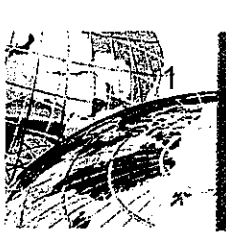


Pearson International Edition

International Economics

THEORY & POLICY

Seventh Edition

Paul R. Krugman Maurice Obstfeld

specialized machinery, and so on. The Canadian auto industry had a labor productivity about 30 percent lower than that of the United States.

In an effort to remove these problems, the United States and Canada agreed in 1964 to establish a free trade area in automobiles (subject to certain restrictions). This allowed the auto companies to reorganize their production. Canadian subsidiaries of the auto firms sharply cut the number of products made in Canada. For example, General Motors cut in half the number of models assembled in Canada. The overall level of Canadian production and employment was, however, maintained. This was achieved by importing from the United States products no longer made in Canada and exporting the products Canada continued to make. In 1962, Canada exported $16 million worth of automotive products to the United States while importing $519 million worth. By 1968 the numbers were $2.4 and $2.9 billion, respectively. In other words, both exports and imports increased sharply: intraindustry trade in action.

The gains seem to have been substantial. By the early 1970s the Canadian industry was comparable to the U.S. industry in productivity.

Dumping

The monopolistic competition model helps us understand how increasing returns promote international trade. As we noted earlier, however, this model assumes away many of the issues that can arise when firms are imperfectly competitive. Although it recognizes that imperfect competition is a necessary consequence of economies of scale, the monopolistic competition analysis does not focus on the possible consequences of imperfect competition itself for international trade.

In reality, imperfect competition has some important consequences for international trade. The most striking of these is that firms do not necessarily charge the same price for goods that are exported and those that are sold to domestic buyers.

The Economics of Dumping

In imperfectly competitive markets, firms sometimes charge one price for a good when that good is exported and a different price for the same good when it is sold domestically. In general, the practice of charging different customers different prices is called **price discrimination.** The most common form of price discrimination in international trade is **dumping,** a pricing practice in which a firm charges a lower price for exported goods than it does for the same goods sold domestically. Dumping is a controversial issue in trade policy, where it is widely regarded as an "unfair" practice and is subject to special rules and penalties. We will discuss the policy dispute surrounding dumping in Chapter 9. For now, we present some basic economic analysis of the dumping phenomenon.

Dumping can occur only if two conditions are met. First, the industry must be imperfectly competitive, so that firms set prices rather than taking market prices as given. Second, markets must be *segmented*, so that domestic residents cannot easily purchase goods intended for export. Given these conditions, a monopolistic firm may find that it is profitable to engage in dumping.

An example may help to show how dumping can be a profit-maximizing strategy. Imagine a firm that currently sells 1,000 units of a good at home and 100 units abroad. Currently

selling the good at $20 per unit domestically, it gets only $15 per unit on export sales. One might imagine that the firm would conclude that additional domestic sales are much more profitable than additional exports.

Suppose, however, that to expand sales by one unit, in either market, would require reducing the price by $0.01. Reducing the domestic price by a penny, then, would increase sales by one unit—directly adding $19.99 in revenue, but reducing the receipts on the 1,000 units that would have sold at the $20 price by $10. So the marginal revenue from the extra unit sold is only $9.99. On the other hand, reducing the price charged to foreign customers and thereby expanding exports by one unit would directly increase revenue by only $14.99. The indirect cost of reduced receipts on the 100 units that would have been sold at the original price, however, would be only $1, so that marginal revenue on export sales would be $13.99. It would therefore be more profitable in this case to expand exports rather than domestic sales, even though the price received on exports is lower.

This example could be reversed, with the incentive being to charge less on domestic than foreign sales. However, price discrimination in favor of exports is more common. Since international markets are imperfectly integrated due to both transportation costs and protectionist trade barriers, domestic firms usually have a larger share of home markets than they do of foreign markets. This in turn usually means that their foreign sales are more affected by their pricing than their domestic sales. A firm with a 20 percent market share need not cut its price as much to double its sales as a firm with an 80 percent share. So firms typically see themselves as having less monopoly power, and a greater incentive to keep their prices low, on exports than on domestic sales.

Figure 6-8 offers a diagrammatic example of dumping. It shows an industry in which there is a single monopolistic domestic firm. The firm sells in two markets: a domestic market, where it faces the demand curve D_{DOM}, and an export market. In the export market we take the assumption that sales are highly responsive to the price the firm charges to an extreme, assuming the firm can sell as much as it wants at the price P_{FOR}. The horizontal line P_{FOR} is thus the demand curve for sales in the foreign market. We assume the markets are segmented, so that the firm can charge a higher price for domestically sold goods than it does for exports. MC is the marginal cost curve for total output, which can be sold on either market.

To maximize profits, the firm must set marginal revenue equal to marginal cost in *each* market. Marginal revenue on domestic sales is defined by the curve MR_{DOM}, which lies below D_{DOM}. Export sales take place at a constant price P_{FOR}, so the marginal revenue for an additional unit exported is just P_{FOR}. To set marginal cost equal to marginal revenue in both markets it is necessary to produce the quantity $Q_{MONOPOLY}$, to sell Q_{DOM} on the domestic market, and to export $Q_{MONOPOLY} - Q_{DOM}$.[7] The cost of producing an additional unit in this case is equal to P_{FOR}, the marginal revenue from exports, which in turn is equal to the marginal revenue for domestic sales.

The quantity Q_{DOM} will be demanded domestically at a price of P_{DOM}, which is above the export price P_{FOR}. Thus the firm is indeed dumping, selling more cheaply abroad than at home.

In both our numerical example and Figure 6-8, the reason the firm chooses to dump is the difference in the responsiveness of sales to price in the export and domestic markets. In Figure 6-8 we assume the firm can increase exports without cutting its price, so marginal

[7] It might seem that the monopolist should set domestic sales at the level where MC and MR_{DOM} intersect. But remember that the monopolist is producing a total output $Q_{MONOPOLY}$; this means that the cost of producing one more unit is equal to P_{FOR}, whether that unit is destined for the foreign or domestic market. And it is the actual cost of producing one more unit that must be set equal to marginal revenue. The intersection of MC and MR_{DOM} is where the firm would produce *if it did not have the option of exporting*—but that is irrelevant.

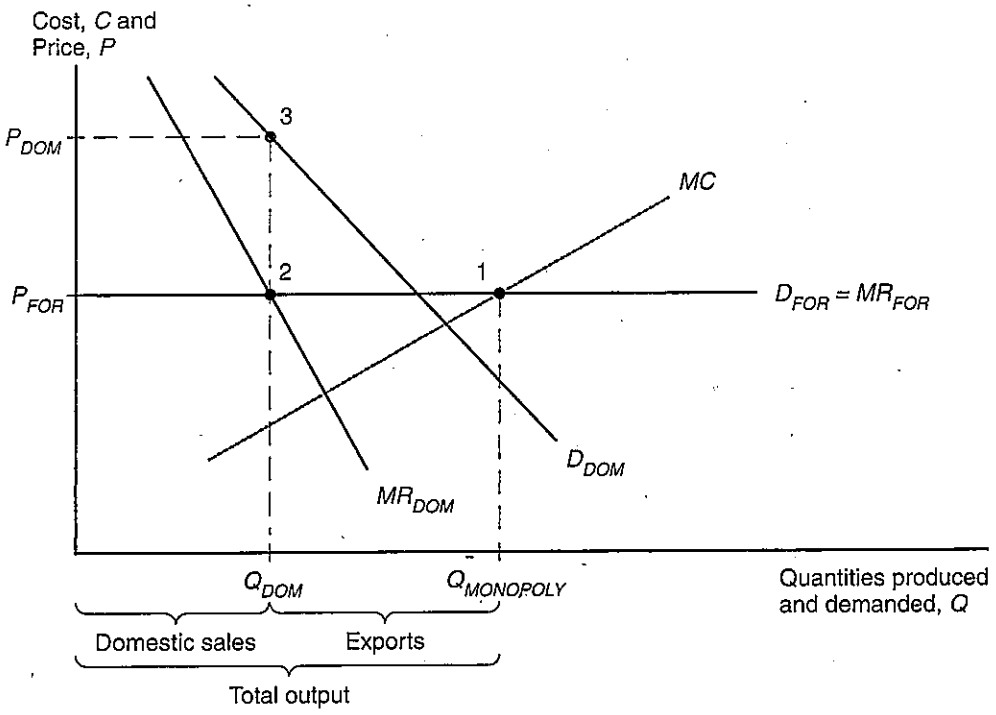


Figure 6-8

Dumping

The figure shows a monopolist that faces a demand curve D_{DOM} for domestic sales, but which can also sell as much as it likes at the export price P_{FOR}. Since an additional unit can always be sold at P_{FOR}, the firm increases output until the marginal cost equals P_{FOR}; this profit-maximizing output is shown as $Q_{MONOPOLY}$. Since the firm's marginal cost at $Q_{MONOPOLY}$ is P_{FOR}, it sells output on the domestic market up to the point where marginal revenue equals P_{FOR}; this profit-maximizing level of domestic sales is shown as Q_{DOM}. The rest of its output, $Q_{MONOPOLY} - Q_{DOM}$, is exported.

The price at which domestic consumers demand Q_{DOM} is P_{DOM}. Since $P_{DOM} > P_{FOR}$, the firm sells exports at a lower price than it charges domestic consumers.

revenue and price coincide on the export market. Domestically, by contrast, increased sales do lower the price. This is an extreme example of the general condition for price discrimination presented in microeconomics courses: Firms will price-discriminate when sales are more price-responsive in one market than in another.[8] (In this case we have assumed export demand is infinitely price-responsive.)

Dumping is widely regarded as an unfair practice in international trade. There is no good economic justification for regarding dumping as particularly harmful, but U.S. trade law prohibits foreign firms from dumping in our market and automatically imposes tariffs when such dumping is discovered.

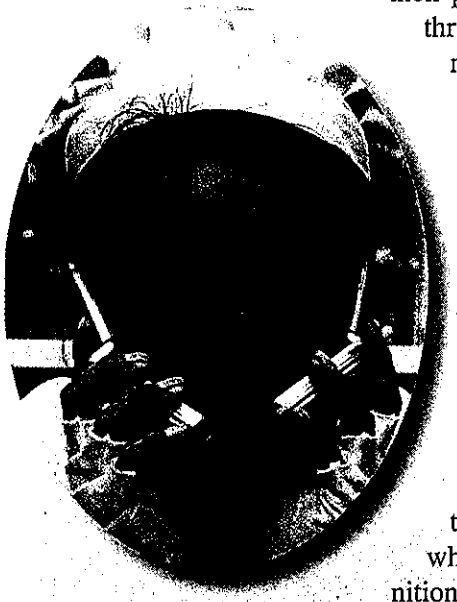
The situation shown in Figure 6-8 is simply an extreme version of a wider class of situations in which firms have an incentive to sell exports for a lower price than the price they charge domestic customers.

[8] The formal condition for price discrimination is that firms will charge lower prices in markets in which they face a higher *elasticity* of demand, where the elasticity is the percentage decrease in sales that results from a 1 percent increase in price. Firms will dump if they perceive a higher elasticity on export sales than on domestic sales.

Case Study

Antidumping as Protectionism

In the United States and a number of other countries, dumping is regarded as an unfair competitive practice. Firms that claim to have been injured by foreign firms who dump their products in the domestic market at low prices can appeal, through a quasi-judicial procedure, to the Commerce Department for relief. If their complaint is ruled valid an "antidumping duty" is imposed, equal to the calculated difference between the actual and "fair" price of imports. In practice, the Commerce Department accepts the great majority of complaints by U.S. firms about unfair foreign pricing. The determination that this unfair pricing has actually caused injury, however, is in the hands of a different agency, the International Trade Commission, which rejects about half of its cases.



Economists have never been very happy with the idea of singling dumping out as a prohibited practice. For one thing, price discrimination between markets may be a perfectly legitimate business strategy—like the discounts that airlines offer to students, senior citizens, and travelers who are willing to stay over a weekend. Also, the legal definition of dumping deviates substantially from the economic definition. Since it is often difficult to prove that foreign firms charge higher prices to domestic than export customers, the United States and other nations instead often try to calculate a supposed fair price based on estimates of foreign production costs. This "fair price" rule can interfere with perfectly normal business practices: A firm may well be willing to sell a product for a loss while it is lowering its costs through experience or breaking into a new market.

In spite of almost universal negative assessments from economists, however, formal complaints about dumping have been filed with growing frequency since about 1970. China has attracted a particularly large number of antidumping suits, for two reasons. One is that China's rapid export growth has raised many complaints. The other is the fact that it is still nominally a communist country, and the United States officially considers it a "nonmarket economy." A *Business Week* story described the difference that China's status makes: "That means the U.S. can simply ignore Chinese data on costs on the assumption they are distorted by subsidized loans, rigged markets, and the controlled yuan. Instead, the government uses data from other developing nations regarded as market economies. In the TV and furniture cases, the U.S. used India—even though it is not a big exporter of these goods. Since India's production costs were higher, China was ruled guilty of dumping."[9]

As the quote suggests, China has been subject to antidumping duties on TVs and furniture, along with a number of other products including crepe paper, hand trucks, shrimp,

[9] "Wielding a Heavy Weapon Against China," *Business Week*, June 21, 2004.

ironing tables, plastic shopping bags, steel fence posts, iron pipe fittings, and saccharin. These duties are high: as high as 78 percent on color TVs and 330 percent on saccharin.

Most economists consider these kinds of "antidumping" cases to have little to do with dumping in the economic sense. Nonetheless, there may have been an increase in real dumping, because of the uneven pace at which countries have opened up their markets. Since 1970 trade liberalization and deregulation have opened up international competition in a number of previously sheltered industries. For example, it used to be taken for granted that telephone companies would buy their equipment from domestic manufacturers. With the breakup of AT&T in the United States and the privatization of phone companies in other countries, this is no longer the case everywhere. But in Japan and several European countries the old rules still apply. It is not surprising that the manufacturers of telephone equipment in these countries would continue to charge high prices at home while offering lower prices to customers in the United States—or at least that they would be accused of doing so.

Reciprocal Dumping

The analysis of dumping suggests that price discrimination can actually give rise to international trade. Suppose there are two monopolies, each producing the same good, one in Home and one in Foreign. To simplify the analysis, assume that these two firms have the same marginal cost. Suppose also that there are some costs of transportation between the two markets, so that if the firms charge the same price there will be no trade. In the absence of trade, each firm's monopoly would be uncontested.

If we introduce the possibility of dumping, however, trade may emerge. Each firm will limit the quantity it sells in its home market, recognizing that if it tries to sell more it will drive down the price on its existing domestic sales. If a firm can sell a little bit in the other market, however, it will add to its profits even if the price is lower than in the domestic market, because the negative effect on the price of existing sales will fall on the other firm, not on itself. So each firm has an incentive to "raid" the other market, selling a few units at a price that (net of transportation costs) is lower than the home market price but still above marginal cost.

If both firms do this, however, the result will be the emergence of trade even though there was (by assumption) no initial difference in the price of the good in the two markets, and even though there are some transportation costs. Even more peculiarly, there will be two-way trade in the same product. For example, a cement plant in country A might be shipping cement to country B while a cement plant in B is doing the reverse. The situation in which dumping leads to two-way trade in the same product is known as **reciprocal dumping.**[10]

This may seem like a strange case, and it is admittedly probably rare in international trade for exactly identical goods to be shipped in both directions at once. However, the reciprocal dumping effect probably tends to increase the volume of trade in goods that are not quite identical.

[10] The possibility of reciprocal dumping was first noted by James Brander, "Intraindustry Trade in Identical Commodities," *Journal of International Economics* 11 (1981), pp. 1–14.

Is such peculiar and seemingly pointless trade socially desirable? The answer is ambiguous. It is obviously wasteful to ship the same good, or close substitutes, back and forth when transportation is costly. However, notice that the emergence of reciprocal dumping in our story eliminates what were initially pure monopolies, leading to some competition. The increased competition represents a benefit that may offset the waste of resources in transportation. The net effect of such peculiar trade on a nation's economic welfare is therefore uncertain.

The Theory of External Economies

In the monopolistic competition model of trade, it is presumed that the economies of scale that give rise to international trade occur at the level of the individual firm. That is, the larger any particular firm's output of a product, the lower its average cost. The inevitable result of such economies of scale at the level of the firm is imperfect competition, which in turn allows such practices as dumping.

As we pointed out early in this chapter, however, not all scale economies apply at the level of the individual firm. For a variety of reasons, it is often the case that concentrating production of an industry in one or a few locations reduces the industry's costs, even if the individual firms in the industry remain small. When economies of scale apply at the level of the industry rather than at the level of the individual firm, they are called *external economies*. The analysis of external economies goes back more than a century to the British economist Alfred Marshall, who was struck by the phenomenon of "industrial districts"—geographical concentrations of industry that could not be easily explained by natural resources. In Marshall's time the most famous examples included such concentrations of industry as the cluster of cutlery manufacturers in Sheffield and the cluster of hosiery firms in Northampton. Modern examples of industries where there seem to be powerful external economies include the semiconductor industry, concentrated in California's famous Silicon Valley; the investment banking industry, concentrated in New York; and the entertainment industry, concentrated in Hollywood.

Marshall argued that there were three main reasons why a cluster of firms may be more efficient than an individual firm in isolation: the ability of a cluster to support **specialized suppliers;** the way that a geographically concentrated industry allows **labor market pooling;** and the way that a geographically concentrated industry helps foster **knowledge spillovers.** These same factors continue to be valid today.

Specialized Suppliers

In many industries, the production of goods and services—and to an even greater extent, the development of new products—requires the use of specialized equipment or support services; yet an individual company does not provide a large enough market for these services to keep the suppliers in business. A localized industrial cluster can solve this problem by bringing together many firms that collectively provide a large enough market to support a wide range of specialized suppliers. This phenomenon has been extensively documented in Silicon Valley: A 1994 study recounts how, as the local industry grew, "engineers left established semiconductor companies to start firms that manufactured capital goods such as diffusion ovens, step-and-repeat cameras, and testers, and materials and components such as photomasks, testing jigs, and specialized chemicals. . . . This independent equipment sector promoted the continuing formation of semiconductor firms by freeing individual producers

from the expense of developing capital equipment internally and by spreading the costs of development. It also reinforced the tendency toward industrial localization, as most of these specialized inputs were not available elsewhere in the country."[11]

As the quote suggests, the availability of this dense network of specialized suppliers has given high-technology firms in Silicon Valley some considerable advantages over firms elsewhere. Key inputs are cheaper and more easily available because there are many firms competing to provide them, and firms can concentrate on what they do best, contracting out other aspects of their business. For example, some Silicon Valley firms that specialize in providing highly sophisticated computer chips for particular customers have chosen to become "fabless," that is, they do not have any factories in which chips can be fabricated. Instead, they concentrate on designing the chips, then hire another firm actually to fabricate them.

A company that tried to enter the industry in another location—for example, in a country that did not have a comparable industrial cluster—would be at an immediate disadvantage because it would lack easy access to Silicon Valley's suppliers and would either have to provide them for itself or be faced with the task of trying to deal with Silicon Valley-based suppliers at long distance.

Labor Market Pooling

A second source of external economies is the way that a cluster of firms can create a pooled market for workers with highly specialized skills. Such a pooled market is to the advantage of both the producers and the workers as the producers are less likely to suffer from labor shortages, while the workers are less likely to become unemployed.

The point can best be made with a simplified example. Imagine that there are two companies that both use the same kind of specialized labor, say, two film studios that make use of experts in computer animation. Both employers are, however, uncertain about how many workers they will want to hire: If demand for its product is high, both companies will want to hire 150 workers, but if it is low, they will only want to hire 50. Suppose also that there are 200 workers with this special skill. Now compare two situations: one with both firms and all 200 workers in the same city, the other with the firms and 100 workers in two different cities. It is straightforward to show that both the workers and their employers are better off if everyone is in the same place.

First, consider the situation from the point of view of the companies. If they are in different locations, whenever one of the companies is doing well it will be confronted with a labor shortage; it will want to hire 150 workers, but only 100 will be available. If the firms are near each other, however, it is at least possible that one will be doing well when the other is doing badly, so that both firms may be able to hire as many workers as they want. So by locating near each other, the companies increase the likelihood that they will be able to take advantage of business opportunities.

From the workers' point of view, having the industry concentrated in one location is also an advantage. If the industry is divided between two cities, then whenever one of the firms has a low demand for workers the result will be unemployment; the firm will be willing to hire only 50 of the 100 workers who live nearby. But if the industry is concentrated in a single city, low labor demand from one firm will at least sometimes be offset by high demand from the other. As a result, workers will have a lower risk of unemployment.

[11] See the book listed in Further Reading by Saxenian, p. 40.

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ISBN978-4-86401-006-1
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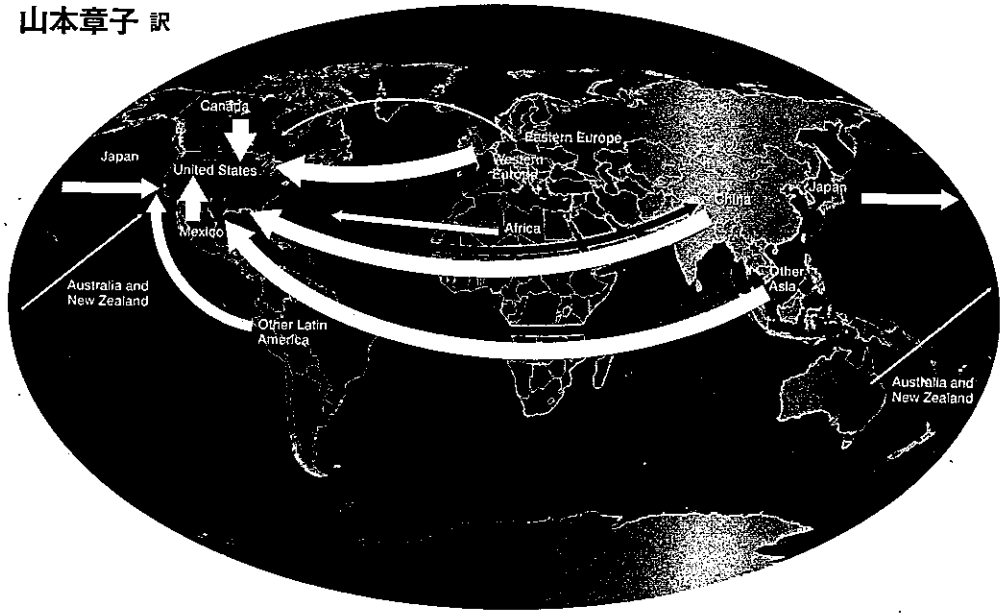

業の役割についてはまだ考察していないので，われわれのモデルからは外れる——は同じだった。しかし，こうした企業は関税を払うよりも，ほぼ独立した生産システムを持つほうが安上がりだと考えた。このため，カナダの自動車産業は，実質的にアメリカ自動車産業のミニチュア版，約10分の1のサイズだった。

アメリカ企業のカナダ子会社は，規模が小さいとかなりのデメリットになるのに気づいた。その理由の1つは，アメリカと違い，カナダでは工場の規模をアメリカの工場よりも小さくしなければならなかったことである。さらに重要なのは，アメリカの工場はおおむね「専用化」——完成車あるいは構成部品を1種類のみ生産する工場にすること——が可能だということである。一方，カナダでは，1つの工場で複数の生産物を生産しなければならない。このため，生産ラインの稼働を一時停止して製造対象の生産物を変更したり，在庫の水準を高めにしたり，汎用性のある機械設備を入れたりするなど，もろもろの対応が必要になった。カナダの自動車産業では労働生産性がアメリカより約30％低かったのである。

こうした問題を解消するため，アメリカとカナダは1964年に，自動車の（一定の制限付き）自由貿易圏を設けることで合意した。これによって，自動車会社は生産体制の組み直しができるようになった。カナダの子会社では，自国で生産する生産物の種類が大幅に減った。たとえば，GMはカナダで組み立てるモデルの数を半減させた。しかし，カナダにおける生産と雇用の全般的な水準は維持された。これが達成されたのは，カナダでの生産をやめた品目をアメリカから輸入し，カナダで引き続き生産される品目をアメリカに輸出することにしたからである。1962年，カナダはアメリカ向けに米ドルにして1,600万の自動車関連の生産物を輸出し，アメリカから米ドルで5億1,900万の同じカテゴリーの生産物を輸入した。この金額は1968年までにそれぞれ，24億ドルと29億ドルに達した。要するに，産業内貿易の実例にふさわしく，輸出も輸入も急増したのである。

この結果として得られた利益は実り多いものだったようだ。1970年初頭には，カナダの自動車産業の生産性がアメリカの水準と肩を並べるところまで上がったのである。

ダンピング

収穫逓増が国際貿易をどのように促進するのかを考えるとき，独占的競争モデルが役に立つ。前に述べたように，このモデルでは；企業が不完全競争下にある場合に起きそうな問題の多くが想定から除かれている。規模の経済から必然的に不完全競争が起こることは，独占的競争モデルからわかる。とはいえ，独占的競争の分析において，不完全競争そのものの影響が国際貿易におよぶ可能性に注目しないわけではない。

実のところ，不完全競争は国際貿易にかなり大きな影響をもたらす。なかでも目立つのは，企業が輸出用と国内販売用の財に同じ価格を設定するとは限らないということである。

ダンピングの経済学

不完全競争の市場では，企業がある財に輸出用の価格を設定し，その同じ財を国内販売する場合には輸出用と異なる価格を設定することはよくある。一般的に，顧客によって異なる価格を設定することを**価格差別**という。国際貿易における価格差別の一般的な例が**ダンピング**である。ダンピングは，同じ財に対して国内での販売価格より輸出価格を低く設定するやり方を指す。ダンピングは貿易政策において物議をかもし，「公正を欠く」やり方とみなされて，特別ルールと罰則の対象になる。ダンピングを巡る政策論争は第9章で取り上げる。ここでは，ダンピングの基本的な経済分析を少しばかり紹介するにとどめる。

ダンピングが起こるのは2つの条件が揃う場合に限られる。第一に，企業が市場価格を所与とみなさず自ら価格を設定できるよう，企業の属する産業が不完全競争下に置かれていなければならない。第二に，国内の居住者が輸出用の財を簡単に購入できないように，市場が区分けされていなければならない。この2つの条件が同時に整えば，独占的競争下に置かれた企業が，ダンピングは利益につながると気づく可能性もある。

ダンピングは利潤最大化の戦略になりうる。一例をあげてそれを説明しよう。今，1,000単位の財を国内で販売し，それと同じ財100単位を輸出に回している企業があるとする。現在の国内販売価格は1単位20ドル，輸出価格は1単位15ドルでしかない。この企業が，国内販売を追加したほうが輸出を追加するよりはるかに大きな利益が見込めるという結論を出すことも考えられる。

ここで，販売を1単位増やすには，どちらの市場でも価格を0.01ドル下げる必要があるとする。国内向けの価格を0.01ドル下げると，販売量が1単位増える。この場合，1単位分の19.99ドルが収入に加えられる。ところが，本来1単位20ドルで売れたはずの1,000単位は，売上高が10ドル減ることになる。したがって，1単位の追加販売から得られる限界収入は9.99ドルのみとなる。一方，輸出用に設定した価格を同じように下げると，1単位の追加輸出による売上ドル14.99がそのまま収入として増えることに

なる。本来の価格で輸出されたはずの100単位は，その売上高から追加輸出のための間接的なコストが差し引かれる。しかし，減少する額はたった1ドルですむのだ。したがって，輸出の限界収入は13.99ドルになる。このケースでは，輸出価格が低くても追加販売の利益がより大きく見込めるのは，国内向けではなく輸出である。

輸出より国内向けの価格を安く設定するようなインセンティブが働く場合，前段のケースとは逆の結果が出ることになる。理屈のうえではそうだが，価格差別のインセンティブは，輸出に向けられるのが一般的である。以下に，その理由を説明する。国際市場は，輸送コストと保護貿易の壁が障害になるので，完全に統合されることはない。そのため，国内企業の市場シェアは，一般的に海外より国内で高くなる。すると，

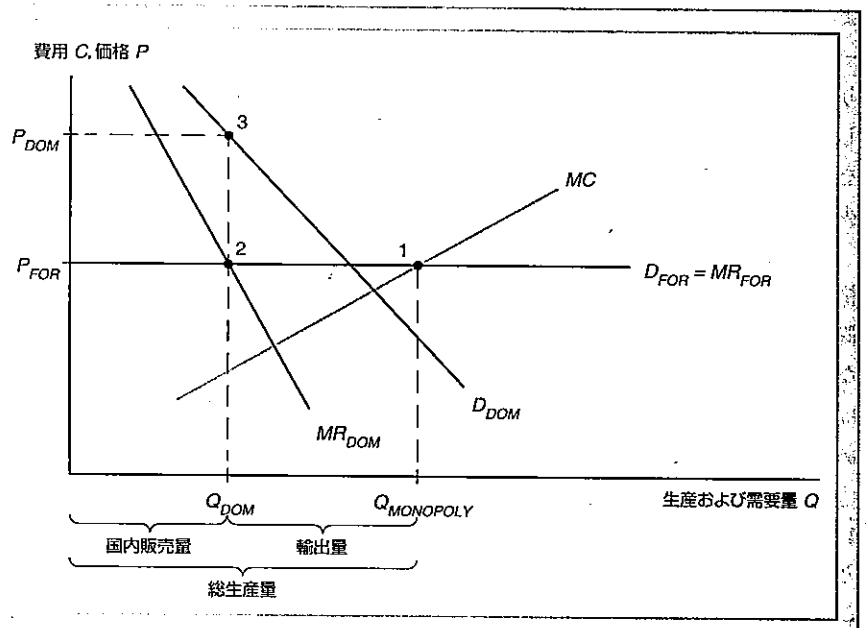

図6-8 ダンピング

この図で，独占企業は需要曲線D_{DOM}で表された国内販売を行っている。同時に，輸出価格P_{FOR}で好きなだけ販売ができる。企業はいつでも価格P_{FOR}で追加的な輸出ができるため，限界費用が価格P_{FOR}すなわち限界収入と等しくなる水準まで生産量を引き上げる。利潤を最大化するこの生産量は$Q_{MONOPOLY}$で示される。このとき，限界費用は価格P_{FOR}と等しいので，企業は限界収入が価格P_{FOR}と等しくなる量まで国内販売を伸ばす。利潤が最大化する水準まで伸びた国内販売はQ_{DOM}で示される。残りの$Q_{MONOPOLY} - Q_{DOM}$は輸出に回される。
国内の消費者が需要Q_{DOM}を求めるときの価格はP_{DOM}である。$P_{DOM} > P_{FOR}$であるため，この企業は国内価格より安く輸出していることになる。

自らの価格設定が販売に及ぼす効果は，国内より海外で大きくなる。たとえば，販売を倍増させようとする場合，本来なら市場シェア20％の企業は，80％のシェアを持つ企業ほど値下げ幅を大きくする必要はない。企業は一般的に，自社の独占力は国内より輸出のほうが低いと考えるため，価格を低く押さえようとするインセンティブが強く働くのは国内より輸出のほうである。

図6-8はダンピングの一例をグラフにしたものである。グラフは独占的な企業が1社ある産業を表す。この企業は2つの市場で販売を行っている。その1つである国内市場には，曲線D_{DOM}で示された需要がある。もう1つが輸出市場である。ここで，輸出市場は次のように想定されている。売上はこの企業が設定する価格にきわめて強く感応し，企業は最高限度の価格P_{FOR}で好きなだけ売ることができる。したがって，価格P_{FOR}のところに水平方向に引かれた直線は，輸出市場における販売の需要曲線である。国内市場と輸出市場は区分けされており，国内向けの価格は輸出価格より高く設定することができる。MCは総生産に対する限界費用曲線を表す。なお，生産される財は国内外どちらの市場でも売られるものとする。

さて，この企業が利潤の最大化を達成するには，それぞれの市場で限界収入と限界費用が一致するようにしなければならない。図6-8において，国内販売の限界収入はMR_{DOM}で表され，需要曲線D_{DOM}の下方に示される。また，輸出は一定水準にある価格P_{FOR}で表されるので，追加的に輸出される財からの限界収入MR_{FOR}も，やはり価格P_{FOR}の位置に引かれた直線で表される。ここで両市場とも限界費用と限界収入を一致させるには，生産$Q_{MONOPOLY}$を行う必要がある。つまり，国内市場でQ_{DOM}を売り$Q_{MONOPOLY} - Q_{DOM}$を輸出するのである[7]。このときの限界費用は輸出の限界収入P_{FOR}と等しくなり，これはまた国内販売の限界収入と等しくなる。

国内の需要Q_{DOM}を満たす国内価格はP_{DOM}であり，このP_{DOM}は輸出価格P_{FOR}の上にあるので，この企業は国内より安い価格で輸出するダンピングを行っていることになる。

以上，数字を用いた事例と図6-8から，企業がダンピングを選択する理由は，販売の価格に感応する程度が輸出市場と国内市場で異なるところにあるといえる。図6-8のケースでは，企業は価格を下げずに輸出を増やすことができると想定されている。この場合，限界収入と価格は輸出市場において一致している。対照的に，国内市場では

7 独占企業が国内販売をするのはMCとMR_{DOM}が交わるところだと考えるかもしれない。しかし，独占企業の生産は$Q_{MONOPOLY}$で行われている。つまり，追加生産1単位の生産費用がP_{FOR}と等しくなるところであり，追加生産された財1単位が国内向けか輸出用かは関係ない。また，財1単位の追加生産に関して言えば，限界収入と等しくする必要があるのは実際の生産費用である。MCとMR_{DOM}との交点は輸出の選択肢がない場合の生産ポイントであるが，さして重要ではない。

価格を下げて販売を伸ばすことになる。ミクロ経済学の課程では価格差別が起きる一般的な条件が提示されるが，図6-8はその極端な例である。一般的に，企業は販売の価格感応性が他の市場より高い市場において価格差別を行うということになる（図6-8の例は，輸出需要が価格P_{FOR}に無限大まで感応すると想定されている）[8]。

一般的な評価では，ダンピングは国際貿易における不公正な行為とされる。ダンピングがきわめて有害であるとする見解は経済学上うまく説明されていないのであるが，アメリカの貿易法では外国の企業がアメリカの市場向けにダンピングすることを禁じており，ダンピングが摘発されると自動的に関税がかかるようになっている。

図6-8に示したのはより広い状況での非常に極端な例である。ここでは，企業は国内の消費者向けに設定した価格より安い価格で輸出するインセンティブを持っている。

ケーススタディ

保護貿易主義のアンチダンピング

アメリカをはじめ多数の国々で，ダンピングは不公正な競争手段とみなされている。アメリカでは，外国企業が自社の生産物をアメリカの国内市場で安価に投げ売りしたことによって損害を被ったと企業が認識すれば，商務省に対し準司法手続きによる救済措置を求めることができ，訴えに妥当性が認められる場合，「アンチダンピング関税」が課せられる。これは輸入品の実際価格と「公正な」価格の差を計算した額に等しい。外国企業の不当廉価販売を申し立てるアメリカ企業の提訴は，アメリカ商務省によってほとんど認められるのが実情である。しかし，不当廉価販売による実際の損失額についての算定は，別のアメリカ政府組織である国際貿易委員会の手に委ねられる。そこでは提訴のおよそ半数が退けられる。

経済学者が，ダンピングを禁止すべき行為だと指摘する考え方にすんなり納得したことはない。1つには，市場によって価格差別を図るのは，まぎれもなく正当なビジネス戦略だろうと考えられるからである。たとえば，航空会社が学生，シニア層，週末を楽しむ旅行者などにディスカウントの航空料金を提供するのはビジネス戦略の一環である。また，ダンピングの法律上の規定は経済学の定義からかなり逸脱したものになっている。実のところ，外国企業が自らの国内市場向けの価格を輸出価格より高く設定していると証明するのは難しい場合が多い。そこで，アメリカやその他の国々では公正と想定されるべき価格をはじき出そうとする。このときの計算の根拠とされるのが外国の生産物の推定コストである。この「公正価格」ルールなるものは，きわめて正当なビジネス行為を妨害する恐れもある。たとえば，企業が自社の生産物を赤字覚悟で自ら進んで売ろうとするケースは大いにありうる。経験を重ねてコストを削減することもあれば，新たなマーケットを開拓することもあるのだ。

経済学者は総じてアンチダンピングに否定的な評価を下す。ところが，およそ1970年以降，ダンピングに関する提訴の頻度はますます高くなってきている。特に目を引くのは，中国がダンピングで訴えられる件数の多さである。理由は2つある。まず，中国からの輸出が急速に増えているため，不満が募っていることがあげられる。もう1つは，中国はいまだに共産主義国という看板を掲げており，アメリカが中国経済を表向きは「非市場経済」とみなしていることによるものである。アメリカの雑誌『ビジネスウィーク』は中国の現状についてこう書いている。「つまるところ，アメリカは中国のコストに関するデータを無視すればいいだけのことだ。中国のコストデータは，輸出を奨励するための融資，市場操作，為替レートが管理された中国通貨の元などによって歪められていると想定するのである。その代わりに，アメリカ政府は市場経済とみなしている他の発展途上国のデータを利用する。たとえば，テレビや家具のコストはインドのデータを使う。たとえインドがこの2つの輸出大国ではなくとも一向に構わない。というのも，インドの生産コストが高いので，中国にダンピングの汚名が着せられたのだ。」[9]

上記の引用が示唆するのは，現在に至るまで，中国製のテレビや家具は，クレープ紙，手押し車，海老，アイロン台，レジ袋，鉄製の柵柱，鋼管継ぎ手，サッカリンその他多数の品目とともに，アンチダンピング関税の課税対象になっているということだ。関税率はいずれも高く，たとえばテレビは78％，サッカリンは330％になっている。

大半の経済学者は，この種の「アンチダンピング」のケースは経済学でいうダンピングとはかかわりのないものと考えている。一方，本来の意味を持つダンピ

8 価格差別の正規の成立条件は次のように説明される。企業は需要の価格弾力性が高い市場で価格を低くする。この弾力性は1％の価格上昇によって販売が何％下落するかを表す。企業がダンピングを実行するのは輸出の弾力性が国内販売より大きいと認める場合である。

9 "Wielding a Heavy Weapon Against China," *Business Week*, June 21, 2004.

ングはといえば，増加傾向が続いていると思われる。その理由は，さまざまな国が自国の市場を開放するペースが一定ではないからだ。1970年以降，貿易の自由化と規制緩和が進み，それまで閉鎖的だった数多くの産業が国際競争にさらされてきた。たとえば，それまでは電話会社が国内メーカーから設備を購入するのは当たり前と思われていた。しかし，アメリカのAT&Tが分割されたり，その他の国々で電話会社が民営化されたりした後，電話設備の国内調達はもはやどこでも当たり前ではなくなったのである。しかし，日本とヨーロッパのいくつかの国ではいまだに古い商習慣が残っている。当然のことながら，こうした国々の電話設備メーカーは国内価格を高く設定し，アメリカの顧客には低く押さえた価格を提示し続けていると思われる。あるいはこうも言える。少なくとも，そのようなビジネスを行っていると非難されてしかるべきなのだろう，と。

双方向ダンピング

ダンピングの分析から見えてくるのは，価格差別が国際貿易を誘発する可能性である。たとえば，独占企業が2社あって，それぞれがH国とF国で同じ財を生産しているとする。分析を単純化するため，この2社の限界費用は同じであり，また，両国の市場間で輸送コストがいくらか発生すると想定する。このため，両社が同じ価格を設定すると貿易は行われない。貿易が行われなければ，両社の独占状態は無競争になる。

ところが，この想定にダンピングの可能性を入れると，貿易が行われる可能性が出てくる。この2社はそれぞれ自国内の市場で販売する数量を制限する。これは，販売を伸ばそうとすると，現在の国内販売向けに設定した価格を下げることになると認識したうえでのことだ。では，他の市場で多少なりとも売れるとしたらどうなるのか。国内向けの価格より安くても利潤が上乗せされるだろう。というのは，現行の販売価格にマイナス効果が働くのは自社ではなく他社になるからである。この結果，各社ともに他社の市場に「侵入する」インセンティブを持つようになる。このときの条件は，販売する財の単位はわずか，価格（正味の輸送コスト）は国内より安いが限界費用を下回らないものになる。

両社がともにこれをやると，（想定によって）当初は双方の市場における価格差はなく，なおかつ多少の輸送コストが発生しても貿易が行われるという結果になる。これよりさらに奇妙なのは，同一の財の双方向貿易が行われるようになることである。たとえば，セメント工場AがB国にセメントを輸出し，セメント工場BがA国にセメントを輸出するケースがこれにあたる。このように，同一の財の双方向貿易につながるダンピングは**双方向ダンピング**として知られる[10]。

これはおかしなケースと思えるかもしれない。正直なところ，国際貿易でまったく同一の財が双方向にいっせいに出荷されるのは珍しいだろう。しかし，取引されるのがまったくの同一財ではない貿易では，おそらく双方向ダンピング効果が取引量を増やす方向に働く。

このように奇妙で，無意味とも思えるような貿易が社会的に望ましいだろうか。はっきりした答えはない。はっきりしているのは，同一財やそれに近い代替品を高い運賃をかけて往復輸送するのは無駄ということだ。しかし，次の点に注目してほしい。ここで紹介したケースでは，双方向ダンピングによって当初見られた完全な独占が除かれ，ある程度の競争が生まれる結果になった。競争の高まりは，輸送に費やされる資源の無駄を吸収するメリットにもなると思われる。このような奇妙な貿易が一国の経済厚生に及ぼす確かな効果は不透明なのである。

外部経済にかかわる理論

貿易の独占的モデルでは，国際貿易を誘発する規模の経済は，個々の企業レベルで生まれると想定されている。これは，ある企業で生産物の生産が増えると，その企業の平均費用が下がるということである。企業レベルの規模の経済は必然的に不完全競争につながる。さらには，ダンピングのような行為を招くことになる。

本章の初めに指摘したように，あらゆる規模の経済が個々の企業レベルに適合するわけではない。さまざまな理由から，ある産業の生産拠点が1ヵ所か2，3ヵ所に集中する場合，産業全体の生産費用が低減されるというケースに規模の経済があてはまる場合が多い。その産業に属する企業の1つ1つの規模が小さいままでもかまわない。その規模の経済が個々の企業ではなく，産業レベルにあてはまる場合，この経済を**外部経済**と呼ぶ。外部経済の分析が始まったのは100年以上も昔，イギリスの経済学者アルフレッド・マーシャルの時代にさかのぼる。マーシャルは「工業地帯」現象に遭遇する。工業地帯とは，天然資源だけでは簡単に説明できない産業が地理的に密集している場所である。マーシャルの時代，有名な産業集積の例として，シェフィールドの刃物製造やノーサンプトンのメリヤス製造といった産業クラスターがあった。強力な外部経済にあてはまる現在の産業といえば，アメリカではカリフォルニア州シリコンバレーの半導体，ニューヨークの投資銀行，ハリウッドの娯楽産業などが例にあげら

[10] 双方向ダンピングの可能性は次の論文で初めて指摘された。James Brander, "Intraindustry Trade in Identical Commodities," *Journal of International Economics* 11 (1981), pp.1--14.

Parsons, 2008

Numerical example of Krugman and Obstfeld's Figure 6.8

Price Discrimination in International Markets

Assume a firm has a monopoly in its own domestic market, but also sells in the world market. Also assume that in the world market, there is perfect competition and so this firm is a price-taker there. Finally, assume that this firm can segment the market and prevent 'gray sales' (or 'reverse importing') from the low-cost country.

Assume the firm only has one factory and its cost function is defined as:

$$TC = \$8Q_{total}^{\ 2}$$

Where TC are total costs and Q is the quantity produced and sold.

Also assume that the equilibrium price in the competitive world market is $1000.

In the domestic market the demand curve facing the monopolist is:

$$P = \$2000 - 30 \bullet Q_M$$

$$Q_{total} - Q_M = Q_{world}$$

As such, world sales are a "residual demand"

Step 1

First, let's solve for this firm's optimal total quantity to produce.
This occurs where MC=MR for total quantity.

As MR in the world market is equal to the competitive price, MC=$1000.

$$MC = \frac{\partial TC}{\partial Q} = \$16 \bullet Q$$

Thus, \$16*Q=1000

And the optimal total quantity to produce is:

Q*=62.5

Step 2
Solve for the optimal sales in the home market.

This is also where MC=MR but MC has also been determined, as total quantity has been determined. Thus, MC is still \$1000.

Where does this *intersect* domestic MR? I.e.

$$MR_M = \$1000 = \frac{\partial TR}{\partial Q} = \frac{\partial(P \bullet Q)}{\partial Q} = \frac{\partial([2000 - 30 \bullet Q] \bullet Q)}{\partial Q} = 2000 - 60 \bullet Q$$

Solving for Q we find
$Q^*_M = 16.67$

As domestic sales are 16.67, this implies that the residual sales sold to the world market abroad are 62.5-16.67=45.83

Step 3
How much does the monopolist charge at home?

Substituting 16.67 into the domestic demand function we find that
$P^* = 2000 - 30 \bullet 16.67 = \$1500$

So, in summary, this firm charges \$1500 in the home market, but \$1000 in the foreign market. This would be considered dumping under anti-dumping laws because the price at home is higher that abroad.

But, really this is just an example of price discrimination, charging different prices to different consumers due to (two) different demands.

Question: Can you calculate the total profits this firm makes, recalling that Profits equals total revenue (TR) minus total cost (TC)?

Is there any inefficiency in this situation? *Yes*. There is a domestic monopoly and consumers and overall domestic welfare would be higher if there was competition and this country could freely import at $1000.

Question 2 (much harder) : Can you calculate the DWL in the domestic market due to this domestic market distortion?

数値的な例 for Figure 6.8 in Krugman and Obstfeld

国内市場では独占だが世界市場では完全競争下で価格を所与として行動している企業を考える。この企業の費用関数(ドル)が、

$$TC = \$8Q_{total}^{2}$$

と与えられるものとする。ただし、 TCは総費用、 q は生産量;・販売量とする。競争的な世界市場では、この財は1000ドルの価格で売られているとする。独占である国内市場では、需要は、価格をPとして、

$$P = \$2000 - 30 \bullet Q_M$$

$$Q_{total} - Q_M = Q_{world}$$

と表される。

あとは世界の販売量は「残差の需要」になる。

Step 1
First, let's solve for this firm's optimal total quantity to produce.
This occurs where MC=MR for total quantity.

As MR in the world market is equal to the competitive price, MC=$1000.

$$MC = \frac{\partial TC}{\partial Q} = \$16 \bullet Q$$

だから $16*Q=1000

この企業にとって最適な国内・世界市場を合わせた総生産量・販売量は:

Q*=62.5

になる。

Step 2
最適な国内生産・販売量を解くためには、
MC=MR を求めればよいが、この企業の MC はすでに決まっているので、
MC=$1000（総生産も決まっている）

MR〔国内の〕と MC はどこで交差するか？Where does this *intersect* domestic MR?
つまり、

$$MR_M = \$1000 = \frac{\partial TR}{\partial Q} = \frac{\partial(P \bullet Q)}{\partial Q} = \frac{\partial([2000 - 30 \bullet Q] \bullet Q)}{\partial Q} = 2000 - 60 \bullet Q$$

Q について解くと、

$$Q^*_M = 16.67$$

国内販売量は 16.67 なので世界市場への「残差の」販売量は 62.5-16.67=45.83 になる。

Step 3
国内の独占価格は?

45.83 は国内重要関数に置き換えると
$P^* = 2000 - 30 \bullet 16.67 = \$1500$
になる。

なので、以上をまとめると、この企業は国内市場では\$1500 で販売するが、世界〔外国〕市場では\$1000 で販売することになる。これは ADD の法律〔アメリカ、EU、日本、中国など〕によって dumping となる。なぜなら国内価格が外国での販売価格よりも高いからだ。

だが、これは dumping ではなく、ただ別の消費者〔需要関数はちがうから〕に別の価格で販売しているに過ぎない。つまり、価格差別の一つの例である。

問題：この企業の総利益を計算できますか？〔利益＝TR-TC〕

この場合に不効率性があるか？はい、あります。国内で独占があるので、もし独占がなければ国内消費者は自由に\$1000 で購入することになり国内の厚生は増えるはず。〔独占の利益減るが消費者の便益のほうが大きい〕.

問題２〔やや難〕：DWL を計算できますか？

Revised by Tomonori Okuma, July 2009

現代経済学入門

国際経済学

第2版

若杉隆平

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1980年代後半，日本企業の外国製半導体の調達が低い水準に留まっていることは日本市場が閉鎖されていることに原因があるとして，米国政府は日本政府及び日本のコンピュータ企業に対して，外国製の半導体の輸入に関する数値目標の達成を要請した．このことは，日米半導体協定として政府間で合意されることになった．また，90年代前半においては，日本の自動車企業による米国製自動車部品の輸入計画が不十分なものとして，米国政府は日本の自動車企業に対して，日本国内での自動車生産に際して調達する外国製自動車部品の輸入金額の計画，米国内で子会社が生産する際に調達する米国産部品の購入金額の計画などの公表と達成を要請した．これらの要請に対して，日本企業は米国製半導体や米国製自動車部品の調達目標を達成するために，特別の努力を払うことになった．

このような「自主的」という名の下での輸入拡大要請が輸入国側の政府や企業の輸入に対して事実上の強制力を有する政策には，次のような弊害を伴うことが指摘される．まず，輸入品による国産品の恣意的な代替は国内産品と輸入品との自由な競争を損なうことになる．また，特定国からの輸入品を差別的に取り扱うことは，輸入品間での自由な競争を阻害し，市場歪曲的な効果をもたらすことになる．さらに1国全体として輸入目標を達成するために国内企業間で情報交換を行うとすれば，そうしたことは競争関係にある企業間のカルテル行為を生み出す温床となりやすい上に，無理に目標を達成しようとすれば，本来低コストで調達されるはずの部品が高コストで調達され，そのコスト上昇は競争制限的な状況のもとで製品価格の上昇に転嫁されることになる．この不利益は，結局は消費者が負うことになり，輸入品の拡大が自国の経済厚生を損なう結果をもたらす．こうしたことから，自主的輸入拡大は輸出自主規制と同じように弊害をもたらすものと考えられる．

一方，自主的輸入拡大の要請は，輸入品にとって閉鎖的な市場を開放するための外生的なショックを与えるための手段とし，積極的に評価される場合がある．消費者の好み，慣習，制度の異なる外国市場への参入には，初期投資をはじめさまざまな費用が必要とされる．そうした初期投資を行うことに消極的な

表10-2　アンチ・ダンピング措置の調査開始件数

	1969-74	1975-79	1980-84	1985-89	1990-94	1995-99	合　計
アメリカ	125	140	146	219	249	133	1,012
E　U	19	55	138	101	147	189	649
カナダ	42	74	176	115	90	56	553
オーストラリア	0	120	242	180	252	100	894
日　本	0	0	0	0	4	0	4
その他	39	64	10	74	227	760	1,174
合　計	225	453	712	689	969	1,238	4,286

出典）WTO文書．

場合には，輸入品は市場で取り扱われない．輸入拡大の要請は，市場参入に要する費用を輸入国側の負担においてまかなうための措置と考えることができる．当初困難と考えられていた外国製半導体の日本企業による調達目標水準が1990年代前半において結果的に達成が可能となった事実は，輸入拡大の要請が輸入品に対して閉鎖的な市場構造を変化させる効果を有する可能性のあることを示している．

c. アンチ・ダンピング措置

アンチ・ダンピング措置とは，ある財の輸出価格が，その財の国内販売価格よりも安く設定され，かつ，その財の輸入によって輸入国において競合する産業が被害を被る場合に，その輸入財に対して国内販売向け価格と輸出向け価格の差に相当する分(ダンピング・マージン)を上限として関税を賦課することにより，損害を被っている輸入国の産業を救済する措置である．GATT規定上，輸入国の産業に損害を及ぼすようなダンピングは，フェアーな貿易ではないと認定され，これを是正するための対抗措置として，アンチ・ダンピング関税を発動する権利が認められている．

アンチ・ダンピング措置は，代償を提供したり，相手国の対抗措置を受認する必要がないことやセーフガード措置に比べて発動の要件が厳密でないことから，セーフガード措置に代替する国内産業保護のための措置として頻繁に使われるようになった．表10-2に示すように，アンチ・ダンピング措置が1980年

以降，頻繁にとられる．ダンピング関税を賦課されるとき，その税率は禁止的な高税率となるのが一般的であるため，企業は多額のコストを支払うことが必要となる．また，実際に関税を賦課するに至らない場合であっても，輸入国産業によるダンピング提訴が行われると，政府当局は十分な証拠がなくてもダンピングかどうかの調査を開始することになり，そのときに被る輸出者側の訴訟費用などのコストは多額である．このような危険性が予想されると，輸出国側の企業に輸出価格を必要以上に高く設定することを強いることになり，実質的に輸出制限的な効果を持つことになる．

特に，アメリカでは1985年以降，相手国に輸出自主規制を要求するよりも，こうしたアンチ・ダンピング措置を頻繁に輸入財に適用することになる．86年の日本製半導体のダンピング認定，鉄鋼の輸出自主規制が終了した92年における鉄鋼関連製品のダンピング提訴，カラーテレビ・液晶テレビのダンピング提訴，タイプライター・ワープロのダンピング提訴などが頻繁に行われている．ダンピング調査はアメリカだけでなく，EU，カナダ，オーストラリアなど他の先進国においても数多く行われ始めている．

しかし，ダンピングの認定には十分に慎重な検討が必要である．以下にその一例を示しておこう．輸出することで生産量が累積的に増加し，学習効果が働くなどにより平均費用が逓減し，規模経済性を発揮する産業においては，あらかじめ輸出価格をそれ以前の国内販売価格よりも低く設定しても，輸出される時点ではその価格が平均費用を下回らない場合がある．生産技術の学習効果が著しいハイテク製品などの場合には，生産数量の増加に伴い平均費用が低下するため，販売開始時期の価格をその時点における平均費用と比較して低めに設定する価格政策をとる企業が少なくない．このような価格政策はフォワード・プライシングと呼ばれる．図10-3に示すように，生産数量が増加することによって平均費用曲線が右下がりになる場合には，現時点での平均費用を下回る価格を設定しても，事後的には販売価格が平均費用を下回っているわけではないという事態になる．

アンチ・ダンピング措置において，ダンピングは「ある財の輸出価格が，そ

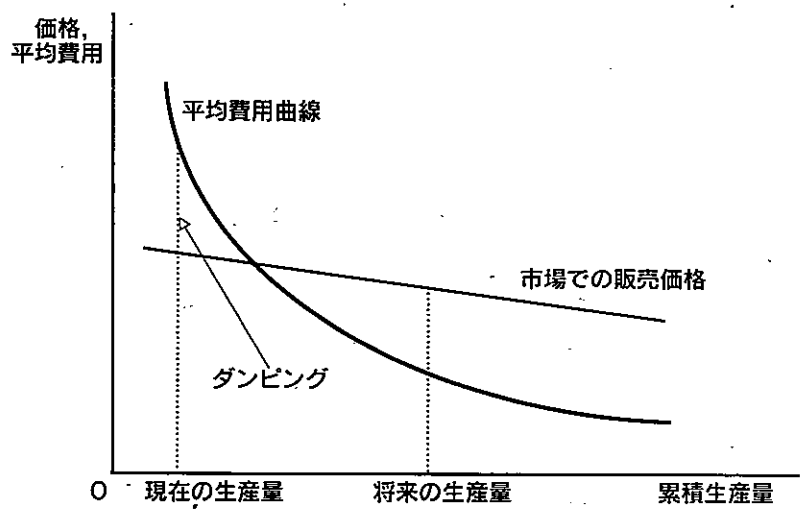

図10-3　フォワード・プライシング

の商品の国内販売価格よりも安く設定される」ことで定義されるが，企業が将来の平均費用の低下を見越して価格を低く設定するフォワード・プライシングの場合には，どのような基準に基づいてダンピングを認定すれば良いのかがきわめて不明確になる．一見，ダンピングは公正な貿易を歪めるように思われるが，実際にその認定を行うことは予想以上に困難なことである．

d. 一方的な措置

1980年代後半以降の貿易摩擦の特徴は，日本製品のアメリカ市場への輸入急増による被害を問題とすることから，アメリカ製品が日本市場に輸出することが困難であることへの不満が中心的問題となったことである．アメリカ産業が競争上の優位性を有していると思われるにも関わらず，外国市場に参入することができないのは，その市場が閉ざされているからであり，そのような閉鎖的な市場を開放的にするために，その国からの輸入品に対して制裁を与えることが必要であるとする考え方が徐々に高まりつつある．

アメリカは，外国の不公正な貿易政策・慣行に対する報復措置として，1974

年通商法301条を有していた．この通商法301条は，外国の通商協定違反や不当な取引慣行，差別的な慣行を対象として，調査に基づき，一定の措置を講ずる権限をアメリカ政府に対して与えるものである．こうした措置はGATT規定上のものと異なり，一方的に発動されることに特徴がある．すなわち，アメリカは，他国の貿易政策・措置について，GATT規定などの国際的に認知された手続きに従うことなく，自国の基準・判断に基づいて国際的なルールに反するあるいは不公正な措置であるとの判定を下し，他国の貿易政策・措置の変更を迫る手段として制裁措置をとるのである．

1974年通商法301条はその後の修正を経て，より一層一方的措置としての性格を強めることになった．貿易障壁や歪曲的貿易慣行を有する国の中で，特に迅速に調査を行うべき国とその障壁・慣行を優先国・優先慣行として特定化し，短期間に調査し，結論を出すことを行政府に義務づけようとするものがスーパー301条である．また，知的財産権の分野において，より短い手続き期間内において外国の不公正な貿易政策・慣行の調査を行うことを行政府に義務づけることを規定したものがスペシャル301条である．

実際に，アメリカ政府は1974年通商法301条に基づき，これまでEUの農産品の差別関税，輸出補助金，カナダの木材，輸入ビールの差別的扱い，日本の皮革輸入制限，半導体市場の閉鎖性，ブラジルの情報産業における保護措置を取り上げ，これらを不公正な貿易政策・慣行として，制裁措置を発動している．また，スーパー301条に基づき，1989年に日本の人工衛星の政府調達・スーパーコンピュータの政府調達・木材輸入に関する障壁，ブラジルの輸入許可制，インドの投資への参入障壁・保険への参入障壁を指定し，調査を行っている．さらに，スペシャル301条に基づき，インド・タイ・中国・台湾・ブラジルにおいてアメリカの知的財産権が侵害されていないかどうかを調査している．

日米間の貿易摩擦の象徴的な事例として，半導体と自動車のケースをあげておこう．1985年に1974年通商法301条に基づき日本の半導体市場への参入障壁と日本製半導体のダンピング輸出が調査対象となった．その結果，日米政府間で日本市場への半導体のアクセスを促進し，ダンピングを防止するための協

定(日米半導体協定)が締結された．しかし，その後の日本でのアメリカ製半導体のマーケットシェアーが改善していないことや第三国向けの日本製半導体にダンピングがあるとして，アメリカ政府はパソコン，電動工具，カラーテレビに関する100%の報復的関税を課すことになった．この協定は，日本政府が日本でのアメリカ製半導体のマーケットシェアーを事実上約束したものとみなされた．アメリカの一部には日本市場は異質であり，日本市場へのアクセスのためには管理貿易的手法もやむを得ないとする考え方があり，日米半導体協定はそうした考え方を背景としている．

さらに1995年，アメリカ政府は日本の自動車市場へのアメリカ製自動車の販売の拡大とアメリカ製自動車部品の購入を拡大するために，日本政府に自動車部品購入計画(数値目標)を要求するとともに，1974年通商法301条に基づく2国間協議と制裁措置を発表することになった．日本政府は，アメリカ政府の制裁措置は国際貿易ルールに違反するとして新しく発足したばかりのWTOに提訴した．日米間の自動車交渉は，日本市場へのアクセスのためには管理貿易的手法もやむを得ないとして，数値目標を執拗に要求するアメリカ政府の立場と，日本市場は異質ではなく，企業の自由活動によって成り立っている以上，政府介入は極力少なくすべきであるとする日本政府の立場とが対立した交渉であったと言って良い．結果は，アメリカ政府が数値目標を自ら試算する一方，日本政府はそれには関知しないと言うことで，アメリカが1974年通商法301条に基づく制裁を，日本政府はWTOへの提訴をそれぞれ取り下げて，決着を見ることになった．

e. 経済構造の調和

日本との通商摩擦は，日本政府による諸規制・日本市場の閉鎖性・異質性・独特な商慣行などが原因となって生じているものが多いため，通商摩擦を防止するには，個別的な問題を処理するだけでなく，日本の経済構造を変化させることが必要であるとの議論がある．

このような問題は，1989年から90年にかけて，アメリカから日本への「構

造障壁に関する協議」(Structural Impediments Initiative：SII，通称「日米構造協議」)として提起された．アメリカが日本に提起した問題は，

(i) 日本の貯蓄・投資パターンの変化(公共投資の拡充，労働時間の短縮，消費者信用の拡充)

(ii) 土地政策の変更(土地税制の変更，工場跡地・農地の利用促進，国公有地の活用)

(iii) 流通に関する規制緩和と競争条件の整備(大規模小売店舗法の改正，空港・港湾・道路の規制緩和による輸入インフラの整備，輸入手続規制の廃止，商慣行の改善)

(iv) 排他的取引慣行の是正(独占禁止法の改正・強化，行政指導の透明性・公正性の確保，民間企業の調達慣行の改善)

(v) 系列関係の排除(株式持ち合いによる競争制限の排除，系列取引の弊害除去，対日直接投資の促進，外国企業の参入を規制する外国為替管理法の改正，証券取引法の改正によるTOB制度の改善，企業内容のディスクロージャーの促進)

(vi) 内外価格差の是正・規制緩和

といった広範な分野に及ぶものである．提起された問題の多くは市場での取引を歪める政府による規制に対するものであるが，それだけでなく，これまで日本経済の優れたパフォーマンスの原因であるといわれてきた企業間関係，市場取引に対しても，それが通商摩擦の原因であるとしてアメリカから改善を求められていることに特徴がある．

一方，アメリカ側に対する改善を要求するものとして

(i) 貯蓄・投資バランスの改善(財政赤字の削減，民間貯蓄の奨励)

(ii) 企業の投資・競争力の向上(共同研究開発等の反トラスト法の緩和，国家安全保障を理由とする規制の削減)

(iii) 政府規制の緩和(輸出管理・規制の緩和，エネルギー輸出管理の緩和，輸出自粛協定の撤廃)

(iv) 研究開発の促進

(v) 輸出振興のための情報提供

(vi) 労働力の教育・訓練の促進

などが日本側から提起された．

この協議は，短期的な視点からの通商摩擦の緩和を目的とするものではなく，長期的視点に立って日本の特異な経済システムをアメリカの制度・システムに調和することを目的としたものであり，従来の個別商品に関する2国間の通商交渉とは異った性質を有していた．協議の結果，大規模小売店舗法の改正を初め，いくつかの規制緩和と競争条件の整備が行われることになった．

さらに，日米間の通商摩擦は，個別分野での交渉と日米構造協議において行われた構造的問題への取り組みの両方を包括的に取り扱う「日米包括経済協議」の枠組みのもとで，1993年以降，新たな交渉が行われることになった．この交渉の特徴は，アメリカから日本の経常収支の黒字幅の削減のための数値目標の設定が提起された点であろう．これまでの通商摩擦の交渉では，政策内容や経済システムの変更が交渉の対象となることはあっても，その結果を保証するものではなかった．しかし，日米包括経済協議においては，プロセスよりも結果を重視する方向に政策の目標が転換した点で，新たな変化が生じたと考えるべきであろう．こうした方向は，政府の市場への介入をかえって強め，自由貿易とはますます遠ざかることになる危険性が高いため，日米の経済学者が数値目標の設定に反対する異例のアピールを発表する事態となった．

5　非生産的利益追求行動

自由貿易に対して政府が介入することは市場への歪みを生み出すだけでなく，その結果から生ずる利益の配分にあずかろうとするための活動を誘発する．例えば，(i)高関税や輸入数量制限といった保護貿易措置を政府に求める行動，(ii)関税や輸入数量制限による政府の介入が行われると，関税収入の分配にあずかろうとしたり，輸入割当の権利を獲得しようとして政府に働きかけるロビーイング活動，(iii)逆に，関税が賦課されている財に関する脱税行為や輸入数量制限の対象となっている財の割当量を超える輸入など，政府の介入から逃れ

ようとする行動などがあげられる．こうした活動は，直接的な非生産的利益追求行動(Directly Unproductive Profit-Seeking Activities:DUPs)と総称される．輸入数量制限，ライセンス供与などの政策介入に働きかけ，成功することで報酬(レント)を獲得しようとするロビーストの活動(レント・シーキング)も．そうした非生産的利益追求行動の一部である．近年，このような行動に関して政治経済学的視点からの分析が行われている．

経済主体が非生産的利益追求行動をとるときには，資本や労働などの資源の投入を必要とする．その結果，資源を投入する経済主体に対して報酬をもたらすが，そうした行動に投入される資源はそれ自体としては直接的に生産活動に寄与するわけではないので，無駄な資源の利用と言うことになりかねない．にもかかわらず，非生産的利益追求行動が競争的に行われる時には，その結果もたらされる利益に相当するだけの資源が投入されることになる．

もし生産的な活動に資源が投入されていたとすれば，より多くの生産物を産出するから，非生産的利益追求行動によって生産的活動から資源が漏出することは，一国の経済厚生を損なってしまうと考えられる．しかし，非生産的利益追求行動が行われる時には，既に政府の介入によって市場に歪みが生じていることを前提とするので，単純に経済厚生が損なわれるとは言い切れない場合がある．たとえば，関税が賦課された経済では，生産は自由貿易の下での均衡からすでに外れた状態で行われる．そのような状態の下でレント・シーキング行動が行われて資源が生産活動から漏出する場合，レント・シーキング行動がない場合よりもかえって自由貿易の下での均衡に近い状態での生産が実現することがあるからである．このような場合には，非生産的利益追求行動によって経済厚生がむしろ高まることがありうる[5]．しかし，どのような場合であっても自由貿易の下での経済厚生を上回ることはない．

5) 非生産的利益追求行動に関する論点は，Bhagwati et al (1998), *Lectures on International Trade*, 2nd, ed. 第34章に整理されている．

ハイテク産業とアンチ・ダンピング

COLUMN

航空機産業では，新型機を研究開発・製造するためには多額の投資を必要とする．しかし，優れた航空機が開発され，多くの受注を得ると累積生産量が増加し，1機当たりの平均費用は急速に低下する．航空機メーカーはこれを見込んで販売価格をあらかじめ予想される販売機数をもとに設定するため，最初に販売される1機の生産に要する平均費用よりも販売価格は低い水準になる．また，半導体の生産においては累積生産量の増加に伴って生産工程における学習効果が発揮され，不良品率が徐々に低下する．半導体企業は，半導体1個当たりの平均費用は短期間で低下することを過去の経験からよく知っているので，国内販売や輸出の価格決定に際してはフォワード・プライシングを行っていた．

アメリカ政府は，このフォワード・プライシングを通常の商慣行として認めず，輸出価格が国内における生産費・管理費・販売経費・一般的経費・利潤を合計した価額を下回る原価割れ販売であると考え，ダンピングの存在を認定した．これが1986年の日本製半導体のダンピング認定であった．EUにおいても，フォワード・プライシングを通常の商慣行とは認めず，ダンピングの認定を行った．このような事態が生じたのは，当時のガットのアンチ・ダンピング協定においてフォワード・プライシングの商慣行を考慮する規定が整備されていなかったためである．

WTOのもとでの新アンチ・ダンピング協定においては，スタートアップ時期のコスト調整に関する規定が設けられ，ダンピング調査の対象期間におけるコストの低下を反映したうえで認定が行われることになった．しかし，実際にどのように各国政府が運用するかは今後の課題である．技術革新の活発な産業における平均費用の変化と価格の乖離は大いに予想されることである．公正な貿易を確保するための国際ルールが，技術革新による成果の普及を阻害することがないように，制度が設計されねばならない．

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9784641067950

1911033032960

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C1033 P3296E

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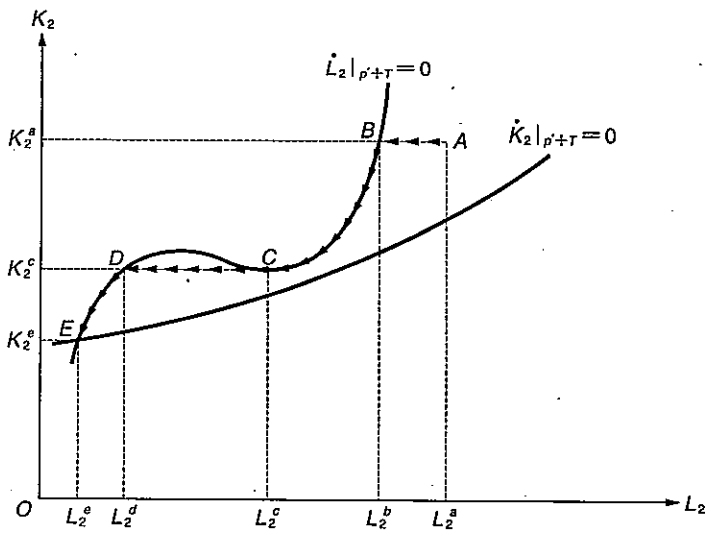
図6



のプロセスが変わることを示すことができる。それはそれぞれ,

$$T = T(L_2) \quad dT/dL_2 = T_L > 0 \tag{39}$$

$$T = T(X_2) \quad dT/dX_2 = T_X > 0 \tag{40}$$

として内生化される。したがって産業調整のプロセスは，(39) (40) のような形で内生化した場合の $dK_2/dL_2|_{L2=0}$ と $dK_2/dL_2|_{\dot{K}2=0}$ 曲線の符号によって知ることができる。最初に，(39) の $T(L_2)$ として内生化する場合を考える。

輸入財の外国価格が p' に下落し，自国の従量関税が $T(L_2)$ であれば，輸入財の自国価格は $p'+T(L_2)$ であるので，これを (31) の p の代わりに用いれば,

$$[p'+T(L_2)]F_L{}^2(L_2, K_2) = F_L{}^1(L-L_2, K-K_2) \tag{41}$$

となる。(41) から,

$$dK_2/dL_2|_{L2=0} = -[F_{LL}{}^1+(p'+T)F_{LL}{}^2+F_L{}^2T_L]/[F_{LK}{}^1 +(p'+T)F_{LK}{}^2] \gtrless 0 \tag{42}$$

を得る。同様に $p'+T(L_2)$ を (32) に代入し，(42) と同様な計算をすれば,

$$dK_2/dL_2|_{\dot{K}2=0} = -[F_{KL}{}^1+(p'+T)F_{KL}{}^2+F_K{}^2T_L]/[F_{KK}{}^1 +(p'+T)F_{KK}{}^2] > 0 \tag{43}$$

を得る。(42) (43) からこのような関税の内生化を行った場合，$\dot{K}_2=0$ 曲線は右上がりであるが，$\dot{L}_2=0$ 曲線についてはもはやそのようなことはいえないことがわかる。

図6で，A 点が初期の価格 p の下での均衡点で，これは図5の A に対応している。第2財の世界価格は p から p' へ下落するが，国内価格はそれに T を加えた値になっている。いま $(p'+T)<p$ としよう。その結果 $(p'+T)$ の下での $\dot{K}_2=0$ 曲線は下方に，$\dot{L}_2=0$ 曲線は左側にシフトするが，(42) についてはその傾きがプラスであるとは限らない。新しい均衡点は E であり，産業調整は C 点を過ぎれば急速に進行する。このような輸入産業の崩壊は輸入産業部門での雇用量 L_2 が低下すれば政治的支援が低下し，その結果 T が低下するからである。政治支援の存在は，かえって衰退産業の調整を加速することになり，不利に作用するであろう。

次に，(40) のように $T=T(X_2)$ として内生化する場合はどうであろうか。(31) (32) の p の代わりに $p'+T(X_2)$ とし，$\dot{L}_2=0$ 曲線と $\dot{K}_2=0$ 曲線の傾きを求めれば，次を得る。

$$dK_2/dL_2|_{L2=0} = -[F_{LL}{}^1+(p'+T)F_{LL}{}^2+(F_L{}^2)^2T_X]/[F_{LK}{}^1 +(p'+T)F_{LK}{}^2+F_L{}^2F_K{}^2T_X] \gtrless 0 \tag{44}$$

$$dK_2/dL_2|_{\dot{K}2=0} = -[F_{KL}{}^1+(p'+T)F_{KL}{}^2+F_L{}^2F_K{}^2T_X]/[F_{KK}{}^1 +(p'+T)F_{KK}{}^2+(F_K{}^2)^2T_X] \gtrless 0 \tag{45}$$

この場合には両曲線ともプラス，マイナスのいずれの符号もとり得る。したがってこのような形で内生化した場合には，輸入産業の急速な崩壊が起こるかどうかわからない。(44) (45) の傾いかんによって，したがって両曲線がどこで交わるかによって，さまざまな調整プロセスが生ずる。この場合，政治支援の存在が衰退産業に有利になるかも知れないし，不利になるかもしれない。

10–5 administered protection

GATT と両立する保護政策手段で，最近アメリカなどで輸入産業を保護するために頻繁に用いられている政策がある。これはロビー活動によって保護政策を獲得するのではなく，GATT によって認められ，一定の行政的な手続きの

下にルールと客観的な基準に基づいて得られる保護であるので，administered protection（行政的な保護）といわれる。アメリカは一方でVERsやVIEsのようなGATTの枠外の灰色の保護貿易政策を行いながら，他方でGATTで認められたadministered protectionを多用して国内産業を保護している。国内産業の保護のためのadministered protectionとして，次のものがある。

1）セーフガード（safeguards）規定

免責条項というこの規定は，外国に与えた譲歩のために自国産業が予期しなかった被害を受けた場合には，それらの譲歩を取り消すというもので，GATT 19条に規定された例外措置である。アメリカの場合，被害を受けた産業はITC（国際貿易委員会）に救済を求めて提訴することができる。提訴を受けたITCは事実確認を行い，もし被害が認められればITCは大統領に適切な措置をとることを勧告することになっている。ITCに提訴されたものの中で実際になんらかの措置が行われた件数は少ないが，最近ではこのセーフガード規定が，市場秩序維持協定（OMA）（輸入国の市場を混乱させないよう秩序ある輸出をするように輸出国と結ぶ協定）を作り上げるのに重要な役割を果たしているといわれる。

2）アンチダンピング関税（antidumping duties: ADs）

これはある財の輸出がその財の国内向け販売よりも安い価格で行われ(dumping)，その結果，輸入国の競合する産業が損害を被った場合に，ダンピング輸入された財に対して，ダンピングマージン（国内向け価格と輸出向け価格の差）を上限とする関税（AD税）をかけることによって，被害を受けている輸入国の産業を救済しようとする措置である。AD関税ないしAD措置は不公正な貿易行為を是正し，適性な貿易環境を作るためにGATTでも認められたものであるが，輸入制限の代替策として用いられる危険もある。とくにアメリカ，EU，カナダ，オーストラリア，メキシコなどで発動されるようになっている。また輸入国がADsを行うのに必要とする要件を満たさない状況下においても発動したり，発動後にその必要性が失われているにもかかわらず，それを続けたりしてADsの乱用がみられ，保護主義の手段として用いられる場合がある。

AD措置は，GATTの無差別原則の例外措置としてGATT 6条およびその細則に基づいたものである。しかしGATT 6条およびその細則の規定内容が詳細でなかったこと，またそれが国際取引の実態を十分カバーしていないことのために，各国で恣意的な運用が目立つようになった。ウルグアイ・ラウンドでは，ダンピングマージンの計算方法を明確にするとともに，サンセット条項（AD税は賦課後5年間で自動的に消滅する）がとり入れられることになった。

3）相殺関税（countervailing duties: CVDs）

これは輸出国が輸出（生産）補助金などによって輸出を拡大してくる場合，輸入国がその補助金の効果を相殺して輸入国の輸入産業を保護するために課す関税である。GATTは自由貿易を歪曲するような輸出補助金は，鉱工業品については禁止しており，農産物についても供与を避ける努力義務を課している。また補助金の供与が禁止されていない場合についても，補助金を与えられた財の輸入が輸入国の国内産業に被害を与えた場合には，一定の手続きに従って，輸入国が相殺関税を課すことを認めている。

相殺関税を最も利用している国はアメリカで，たとえば1993年7月には11カ国からの鉄鋼輸入に対して相殺関税を課した。またわが国がこれまで相殺関税措置の調査を開始した例は1983年4月のパキスタンの綿糸のケースがあるが，実際はパキスタンが補助金を廃止したために，相殺関税は課されなかった。

なお以上1）2）3）は，ダンピングや損害の発生が不確定で，このような保護政策の実行がそれぞれの状況に依存するので，contingent protectionといわれる。

4）不公正取引慣行（unfair trade practices: 301条）

これはGATTの規定に沿ったものではなく，アメリカの通商法に基づくものである。1974通商法301条はアメリカの輸出品に対して不公平にその市場を閉ざしている国への報復を認めている。これによると被害を受けた企業からの提訴を受けてアメリカ通商代表部（USTR）が調査し大統領に勧告する。勧告に従って大統領は輸入割当や関税などの報復措置を課すことができる。また1984年の通商・関税法は政府自身が提訴することを認めている。この301条

は，アメリカが unfair と考える外国の貿易慣行や輸入制限を取り除くための手段として考え出したものである。しかしこの administered protection はアメリカの国内法に基づく一方的な措置であり，数値目標設定型の貿易政策として使われやすい。このような一方的措置は多角的貿易体制を傷つけるものである。

以上のような administered protection が，新保護主義の手段としてアメリカを中心とする先進国で多用されるようになっていることに留意する必要がある。

10-6 保護貿易と環境

ウルグアイ・ラウンド後の重要な課題の１つは，（地球）環境保護と世界貿易の発展をいかに調和させて sustainable growth（持続可能な成長）を実現していくかという問題である。

事実，WTO は「貿易と環境に関する委員会」を設け，環境保護（破壊）と貿易の問題をとり上げようとしている。

環境破壊は一国だけでなく他国にも及ぶ。また世界には環境基準の厳しい国（先進国）もあれば，それが比較的緩い国（発展途上国）もある。その結果，同じ財でもそれがどこで生産されるかによって，生産コストに格差が生じる。貿易理論は環境の維持や環境基準の違いがもたらす効果をこれまで考慮してこなかった。

また貿易政策については，これを国内の環境維持政策を補完するように使うことができる。たとえば現在の技術で，ある財を生産するのに公害（外部不経済）の発生が避けられないのであれば，そのような財の輸入に補助金を支給することによって，社会的により安いコストで外国からその財を得ることができるであろう。逆にカナダのような木材輸出国は，木材の輸出に課税することによって輸出を減らし自然環境を維持することが，カナダの経済厚生を高めるかもしれない。各国の環境基準と規制政策の違いという新たな付加的条件をとり入れて，貿易理論と貿易政策を考え直す必要がある。

●キーワード

最適関税論　distortion　幼稚産業保護論　ミルーバステーブル・テスト　国内市場効果　保護水準の決定　産業調整と政治支援　セーフガード規定　アンチダンピング関税　相殺関税　不公正取引慣行　環境と貿易

演 習 問 題

(1) 最適関税論と幼稚産業保護論はどのようなことを主張しているのか。

(2) 「保護は規模の経済を享受する産業の輸出を拡大する効果をもっており，その最もいい例が日本の自動車と半導体である」と Krugman, P. はいう。このような輸出拡大のための保護のエッセンスを反応曲線を用いて示せ。

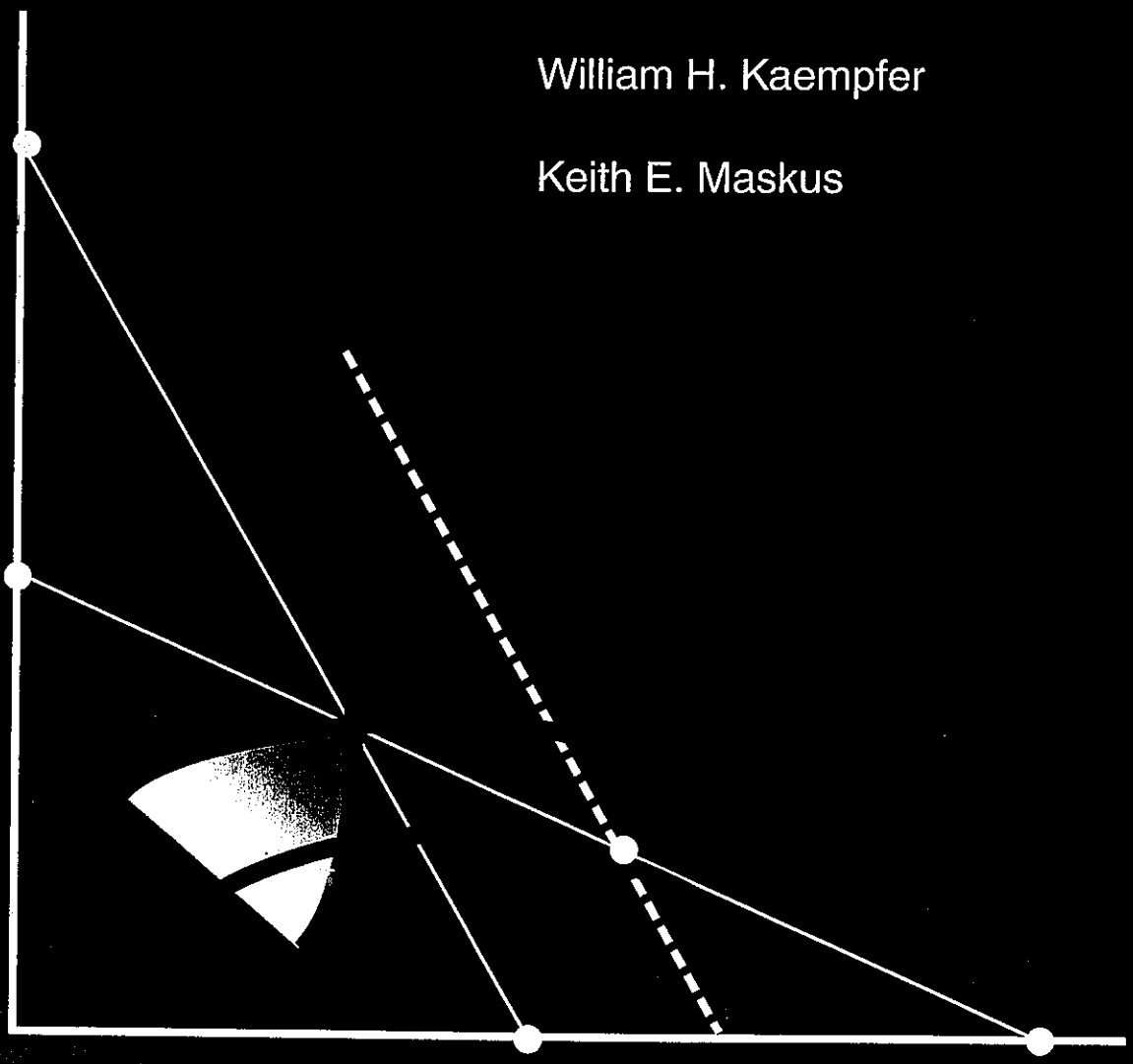
international trade
theory and evidence

James R. Markusen

James R. Melvin

William H. Kaempfer

Keith E. Maskus



international trade theory and evidence

Markusen • Melvin • Kaempfer • Maskus

However, many economists are wary of the process for several reasons. First, it does at times result in trade retaliation (and possibly subsequent re-retaliation by the targeted government), which represents a failure that is costly to both sides of the dispute.[14] Second, the number of successes is rather misleading because they have tended to come in cases in which the United States has "identif(ied) barriers that the foreign government could dismantle without risking crippling local opposition."[15] Pursuing difficult cases involving significant potential displacement costs from foreign liberalization has been less successful; such cases seem more amenable to multilateral and cooperative negotiations.

A more fundamental concern is that, if not handled properly, this decided departure from multilateralism poses significant risks for the cohesion of the world trading system. For example, much about the operation of Section 301 has prima facie inconsistencies with the GATT system because its actions often target foreign policies that are acceptable under GATT rules. Some observers worry that this situation could erode confidence in the GATT system and ultimately contribute greatly to fragmentation of global trade. Moreover, Section 301 is highly resented in nations against which it has been applied, which may contribute to general intransigence against trade liberalization. Finally, the greatest concern is that the United States will ultimately choose to resort primarily to bilateral agreements that commit governments to managing their trade volumes and patterns according to negotiated targets. For example, in recent bilateral discussions with Japan, the United States has insisted that its share of Japanese imports of semiconductors and automobile parts rise to specified minimum levels within a certain period of years. If these quantitative targets fail to be met, U.S. retaliation is likely. Quite apart from the apparent difficulty of achieving a government-mandated increase in foreign market share, such *managed trade* policies tend to be decidedly anticompetitive and may risk significant trade diversion.

20.3 CONTINGENT PROTECTION

One form of administered protection that has become increasingly prevalent in recent years is the use of tariffs to raise the domestic prices of imported goods that are seen to be artificially low in price. These low prices are considered to be the result of unfair pricing practices, stemming either from dumping by foreign firms or from advantages afforded by foreign governments through production or export subsidies. The GATT allows importing countries to offset these low prices by imposing import duties on the products of specific firms that can be shown to be dumping or to have benefited from subsidies and whose actions cause potential injury to domestic firms. We consider here some of the analytical issues involved in enforcing an antidumping (AD) policy and in setting countervailing duties (CVDs) against foreign subsidies. The use of such policies is labelled *contingent protection* because it is triggered by price and injury contingencies.

Dumping and Antidumping

Dumping has two legal definitions. The first is the practice by a firm of selling a product in an export market at a price below that at which it sells the product in its home market. Such pricing behavior may seem bizarre in that foreign sales would be expected to incorporate a price sufficient to cover the additional transport costs. Nonetheless, examples of such pricing are not uncommon. The second definition is the practice of selling a product in an export market at a price below the average cost of producing it. In U.S. legal terminology, the average cost is termed the *fair value* of the product, and dumping constitutes sales at *less than fair value* (LFV).

Consider the possible reasons for a firm to engage in dumping. First, it is possible that the normal course of business cycles could, on occasion, cause demand for the firm's product in its home market to fall below its production capacity. Rather than reduce price or lay off workers, the firm might choose to export the excess production to foreign markets and charge a low price to ensure the sales. We might term this behavior *sporadic dumping,* because it is related to fluctuations in economic activity. To the extent that such sales induce lower production and employment in the importing country, that country may well wish to offset them with temporary tariffs in order to avoid absorbing the negative effects of foreign recessions. There are good reasons to suspect, however, that sporadic dumping is limited in scope. Exports typically require the establishment of customer relations and a marketing and distribution system. Few firms would go to the expense of maintaining such systems merely to have access to a residual market in the event of lower home demand.

A second possibility is that a foreign firm may choose to engage in *predatory dumping,* whereby it sells its goods in an export market at a price low enough to drive domestic competing firms out of business or, perhaps more likely, to deter entry by other firms. This would require setting a price so low that a domestic competitor could not cover variable costs at any level of production and would choose to leave the market. The predatory foreign firm would accept current losses in anticipation of future monopoly profits once the market is reserved in its favor. In light of the many potential strategic interactions among international oligopolistic firms that we have discussed elsewhere, behavior of this kind could be considered conceivable. Indeed, fears of predatory pricing are used to justify domestic firms' lobbying efforts for strong antidumping laws. If it occurs, predatory dumping is surely harmful to the importing country and calls for an offsetting import tax. However, there is little evidence of its existence, again for practical reasons. First, once a foreign firm has established its monopoly and raised its price, the old firms will almost certainly be enticed back into the market and new firms will enter, a fact that the foreign firm must take into account prior to dumping. Thus, to sustain its monopoly, the foreign firm would have to continue charging a price low enough to deter entry forever, which is unlikely to be a profitable strategy. Second, predatory behavior is illegal under domestic antitrust laws in many importing nations,

including the United States, and would be unlikely to escape prosecution by the antitrust authorities, especially because domestic competing firms would lobby heavily for such action.

The fact that firms have market power does suggest the most likely reason for dumping. Suppose that firms produce differentiated products so that each firm has some monopoly power (that is, it faces a downward-sloping demand curve) in every market in which it chooses to sell. Recall from Chapter 11 that a monopolist would choose to set price in each market according to the following profit-maximizing rule:

$$p_j = \mathrm{MC}_j/[1 - 1/e_j] \tag{20.1}$$

Here, the subscript j refers to import market j. If we assume that the marginal costs of exporting to each country are similar, we see that a firm would certainly choose to set different prices in different markets. In particular, the more elastic the demand is for a good in a particular market, the lower will be the price charged there because the profit-maximizing markup over marginal cost will be lower. This practice is called *international price discrimination* and is quite likely to characterize many products and markets. Note that this practice requires that different markets be segmented, (that is, isolated from one another) so that consumers in one country will not buy the good at a low price and resell it in other markets at higher prices. In particular, if a firm charges a lower price in an export market than at home, it may need to lobby its government for a tariff to avoid such re-imports.

Why, then, would a firm charge a low price abroad and a high price at home? It must be that demand for the good is more elastic in foreign markets than at home. This is the case when a good in its home market is familiar to customers and commands their loyalty, while in foreign markets it must compete with domestic products and other imports. Indeed, such bias in preferences toward home goods seems to be common in actual practice. Thus, in the face of differential demand elasticities, profit-maximizing pricing that constitutes dumping is quite likely to occur. Perhaps the best term for it is *equilibrium dumping,* in recognition of its source. Note that because such pricing reflects demand parameters, the logical justification for a tariff to offset this dumping is not that the dumping harms domestic firms. However, because the foreign firm makes profits in the importing country, it may be appropriate to impose a tariff to shift those profits to the domestic treasury. Under some circumstances this form of strategic trade policy makes sense.[16]

Having analyzed the circumstances that may lead to dumping, we now turn to the structure and effects of antidumping law, with emphasis on the United States.[17] In the United States, legislation against dumping has existed since at least 1916, though the current law is based on the Tariff Act of 1930, with numerous subsequent revisions to tighten its provisions. Note that these laws are designed to prevent dumping by foreign firms in the American market; there is no U.S. law prohibiting U.S. firms from dumping abroad. As noted, dumping is found to exist either if a foreign firm sells in

the American market at a price below that in its home market or if the firm sells the product at a price below average cost of production. In either case, if dumping is found to have occurred, an AD tariff is imposed to equal the *dumping margin,* or the difference between the import price and the fair value of the product. These duties are imposed until the dumping ceases.

While this process seems unobjectionable, except to consumers who may enjoy the low price of imported goods, it embodies numerous features that make trade economists leery of its operation. First, note from the earlier discussion that international price discrimination is likely to be a common phenomenon and does not, in itself, justify AD duties. Thus, the cost standard seems the more sensible foundation for defining potentially harmful dumping. However, as we have noted often in this book, a condition for economic efficiency is that a firm charge a price equal to its *marginal cost,* rather than its *average cost.* Economists would argue against an average-cost standard in defining dumping because there are potential circumstances under which a firm would price at less-than-average cost because of its low marginal cost. One example would be the pricing of the first several units of output of a product, such as computer chips, that is subject to significant scale economies. In computer chips, a heavy fixed cost is required in terms of research and development for each new semiconductor generation. Once the device is developed, however, the marginal cost of producing each unit is quite small. Thus, the expected pricing behavior would involve a low price on the initial units, despite a high cost per unit, in order to sell a sufficient volume over time to recoup the R&D costs.

Economists' preference for marginal-cost pricing may be too rigorous a criterion to be of much practical use, given the difficulties of estimating marginal costs. Therefore, unit costs have become the legal standard. In this regard, it is noteworthy that U.S. law contains a clear bias toward affirmative findings of dumping by specifying inflated standards for the composition of costs in determing fair market value. When a domestic firm, industry association, or trade union alleges dumping by a specific foreign firm, an office in the U.S. Department of Commerce undertakes an investigation of the complaint. Commerce officials may compare domestic price of the imported good with either its price in the exporter's market or its price in third-country markets, assuming these prices are above unit costs. If such prices are difficult to obtain, Commerce officials are empowered to compute a fair value for the product based on the foreign firm's production costs. The unusual aspect of this latter procedure is that Commerce is obliged to add to production costs a margin of at least ten percent for general expenses and at least eight percent for profits. The latter margin is remarkable in the sense that few international firms average as much as an eight percent profit in any year. For products from socialist (or "nonmarket") economies, where it is quite difficult to obtain reliable cost data, Commerce is empowered to compare import price with either prices or constructed costs of firms in third-country markets, often in countries where costs may be expected to be signficantly higher. Overall, the use of constructed cost

standards in determining whether a product has been sold at LFV tends to generate frequent findings of remarkably large dumping margins. Note in particular that the eight-percent markup minimum makes it illegal for foreign firms to use pricing practices that are quite common for domestic firms, such as sales and rebates, that imply short-term losses in order to defend market shares.

It is important to note that an affirmative dumping finding by Commerce results in a lasting AD duty only if another government agency, the International Trade Commission (ITC), finds that the dumping has resulted in or threatens to result in material injury to a domestic industry. The ITC is a quasijudicial agency that recommends or discourages the imposition of tariffs or other remedies to offset injuries caused by dumping, export subsidies, and import surges. (Discussion of the latter two issues will follow.) In considering the potential for injury, the ITC looks at such indicators as prices, profits, sales, and employment of domestic firms in the face of import competition. The ITC has a reputation for fair (that is, non-politicized) investigations and recommendations, though it should be noted that over time, the U.S. Congress has continually reduced the standards for showing the existence of injury to the point where a finding of injury is now the expected outcome.

The institutional bias in these procedures toward imposing AD tariffs has had some marked effects. First, there is no doubt that the AD process has become the favored route of domestic firms that wish to benefit from import protection in all countries that employ these procedures. In the United States, 411 AD investigations were undertaken over the period from 1980 to 1988 (many of these in the steel industry), with another 332 investigations under the CVD statutes, which work in a similar manner. In contrast, only 71 investigations based on safeguards procedures were launched. Related figures for other countries include 364 AD and CVD cases in the EC versus 39 safeguards cases, 500 versus one in Australia, 470 versus two in Canada, and 75 versus zero in developing countries, where such procedures have been instituted only quite recently.[18] Second, the mere *expectation* of losing such a case seems to have altered the behavior of foreign firms subject to AD investigations. Under U.S. law, a foreign firm can avoid legal costs and the need to surrender its confidential cost data by agreeing with the Commerce Department to either raise its prices or stop selling in the American market. These agreements, called *price undertakings,* have become common, and they serve to place a minimum on prices or a limit on competition in the U.S. market.[19] Indeed, AD cases may well act as a device for facilitating collusion among oligopolistic firms, as explained in Chapter 17. For these reasons, trade economists now tend to view AD actions as a substantial nontariff barrier to trade.

Subsidies and Countervailing Duties

As interesting as AD actions is the practice whereby countries impose CVDs to offset the price-reducing effects of foreign export or production

subsidies. To understand CVD's, it is useful to begin by considering the analytical justification for them. Figure 20.1 shows a situation in which markets are competitive and in which Country F exports good X. Free trade equilibrium involves a relative price of p^*, while Country H imports quantity OX_h^0. Suppose the exporting country pays an ad valorem subsidy to firms for exporting X.[20] This policy would expand F's excess-supply curve to $E_x^{f'}$, inducing an expansion of exports to quantity OX_f^1 (equal to H's higher imports at point S). The effect is a deterioration in F's terms of trade: world price falls to p_s^*, while the domestic relative price in F rises to $p'(p' = p_s^*[1 + s])$ as greater exports cause additional scarcity of good X in the exporting country's market. The resulting production and consumption distortions in F, combined with its worsened terms of trade, necessarily imply a decline in its economic welfare when it pays an export subsidy. Note the substantial subsidy cost of area WVp_s^*p', as the subsidy must be paid on all exports. This welfare loss demonstrates our point in Chapter 15 that a country can make itself worse off by artificially expanding trade and generating negative trade-policy revenues. In contrast, the importing country enjoys a welfare gain from this subsidy because of the decline in the relative price of its import good. This gain in H's terms of trade will outweigh the distortionary effects of the lower relative price in its market. In effect, this policy represents an election by the exporting nation to transfer income to the importing nation.[21] Overall, global welfare declines because of the departure from free trade.

Consider the impacts of a tariff imposed by H to offset, or countervail, the price-reducing effect of F's subsidy. Country H may choose to do this, despite its welfare gain from the subsidy, because domestic firms

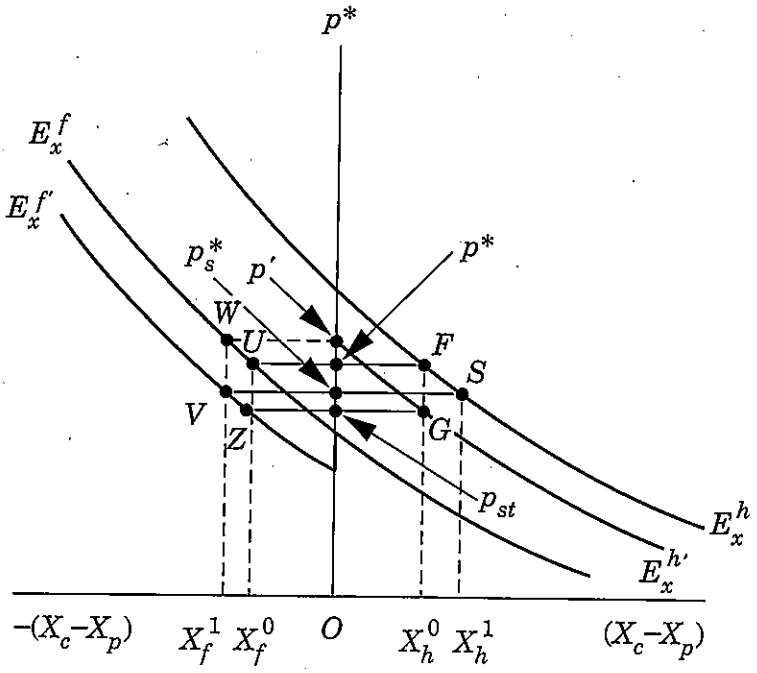


FIGURE 20.1
A countervailing duty.

that have been hurt by the additional imports could lobby for such a response. The objective is to return the relative price in H to its free trade level, which would be accomplished through a tariff that shifts the excess demand curve down to E_x'. The post-tariff equilibrium involves a return to the free trade quantity of imports but yet a *further* improvement in H's terms of trade, as world price falls to p_{st}. Of course, this represents an additional deterioration in F's terms of trade. Note the interesting implication of this solution: because outputs and domestic prices have returned to their old levels, there is no remaining distortionary impact of the subsidy; it has been completely offset by the tariff. Global welfare returns to its free trade level. The only effect is a transfer of income from taxpayers in Country F to the government in Country H (that is, the subsidy is paid to exporters who then surrender its proceeds to H in the form of tariff revenue) in the amount $UZGF/2$ (measured in units of good Y). Of course, if taxpayers in F were to recognize this fact, they would lobby for an end to the export subsidy or oppose its institution in the first place. Thus, the essential justification for CVDs is that they can restore global optimality and deter the introduction of export subsidies.

As might be expected, the situation is somewhat more complicated in markets that are not perfectly competitive, as our earlier discussion on strategic trade policy demonstrated. In such a case, it is no longer necessary that the exporting nation lose and the importing nation gain from an export subsidy. Moreover, there may be subsidies coming from third countries as well that would need to be considered in making welfare calculations. Nevertheless, in most cases there is a clear presumption that export subsidies interfere with global efficiency and that the levying of CVDs to deter them, or better still, international agreements to avoid using them, are in the public interest.

With that background, consider the GATT approach to disciplining the use of subsidies. The GATT Articles have long pledged member nations to forgo the use of explicit export subsidies except in agriculture, which, as we have noted, has traditionally lain substantially outside the purview of the Agreement. Thus, most trade conflicts over explicit export subsidies have involved the European Community and the United States, whose governments grant the largest such subsidies for grain exports. In both cases, these governments find it difficult to scale back on their subsidies because of political opposition by domestic farming groups. However, it seems that an agreement to move in that direction has emerged from the Uruguay Round. Other export subsidies are granted in a more hidden fashion, through concessional loans to foreign nations wishing to buy high-technology manufactured goods from the United States, Japan, the European Community, and other industrial nations.[22] Periodically, these nations have agreed among themselves to cut back on such activities.

A more difficult issue for international relations involves setting rules for domestic production subsidies that tend to expand exports indirectly. It is clear that governments may wish to subsidize certain activities for a variety

of social and economic reasons. Common examples include output subsidies in defense industries, regional subsidies paid to expand employment and attract investment in depressed areas, subsidies to labor training or quality improvements in other inputs, subsidies for environmental cleanup, subsidies to research and development, and subsidies to the production of high-technology commodities that may have cost-reducing spillovers in other sectors. Indeed, as our discussion in Chapter 15 noted, economists recognize the superiority of subsidies to tariffs in achieving virtually all such goals. Nonetheless, each policy has the potential to expand domestic production, thereby reducing imports or raising exports, to the detriment of foreign competitors. Thus, it is by no means clear which of these kinds of programs, if any, should be avoided in the interests of international trade relations.

Recognizing this fact, the GATT approach has been to categorize various subsidies in terms of their apparent trade intent or impact for purposes of deciding whether to enact rules against their use. In general terms, subsidies cannot be disputed if they are clearly granted for purposes of socioeconomic development (such as regional assistance), if they are granted widely without favoring specific industries or firms, or if they support activities at the "pre-competitive" stage (such as R&D assistance, especially for basic research). At the other extreme, countries may take action against foreign subsidies if they have a clear trade-distorting intent, such as direct export assistance or input-purchase subsidies that discriminate in favor of domestic input suppliers. Most often, however, the intent of a government subsidy policy lies between these clear extremes, in which case nations may complain and request GATT dispute-resolution panels. This large, ill-defined area in allowable subsidy policies has led to increasing numbers of bilateral disputes in recent years and remains a significant source of controversy within the GATT.

GATT rules allow member nations to use CVD statutes to act against some foreign subsidies, which we can illustrate with U.S. practice. As with AD cases, if a domestic firm feels that its operations have been harmed by imports that have been priced unfairly as a result of a foreign export, output, or input subsidy, it can request an investigation by Commerce of the extent of the subsidization and an examination by the ITC of the resulting injury. If these investigations find in favor of the complainant, a CVD equivalent to the extent of the subsidization is imposed in order to raise the import price until the subsidy is removed. The adminstrative procedures are virtually identical to the AD procedures, the principal difference being that the target of the investigation is action by foreign governments rather than by foreign private firms. In this context, CVD cases are more likely to result in negotiated agreements to cease or modify the subsidy because governments may be more capable than individual firms of seeing some joint advantage in doing so. Nevertheless, the procedures are again biased in favor of the domestic firms in these quasijudicial proceedings, and the U.S. authorities have at times been accused of abusing them to harass

foreign governments and firms. In fact, a major motivation of the Canadian government in agreeing to a Free Trade Agreement with the United States seems to have been to shield its firms from arbitrary and harsh application of U.S. AD and CVD laws. Canada insisted on the establishment of binational judicial panels for overseeing the operation of such laws in both countries, a novel process that will be extended to trinational panels among the United States, Canada, and Mexico under the terms of the North American Free Trade Agreement.

Safeguards

We finish our discussion of contingent protection by noting that GATT rules also allow countries to protect their industries temporarily from fairly traded imports (that is, imports that have not been dumped or subsidized) under certain circumstances. Policies that do so are called *safeguards.* When a country believes that it has experienced a rapid surge of imports that threatens serious injury to a domestic industry, it can impose offsetting protection, typically through nondiscriminatory increases in tariffs.[23] Two features are most relevant here. First, the GATT rules explicity state that such protection is to be temporary. A country may impose the higher tariff for no longer than five years, with the tariff rate declining over time. This protection is designed to help the besieged industry adjust to the new competition, either by allowing resources to move out as it contracts in an orderly fashion, or by adopting new technologies to raise efficiency. As might be guessed, the difficulty of making such adjustments has often resulted in the protection's lasting far longer than originally intended.

A second important feature of safeguards is that under GATT procedures, a country that invokes its right to raise its tariffs beyond their bound levels is required to pay some compensation to foreign countries that stand to lose business as a result. This may come either through an agreement to lower tariffs on other industries—clearly a politically unpopular option—or by allowing foreign governments to retaliate with higher tariffs of their own. From the standpoint of international relations, neither option is very palatable, and countries have increasingly resorted to protecting their industries through bilateral quantitative restrictions on trade such as VERs. As we have noted previously, VERs have the advantage of transferring some economic rents to foreign exporters, making their use less objectionable to foreign governments than the use of tariffs or import quotas. However, proliferation of such measures has worried many observers about potential frictions imposed on the multilateral trading system. Thus, reform of safeguards policies was an important issue in the Uruguay Round.

In the United States, safeguards are enacted through Section 201 of the Tariff Act of 1930 (subsequently revised). Section 201 is popularly referred to as the *escape clause.* Under this law, a representative of a domestic industry may petition for relief by asking the ITC to investigate whether imports have become a source or threat of serious injury. If the ITC finds that injury

has occurred or is likely to occur, it recommends some form of relief to the U.S. President. The relief typically takes the form of temporary tariffs or quotas, though an additional option is to award *trade adjustment assistance,* or supplementary unemployment compensation to workers who might lose their jobs. The President may reject or accept the recommendation and may also develop different policies for import relief. The United States has seldom used the escape clause in recent years, largely because of the preferences of firms to avail themselves of easier routes to protection.

20.4 TRADE POLICY AND ENVIRONMENTAL REGULATIONS

A major source of stress on the international trading system is that global competition is affected not only by explicit trade barriers but also by numerous aspects of domestic regulations. Regulations governing product-safety rules, environmental protection requirements, anticompetitive business practices, intellectual property rights, foreign direct investments, and prudential financial practices may exist for reasons other than to restrict international trade but may have that effect anyway. For example, many countries have *domestic content laws,* which require that a foreign firm wishing to invest in a domestic production facility must purchase some minimum percentage of its inputs, such as materials, labor, and capital, from domestic sources. The evident intent is to expand employment in a particular sector, but the requirement could easily result in an artificial restriction on imports of materials and machinery. Similarly, a weak or unenforced antitrust law could result in interlocking business practices among domestic firms, in turn limiting market access for foreign firms that might otherwise be competitive suppliers of products or inputs.[24] It is also conceivable that differences in the costs of environmental regulations in various countries could influence decisions by multinational enterprises about production location and trade. Thus, in many contexts, it is possible to view domestic regulations as indirect nontariff barriers to trade.

Traditional GATT rules have imposed few effective disciplines on such practices, largely because issues of domestic regulation have lain outside the realm of the GATT, which is primarily focused on tariffs. However, as international competition has intensified because of growth, innovation, and the operation of MNEs, conflicts between domestic regulations and trade interests have inevitably become more frequent. For this reason, the industrialized nations at the Uruguay Round prominently introduced the question of trade-related regulations of investment, intellectual property rights, and services. Further, issues of environmental regulation and its impact on investment and trade figured importantly in the negotiation of NAFTA. It seems likely that these kinds of questions will dominate trade-policy discussions for the foreseeable future.

In this section we focus on environmental regulation to discuss the interactions between trade policy and regulatory policy from an economic

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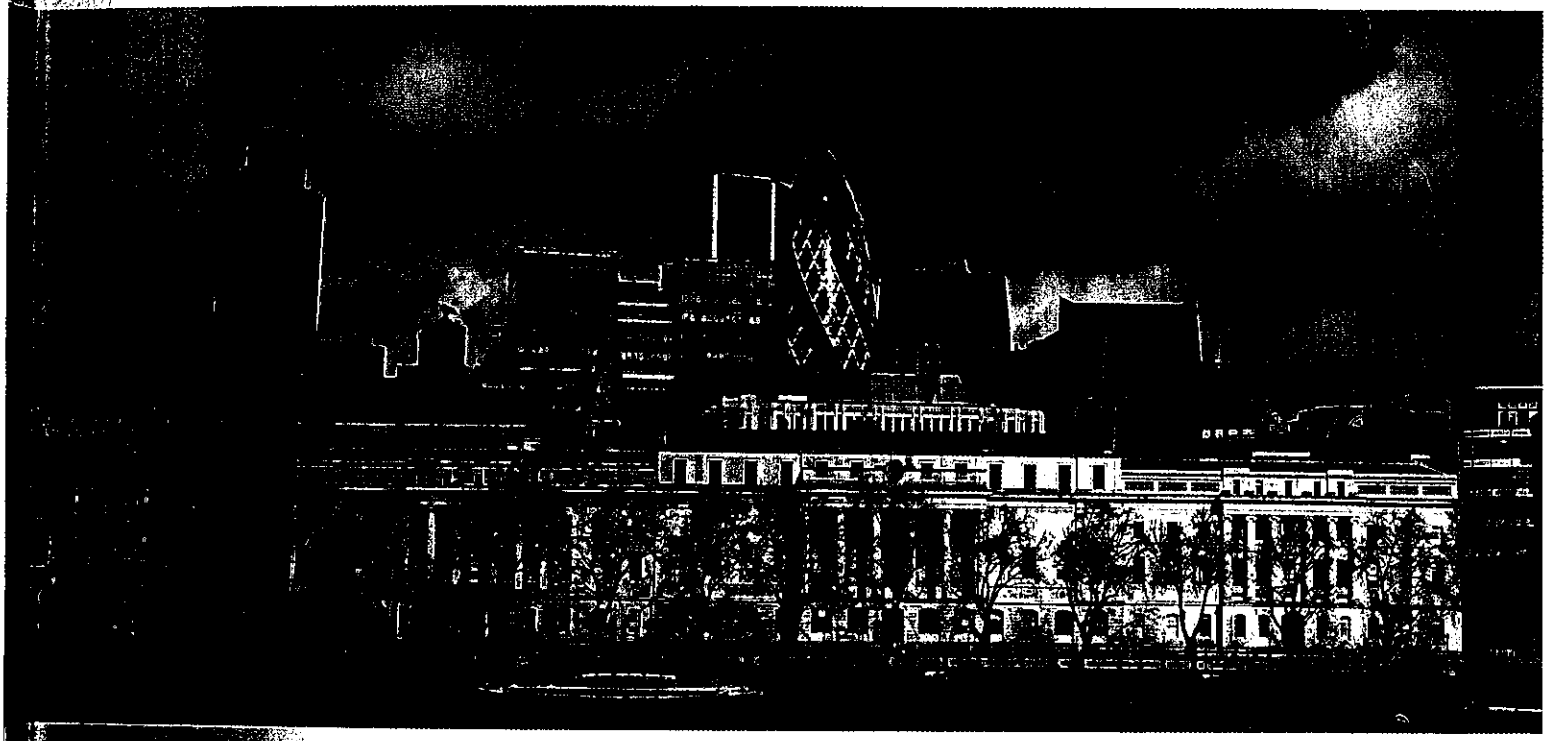

DOMINICK SALVATORE

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"cheat" on it by unrestricted sales at slightly below the cartel price. This became painfully evident to OPEC during the 1980s when high petroleum prices greatly stimulated petroleum exploration and production by nonmembers (such as the United Kingdom, Norway, and Mexico). The resulting increase in supply, together with conservation measures that reduced the increase in the demand for petroleum products, led to sharply lower petroleum prices in the 1980s and most of the 1990s as compared to the 1970s. It also showed that, as predicted by economic theory, cartels are inherently unstable and often collapse or fail. If successful, however, a cartel could behave exactly as a monopolist (a **centralized cartel**) in maximizing its total profits (see Section A9.1).

9.3D Dumping

Trade barriers may also result from dumping. **Dumping** is the export of a commodity at below cost or at least the sale of a commodity at a lower price abroad than domestically. Dumping is classified as persistent, predatory, and sporadic. **Persistent dumping**, or international price discrimination, is the *continuous* tendency of a domestic monopolist to maximize total profits by selling the commodity at a higher price in the domestic market (which is insulated by transportation costs and trade barriers) than internationally (where it must meet the competition of foreign producers). Section A9.2 shows how a domestic monopolist can determine the exact prices to charge domestically and internationally to maximize total profits in cases of persistent dumping, or international price discrimination.

Predatory dumping is the *temporary* sale of a commodity at below cost or at a lower price abroad in order to drive foreign producers out of business, after which prices are raised to take advantage of the newly acquired monopoly power abroad. **Sporadic dumping** is the *occasional* sale of a commodity at below cost or at a lower price abroad than domestically in order to unload an unforeseen and temporary surplus of the commodity without having to reduce domestic prices.

Trade restrictions to counteract *predatory* dumping are justified and allowed to protect domestic industries from unfair competition from abroad. These restrictions usually take the form of *antidumping* duties to offset price differentials, or the threat to impose such duties. However, it is often difficult to determine the type of dumping, and domestic producers invariably demand protection against any form of dumping. By so doing, they discourage imports (the "harassment thesis") and increase their own production and profits (rents). In some cases of persistent and sporadic dumping, the benefit to consumers from low prices may actually exceed the possible production losses of domestic producers.

Over the past four decades, Japan was accused of dumping steel and television sets in the United States, and European nations of dumping cars, steel, and other products. Many industrial nations, especially those that belong to the European Union, have a tendency to persistently dump agricultural commodities arising from their farm support programs. When dumping is proved, the violating nation or firm usually chooses to raise its prices (as Volkswagen did in 1976 and Japanese TV exporters in 1997) rather than face antidumping duties. In 2007, 29 countries

(counting the European Union as a single member) had antidumping laws (including many developing countries).

In 1978, the U.S. government introduced a **trigger-price mechanism** under which a charge that steel was being imported into the United States at prices below those of the lowest-cost foreign producer (Korea in the late 1980s) was subject to a speedy antidumping investigation. If dumping was proved, the U.S. government would provide quick relief to the domestic steel industry in the form of a duty that would bring the price of the imported steel equal to that of the lowest-cost country. Since 1992, when the voluntary export restraints on steel exports to the United States expired, U.S. steel producers have filed hundreds of antidumping suits against foreign steel producers, resulting in bitter disputes.

In 1985, U.S. producers filed antidumping suits against Japanese exporters of computer chips (the brains of computers and most modern-day machinery). An agreement was reached in 1986 under which Japan would stop dumping chips in the United States and around the world. Charging continued dumping, however, the United States imposed a 100 percent import duty on $300 million worth of Japanese exports to the United States in 1987. The tariff was removed in 1991 when Japan renegotiated the semiconductor agreement, under which Japan agreed to help foreign (U.S.) producers increase their share of the Japanese chip market from 8 percent in 1986 to 20 percent by 1992. Disagreements continued, however, when U.S. chip producers failed to achieve the agreed 20 percent market share in Japan in 1994. In 1996, the agreement was renewed, but it required only that the U.S. and Japanese computer chip industries monitor each other's market without any market-sharing requirement.

On average, about one-half of antidumping investigations are terminated without any measure being imposed, and the rest end with the imposition of a duty or with the exporter increasing the price of the export commodity. The number of antidumping measures in force rose from 880 at the end of 1997 to 1,274 in mid-2007. Requests for antidumping investigations by the steel industry have been relatively frequent in recent years, notably in the United States because of chronic excess supply in world markets. Case Study 9-2 gives the total antidumping measures in force in various countries in mid-2004.

9.3E Export Subsidies

Export subsidies are direct payments (or the granting of tax relief and subsidized loans) to the nation's exporters or potential exporters and/or low-interest loans to foreign buyers to stimulate the nation's exports. As such, export subsidies can be regarded as a form of dumping. Although export subsidies are illegal by international agreement, many nations provide them in disguised and not-so-disguised forms.

For example, all major industrial nations give foreign buyers of the nation's exports low-interest loans to finance the purchase through agencies such as the U.S. **Export–Import Bank.** These low-interest credits finance about 2 percent of U.S. exports but a much larger percentage of Japan's, France's, and Germany's exports. Indeed, this is one of the most serious trade complaints that the United States has against other industrial countries today. The amount of the subsidy provided can

Case Study 9-2 Antidumping Measures in Force in 2007

Table 9.1 gives the number of antidumping measures in force in various countries on June 30, 2007. It shows that the United States was the heaviest user, with 229 measures out of the total of 1,274 in force. India was the second heaviest user, with 162 actions. Japan had only two. Products exported from China were the object of the most antidumping investigations (53) initiated from July 1, 2006, to June 30, 2007, followed by products exported from Korea (11), Chinese Taipei (10), the European Union and Indonesia (9 each), Japan (8), and the United States (7). Antidumping measures have been declining over the past four years, but surged during the 2008–2009 recession in advanced countries and slow growth in developing countries.

TABLE 9.1. *Antidumping Measures in Force on June 30, 2007*

Country	Antidumping Measures in Force	Country	Antidumping Measures in Force
United States	229	Argentina	62
India	162	South Africa	61
European Union	149	Brazil	50
China	103	Australia	46
Turkey	99	Canada	40
Mexico	69	Other countries	294

Source: WTO, *Annual Trade Report* (Geneva: WTO, 2008), p. 33.

be measured by the difference between the interest that would have been paid on a commercial loan and what in fact is paid at the subsidized rate.

Another example is the U.S. "extraterritorial income" or **Foreign Sales Corporations (FSC)** provisions of the U.S. tax code have been used since 1971 by some 3,600 U.S. corporations (including Boeing, Microsoft, and Caterpillar) to set up overseas subsidiaries to enjoy partial exemption from U.S. tax laws on income earned from exports. This provision saved American companies about $4 billion in taxes each year. In 1999, the World Trade Organization (WTO) ruled that such tax relief is a form of export subsidy and ordered the United States to repeal it. The United States appealed but lost, and so in 2004 it repealed the FSC scheme or face $4 billion in sanctions.

Particularly troublesome are the very high support prices provided by the European Union (EU) to maintain its farmers' income under its common agricultural policy (CAP). These high farm subsidies lead to huge agricultural surpluses and subsidized exports, which take export markets away from the United States and other countries, and are responsible for some of the sharpest trade controversies between the United States and the European Union (see Case Study 9-3).

Case Study 9-3 Agricultural Subsidies in OECD Countries

Table 9.2 gives the assistance that Organization for Economic Cooperation and Development (OECD) countries provided to their agriculture, both in billions of U.S. dollars and as a *producer subsidy estimate* (i.e., as a percentage of gross farm receipts) in 2005 and 2007. The table shows that in 2007, the European Union spent the most on agricultural subsidies ($134.3 billion), followed by Japan ($35.6 billion) and the United States ($32.7 billion). The producer subsidy estimate (PSE) in the European Union was more 2.6 times and that of Japan and 4.5 times that of the United States. Korea, Norway, and Switzerland provided the highest PSE. Agricultural subsidies were (and continue to be) responsible for some of the sharpest trade controversies in the world today and were responsible for the long delay in concluding the Uruguay Round and the collapse of the Doha Round (see Section 9.8).

TABLE 9.2. *Agricultural Subsidies and Producer-Subsidy Equivalent in Developed Nations and the European Union, 2005 and 2007*

	Billions of U.S. Dollars		Subsidy as a Percentage of Agricultural Output	
Country	**2005**	**2007**	**2005**	**2007**
United States	41.0	32.7	15	10
European Union	130.8	134.3	32	26
Japan	44.6	35.6	54	45
Canada	6.5	7.0	22	18
Australia	1.4	1.9	4	6
Norway	3.1	2.8	67	53
Switzerland	5.6	4.2	68	50
Mexico	5.0	6.1	13	14
Korea	23.5	25.5	62	60
Turkey	12.6	13.4	25	21
All Industrial Countries	272.1	258.2	28	23

Source: OECD, *Agricultural Policies in OECD Countries: Monitoring and Evaluation* (Paris: OECD, 2008), Tables 3.1 and 3.5.

Serious controversies also arise from the subsidies that the EU provides to its aircraft (Airbus) industry and Japan's Ministry of International Trade and Industry (MITI) to its computer and other high-tech industries. **Countervailing duties (CVDs)** are often imposed on imports to offset export subsidies by foreign governments. As of June 2007, there were 61 CVDs in force, 33 of which were by the United States and 13 by the European Union. Case Study 9-4 examines the

Case Study 9-4 Pervasiveness of Nontariff Barriers

Table 9.3 gives the pervasiveness of all types of nontariff trade barriers (voluntary export restraints, antidumping measures, technical and other regulations, and countervailing duties) in effect in the United States, the European Union, Japan, and Canada in 1996. The pervasiveness of nontariff trade barriers is measured by the percentage of tariff lines affected. For example, 2.8 percent of the U.S. food, beverage, and tobacco trade was affected by some type of nontariff trade barriers in 1996, as compared with 17.2 percent in the European Union, 5.9 percent in Japan, and 0.4 percent in Canada. From the table, we see that by far the most protected sector in all countries or regions is textiles and apparel. On an overall basis, the trade-weighted percentage of nontariff trade barriers on all manufactured products was 17.9 percent in the United States, 13.4 percent in the European Union, 10.3 percent in Japan, and 7.8 percent in Canada. These averages are likely to be lower today as a result of the implementation of the provisions of the Uruguay Round, but more recent data are not available. They compare with regular average tariff rates (shown in Case Study 8–1) of 3.3 percent for the United States, 4.0 percent for the European Union, 2.5 percent for Japan, and 4.0 for Canada in 2004. Smaller developed nations made much less use of nontariff trade barriers than larger nations.

TABLE 9.3. *The Pervasiveness of Nontariff Barriers in Large Developed Nations*

	Percent of Tariff Lines Affected			
Product	**United States**	**European Union**	**Japan**	**Canada**
Food, beverage, and tobacco	2.8	17.2	5.9	0.4
Textiles and apparel	67.5	75.2	31.9	42.9
Wood and wood products	0.6	0.0	0.0	3.2
Paper and paper products	1.1	0.7	0.0	0.4
Chemicals, petroleum products	3.3	2.9	0.9	0.6
Nonmetallic mineral products	3.6	0.0	0.0	0.0
Basic metal industries	30.4	0.6	5.1	1.7
Fabricated metal products	5.9	0.0	0.0	2.2
Other manufacturing	1.7	0.0	0.0	0.9
Average manufacturing	17.9	13.4	10.3	7.8

Sources: WTO, *Market Access: Unfinished Business* (Geneva: WTO, 2001, p. 21); and WTO, *Annual Report 2008* (Geneva: WTO, 2008).

extent of nontariff barriers on the imports of the United States, the European Union, Japan, and Canada.

Export subsidies can be analyzed with Figure 9.2, which is similar to Figure 8.1. In Figure 9.2, D_X and S_X represent Nation 2's demand and supply curves of

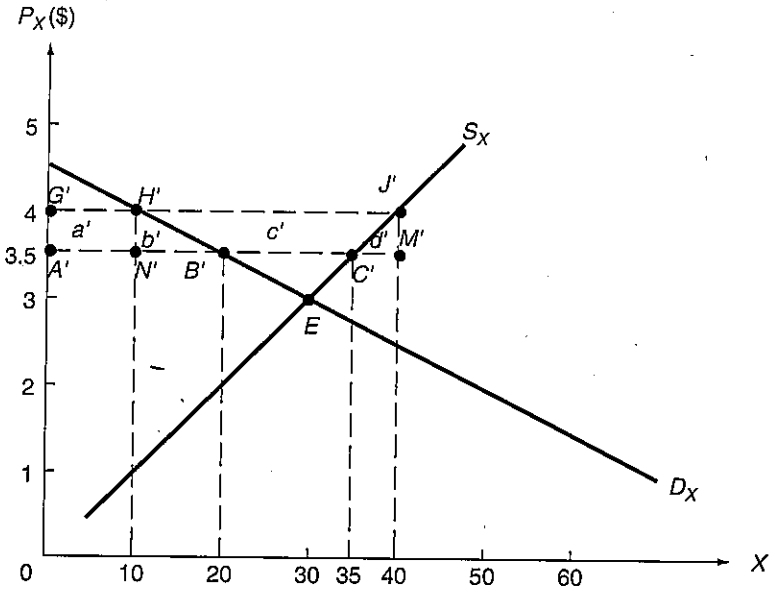

FIGURE 9.2. Partial Equilibrium Effect of an Export Subsidy. At the free trade price of P_X = \$3.50, small Nation 2 produces 35X ($A'C'$), consumes 20X ($A'B'$), and exports 15X ($B'C'$). With a subsidy of \$0.50 on each unit of commodity X exported, P_X rises to \$4.00 for domestic producers and consumers. At P_X = \$4, Nation 2 produces 40X ($G'J'$), consumes 10X ($G'H'$), and exports 30X ($H'J'$). Domestic consumers lose \$7.50 (area $a' + b'$), domestic producers gain \$18.75 (area $a' + b' + c'$), and the government subsidy is \$15 ($b' + c' + d'$). The protection cost or deadweight loss of Nation 2 is \$3.75 (the sum of triangles $B'H'N' = b'$ = \$2.50 and $C'J'M' = d'$ = \$1.25).

commodity X. If the free trade world price of commodity X were \$3.50 (instead of \$1.00, as in Figure 8.1), Nation 2 would produce 35X ($A'C'$), consume 20X ($A'B'$), and *export* the remaining 15X ($B'C'$). That is, at prices above \$3 (point E in the figure), Nation 2 became an exporter rather than being an importer of commodity X.

If the government of Nation 2 (assumed to be a small country) now provides a subsidy of \$0.50 on each unit of commodity X exported (equal to an ad valorem subsidy of 16.7 percent), P_X rises to \$4.00 for domestic producers and consumers of commodity X. At P_X = \$4, Nation 2 produces 40X ($G'J'$), consumes 10X ($G'H'$), and exports 30X ($H'J'$). The higher price of commodity X benefits producers but harms consumers in Nation 2. Nation 2 also incurs the cost of the subsidy.

Specifically, domestic consumers lose \$7.50 (area $a' + b'$ in the figure), domestic producers gain \$18.75 (area $a' + b' + c'$), and the government subsidy is \$15($b' + c' + d'$). Note that area d' is not part of the gain in producer surplus because it represents the rising domestic cost of producing more units of commodity X. Nation 2 also incurs the protection cost or deadweight loss of \$3.75 (the sum of the areas of triangles $B'H'N' = b'$ = \$2.50 and $C'J'M' = d'$ = \$1.25).

Since domestic producers gain less than the sum of the loss of domestic consumers and the cost of the subsidy to Nation 2's taxpayers (i.e., since Nation 2 incurs a net loss equal to the protection cost or deadweight loss of \$3.75), the question is: Why would Nation 2 subsidize exports? The answer is that domestic producers may

successfully lobby the government for the subsidy or Nation 2's government may want to promote industry X, if industry X is a desired high-technology industry (this will be discussed in Section 9.5). Note that foreign consumers gain because they receive 30X instead of 15X at $P_X = \$3.50$ with the subsidy. If Nation 2 were not a small nation, it would also face a decline in its terms of trade because of the need to reduce P_X in order to be able to export more of commodity X.

Case Study 9-5 examines the extent of nontariff trade barriers on the imports of the United States, the European Union, Japan, and Canada.

9.4 The Political Economy of Protectionism

In this section, we analyze the various arguments for protection. These range from clearly fallacious propositions to arguments that can stand up, with some qualification, to close economic scrutiny.

9.4A Fallacious and Questionable Arguments for Protection

One *fallacious* argument is that trade restrictions are needed to *protect domestic labor against cheap foreign labor*. This argument is fallacious because even if domestic wages are higher than wages abroad, domestic labor *costs* can still be lower if the productivity of labor is sufficiently higher domestically than abroad. Even if this were not the case, mutually beneficial trade could still be based on comparative advantage, with the cheap-labor nation specializing in the production of and exporting labor-intensive commodities, and the expensive-labor nation specializing in the production of and exporting capital-intensive commodities (refer back to Section 2.4).

Another *fallacious* argument for protection is the **scientific tariff**. This is the tariff rate that would make the price of imports equal to domestic prices and (so the argument goes) allow domestic producers to meet foreign competition. However, this would eliminate international price differences and trade in all commodities subject to such "scientific" tariffs.

Two *questionable* arguments are that protection is needed (1) to reduce domestic unemployment and (2) to cure a deficit in the nation's balance of payments (i.e., the excess of the nation's expenditures abroad over its foreign earnings). Protection would reduce domestic unemployment and a balance-of-payments deficit by leading to the substitution of imports with domestic production. However, these are *beggar-thy-neighbor* arguments for protection because they come at the expense of other nations. Specifically, when protection is used to reduce domestic unemployment and the nation's balance-of-payments deficit, it causes greater unemployment and worsened balance of payments abroad. As a result, other nations are likely to retaliate, and all nations lose in the end. Domestic unemployment and deficits in the nation's balance of payments should be corrected with appropriate monetary, fiscal, and trade policies (discussed in Chapters 18 and 19) rather than with trade restrictions.

9.4B The Infant-Industry and Other Qualified Arguments for Protection

One argument for protection that stands up to close economic scrutiny (but must nevertheless be qualified) is the **infant-industry argument**. It holds that a nation may have a potential comparative advantage in a commodity, but because of lack of know-how and the initial small level of output, the industry will not be set up or, if already started, cannot compete successfully with more established foreign firms. *Temporary* trade protection is then justified to establish and protect the domestic industry during its "infancy" until it can meet foreign competition, achieve economies of scale, and reflect the nation's long-run comparative advantage. At that time, protection is to be removed. However, for this argument to be valid, the return in the grown-up industry must be sufficiently high also to offset the higher prices paid by domestic consumers of the commodity during the infancy period.

The infant-industry argument for protection is correct but requires several important qualifications which, together, take away most of its significance. First of all, it is clear that such an argument is more justified for developing nations (where capital markets may not function properly) than for industrial nations. Second, it may be difficult to identify which industry or potential industry qualifies for this treatment, and experience has shown that protection, once given, is difficult to remove. Third, and most important, what trade protection (say in the form of an import tariff) can do, an equivalent production *subsidy* to the infant industry can do better. The reason is that a purely *domestic distortion* such as this should be overcome with a *purely domestic policy* (such as a direct production subsidy to the infant industry) rather than with a trade policy that also distorts relative prices and domestic consumption. A production subsidy is also a more direct form of aid and is easier to remove than an import tariff. One practical difficulty is that a subsidy requires revenues, rather than generating them as, for example, an import tariff does. But the principle remains.

The same general principle also holds for every other type of domestic distortion. For example, if an industry generates an *external economy* (i.e., a benefit to society at large, say, by training workers who then leave to work in other industries), there is likely to be underinvestment in the industry (because the industry does not receive the full benefit from its investments). One way to encourage the industry and confer greater external economies on society would be to restrict imports. This stimulates the industry, but it also increases the price of the product to domestic consumers. A better policy would be to provide a direct subsidy to the industry. This would stimulate the industry without the consumption distortion and loss to consumers that result from trade restrictions. Similarly, a direct tax would also be better than a tariff to discourage activities (such as automobile travel) that give rise to *external diseconomies* (pollution) because the tax does not distort relative prices and consumption. The general principle that the best way to correct a *domestic* distortion is with *domestic* policies rather than with trade policies is shown graphically in Section A9.3 of the appendix.

Trade restrictions may be advocated to protect domestic industries important for national defense. But even in this case, direct production subsidies are generally better than tariff protection. Some tariffs can be regarded as "bargaining tariffs" that

Source: www.wto.org World Trade Organization's website..

AD Initiations: By Reporting Member From: 01/01/95 To: 30/06/03													
Reporting Member	1995	1996	1997	1998	1999	2000	2001	2002	1st Half 2003	Totals:			
Argentina	27	22	14	8	24	45	26	14	0	180			
Australia	5	17	42	13	24	15	23	16	1	156			
Brazil	5	18	11	18	16	11	17	9	2	107			
Bulgaria	0	0	0	0	0	0	0	1	0	1			
Canada	11	5	14	8	18	21	25	5	6	113			
Chile	4	3	0	2	0	5	0	0	0	14			
China, P.R.	NA	NA	NA	NA	0	6	14	30	11	81			
Chinese Taipei	NA	NA	NA	NA	0	3	3	0	2	8			
Colombia	4	1	1	6	2	3	6	0	0	23			
Costa Rica	0	4	1	1	0	0	0	0	0	6			
Czech Republic	0	0	0	2	1	0	0	0	0	3			
Ecuador	0	0	0	1	0	0	0	0	0	1			
Egypt	0	0	7	14	5	1	7	3	1	38			
European Community	33	25	41	22	65	32	29	20	3	270			
Guatemala	0	1	0	0	0	0	0	0	0	1			
India	6	21	13	27	65	41	79	80	12	344			
Indonesia	0	11	5	8	8	3	4	4	6	49			
Israel	5	6	3	7	0	1	4	0	0	26			
Jamaica	0	0	0	0	0	1	1	1	0	3			
Japan	0	0	0	0	0	0	2	0	0	2			
Korea, Rep. of	4	13	15	3	6	2	4	9	3	59			
Latvia	NA	NA	NA	0	0	0	1	6	0	7			
Lithuania	0	0	0	0	1	6	0	0	0	7			
Malaysia	3	2	8	1	2	0	1	5	0	22			
Mexico	4	4	6	12	11	7	5	10	6	65			
New Zealand	10	4	5	1	4	10	1	2	2	39			
Nicaragua	0	0	0	2	0	0	0	0	0	2			
Panama	0	0	0	2	0	0	0	0	0	2			
Paraguay	0	0	0	0	1	0	0	0	0	1			
Peru	2	7	2	3	8	1	8	12	2	45			
Philippines	1	1	2	3	6	2	0	1	1	17			
Poland	0	0	1	0	7	0	0	3	0	11			
Slovenia	0	0	0	0	1	0	0	0	0	1			
South Africa	16	33	23	41	16	21	6	4	2	162			
Thailand	0	1	3	0	0	0	3	21	0	28			
Trinidad and Tobago	0	1	0	4	3	1	1	0	2	12			
Turkey	0	0	4	1	8	7	15	17	1	53			
United States	14	22	15	36	47	47	76	35	16	308			
Uruguay	0	0	1	0	0	1	4	0	0	6			
Venezuela	3	2	6	10	7	1	1	1	0	31			
Totals for 01/01/95 - 30/06/03	157	224	243	256	356	294	366	309	79	2284			

Parsons, 2003