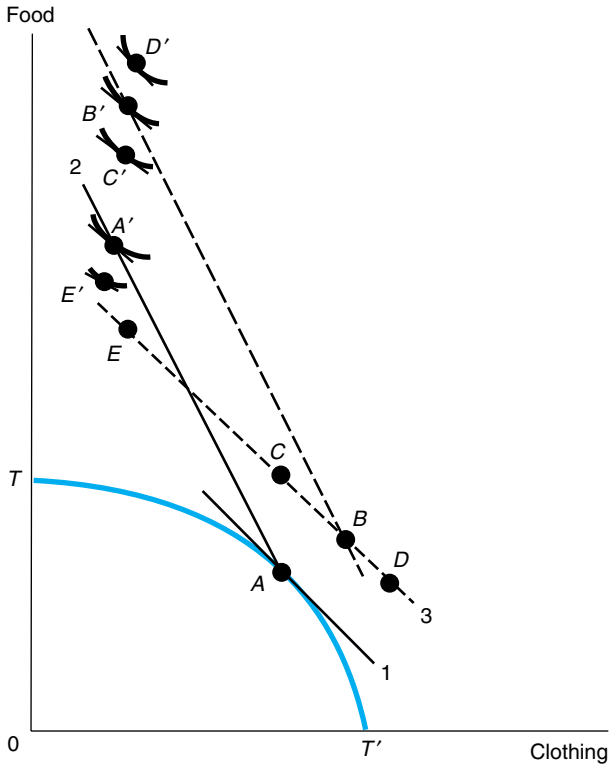
Figure 11.4 illustrates these possibilities. Line 2 indicates world prices. The country has protected its import-competing sector, food. Thus line 1, showing domestic prices behind the tariff wall, is flatter than line 2. At these protected prices, the community's optimal production point along transformation schedule $TT'$ is at tangency point $A$ and consumption is at $A'$.

[14]See James Bovard, "Our Wheat War with Canada," *Wall Street Journal* (October 15, 1993).

**FIGURE 11.4**

**Growth with Protection**

With a tariff on food imports, line 1 showing domestic prices is flatter than line 2 showing world prices. $A'$ is the initial consumption point corresponding to production along $TT'$ at $A$. Growth to any of points $B$, $C$, $D$, and $E$ shows a 25 percent increase in produced income at domestic prices. But corresponding consumption points $B'$, $C'$, $D'$, $E'$ are not equivalent.




Now suppose that world prices remain unchanged and the country's tariff structure is unaltered, but the value of produced income at domestic prices rises by 25 percent. That is, at domestic prices the country grows by 25 percent. But which industries have expanded? It makes a big difference, even for a small price-taking country. Points $B$, $C$, $D$, and $E$ represent four possible alternative production points for which aggregate output at domestic prices would be 25 percent larger than at $A$. Point $B$ is a point of fairly balanced expansion relative to initial point $A$. For such a case, home consumption lies on a line through $B$, with slope showing world prices (i.e., parallel to line 2) at consumption point $B'$. Growth has increased real income. Now suppose instead that only the import-competing sector had been allowed to grow (point $C$ lies directly above point $A$). The real income gains would have been cut back, an outcome underlined by comparing it to the alternative of letting only the export sector expand (point $D$ lies to the right of $A$). Consumption point $D'$ is preferable to $B'$ (which is preferable to $C'$). These two alternative patterns of expansion, to point $C$ and point $D$, share with point $B$ an increase in production at *domestic prices* of 25 percent. But they differ in valuation at *world prices* and, consequently, in their real income gains.

The composition of output might have been altered even more radically by growth. Point $E$ shows such a possible skewed growth point. Growth has been so biased in favor of the commodity (food) that is artificially high priced at home that the seemingly

higher valued production point ($E$ has a 25 percent higher value than $A$ at domestic prices) represents an actual *loss* at world prices. This phenomenon could occur only if the import-competing sector is protected.[15] These comments serve to emphasize that in a growth context, protection may impose costs that go well beyond those described for a static economy.

## Protection as an Attraction to Foreign Investment

An argument sometimes raised in favor of protection is that it may encourage foreign investment in home markets. A tariff can affect the pattern of investment. If a country is initially importing a commodity, a protective tariff wall forces foreign firms either to cut prices, lose sales, or, alternatively, to try to produce the commodity directly in the home market and thus avoid the tariff.

Studies of the multinational corporation show that a tariff often causes it to invest in a country. Previously it has exported to the market in question, investing in advertising and customer goodwill but not in physical production facilities. When its exports to the market are struck with a tariff, direct investment becomes more attractive than the only alternative—writing off the firm's investment in goodwill and leaving the market entirely.

There is, however, something ironic about such a policy. Suppose a country is attempting to limit its dependence on foreign sources of supply by following a protectionist policy. It may also be anxious to diversify its productive structure by protecting its local industries from foreign competition. Keeping out foreign-made goods, however, may just encourage the foreigner to come in. In the years before NAFTA, Canada seemed bedeviled by a desire both to protect a whole panoply of secondary industries and to limit the incursion of American direct investment, which such a protected market seemed to attract. In the United States, Japanese automobile companies such as Toyota and Honda for years have invested in production facilities in the Midwest. Protective devices to help American-owned automobile producers have merely encouraged foreign-owned producers to invade the market directly.

Chapter 9 discussed various advantages and disadvantages to host countries of allowing foreign investment. Yet what can be said about using higher degrees of protection to attract more foreign investment? Chapter 10 argued that a country too small to improve its terms of trade by means of a tariff actually harms itself by protection. A tariff or other restriction on trade inserts a wedge between the cost of obtaining importables in world markets and the (higher) value of those importables to local consumers; cost is measured by world price, value by domestic price behind the tariff wall. Any action serving to cut back a nation's imports when an existing tariff wedge causes value to exceed cost must lower welfare at home. An increase in the tariff rate is one such action; such a rise causes a contraction in imports. If foreign investment responds to changes in degrees of protection, the response, a further cut in imports, is apt to exacerbate the damage such protection inflicts on the host country.

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[15]The possibility of welfare loss with growth if an industry is protected was pointed out by Harry G. Johnson, "The Possibility of Income Losses from Increased Efficiency or Factor Accumulation in the Presence of Tariffs," *Economic Journal,* 77 (March 1967): 151–154.

## 11.5 Protection and Unemployment

In popular discussions of commercial policy, the issue of unemployment is often raised. An increase in a tariff rate or quota that protects firms in a given industry saves jobs in a fairly obvious way. Less obvious, of course, is the range of jobs that could have been created in export activities if the policy of protection had not been adopted. Thus protectionists who base their case on the threat to jobs that free trade creates always have an advantage in popular discussions because there is a fundamental asymmetry between job losses, which can be identified, and job creation, which is harder to specify.

The effect of any policy change on aggregate levels of employment is a macroeconomic issue that awaits Part IV's analysis. But is there any evidence that commercial policy is useful for protecting overall employment? Very little. And even if there were, two further questions should be raised. First, it may be the case that protection is second best to other policies that aid employment, such as adjustment assistance to workers who may be displaced. Once again, as in our discussion in Section 11.2, trade policies may be inferior to policies aimed more directly at the problem. Second, suppose it is the case, at least in the short run, that some unemployment ensues as resources readjust to the new set of domestic prices when tariffs are reduced. Does this necessarily imply a loss of welfare? No. The gains from trade could easily outweigh losses related to temporary unemployment.[16] To economists the argument linking protection to higher levels of employment is extremely tenuous, despite the fact that it attracts attention in the popular media.

## 11.6 Summary

Protectionism has become a political issue in most countries. It is possible to argue about the aggregate gains to a nation of opening commodity markets to free trade, as we have done in earlier chapters. But commercial policy can have an important effect on the distribution of income and allocation of resources. Thus it is not surprising that special sectors or interest groups use the political arena in an attempt to foster policies that raise incomes in some sectors but are unfavorable to the economy overall. As well, it is often the case that even if tariffs and quotas can achieve some sought-for objective, other instruments of public policy may achieve the same goal at lower cost. The primary use of commercial policy, which may have some validity for certain large countries, is to improve a country's terms of trade by controlling the volume of demand or supply. This line of reasoning, the so-called optimum tariff argument, is somewhat fragile because of the danger that other countries will retaliate with protective devices of their own. Countries sometimes adopt a protectionist stance as part of a policy to promote growth. We have pointed out the dangers inherent in such a policy, as well as in the use of protection to attract foreign capital. In all this discussion we have maintained the assumption that producing units are relatively small and competitive, so it is only governments that are capable of altering prices and resource allocation. In the

[16] Recall the discussion of unemployment in the Ricardian model in the appendix to Chapter 4 and Figure 4.A.1.

next chapter we broach directly the possibility that economic agents deal in imperfectly competitive world markets where their own private actions can affect the terms of trade and the welfare of the whole community.

## CHAPTER PROBLEMS

1. Use the kind of diagrammatic argument represented by Figure 11.3 for the case of production subsidies to present the case that a nation wishing to restrict consumption of some item below the free-trade level would do better to levy a consumption tax instead of a tariff.
2. Suppose a capital-abundant country levies a tariff on its labor-intensive imports. (The country's productive structure is that of Chapter 6's Heckscher-Ohlin model.) Show why this must improve workers' real wage. What further changes in the country's real wage would be brought about if foreign countries counter with tariffs of their own on home exportables?
3. To expand on Section 11.4's discussion of the relationship between protection and foreign investment, suppose the home country exports clothing, which is produced by labor and capital, and imports food, which is produced locally by labor and land. That is, assume the specific-factor production structure of Chapter 5. Let some of the capital used in the clothing sector be provided by foreign investment. If the home country protects its food industry with a tariff, trace through the following scenarios:
   **a.** What is the effect on factor prices, production, consumption, and trade volumes if no more foreign capital enters or leaves the country?
   **b.** What is the further impact on factor prices, production, consumption, and trade if returns to capital in the clothing sector adjust to a given world rate of return via changes in the quantity of capital foreigners wish to place in the protectionist country?
   **c.** What is the effect on net home welfare in each case?

## SUGGESTIONS FOR FURTHER READING

Bhagwati, Jagdish. *In Defense of Globalization* (Oxford: Oxford University Press, 2004). Critique of present-day arguments for protection.

Brock, William, and S. Magee. "Tariff Formation in a Democracy." In J. Black and B. Hindley, eds., *Current Issues in International Commercial Policy and Diplomacy* (London: Macmillan, 1980), pp. 1–9. Brief survey discussion of features of democratic governments that influence the formation of tariff policy.

Corden, W. M. "Tariffs, Subsidies, and the Terms of Trade," *Economica,* 24 (August 1957): 235–242. A lucid treatment of alternative protective devices.

Irwin, Douglas. *Free Trade Under Fire*, 2nd ed. (Oxford: Oxford University Press, 2005). A spirited attack on protectionism.

Johnson, Harry G. "Optimal Trade Intervention in the Presence of Domestic Distortions." In R. E. Baldwin et al., eds., *Trade, Growth and the Balance of Payments* (Chicago: Rand McNally, 1965). A general discussion of trade taxes and production and consumption subsidies, relying heavily on diagrammatic analysis.

Krueger, Anne. "The Political Economy of the Rent-Seeking Society," *American Economic Review,* 44 (June 1974): 291–303. The classic exposition of the loss in welfare as resources are devoted to obtaining import licenses.

———. "Asymmetries in Policy between Exportables and Import-Competing Goods." In R. W. Jones and A. O. Krueger, eds., *The Political Economy of International Trade* (Cambridge, UK: Blackwell, 1990), pp. 161–178. An interesting discussion of why import-competing industries receive governmental support more frequently than do export industries.

Krugman, Paul. "Import Protection as Export Promotion: International Competition in the Presence of Oligopoly and Economies of Scale." In H. Kierzkowski, ed., *Monopolistic Competition and International Trade* (Oxford, UK: Oxford University Press, 1984), pp. 180–193. A variation on the infant industry argument when trade is of the monopolistic competition intraindustry type.

Stolper, Wolfgang, and Paul A. Samuelson. "Protection and Real Wages," *Review of Economic Studies,* 9 (November 1941): 58–73. The analysis of the effect of a tariff on wages and rents.