6. **Regional trade agreements** are permitted under Article XXIV of the GATT. The GATT recognizes the ability of blocs of countries to form two types of regional trade agreements: (i) **free-trade areas,** in which a group of countries voluntarily agrees to remove trade barriers between themselves, and (ii) **customs unions,** which are free-trade areas in which the countries also adopt identical tariffs between themselves and the rest of the world. We discuss regional trade agreements in a later chapter.

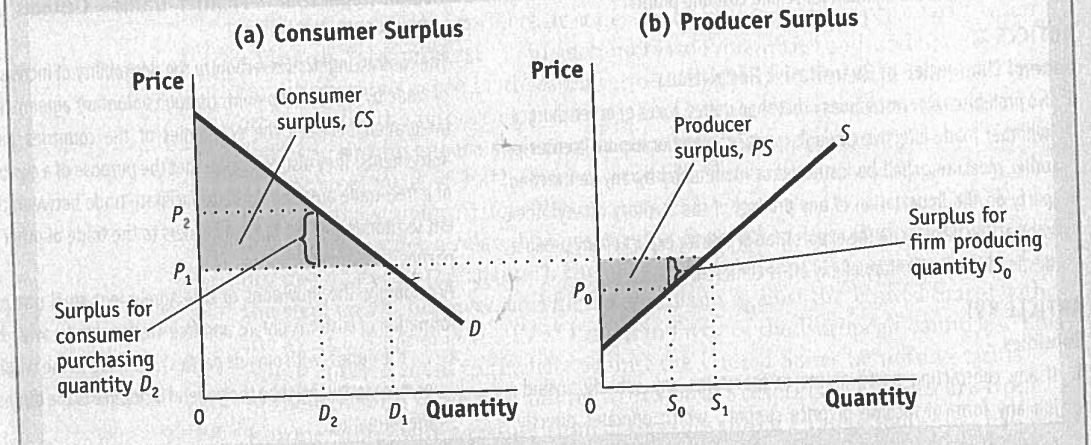
2 The Gains from Trade

In earlier chapters, we demonstrated the gains from trade using a production possibilities frontier and indifference curves. We now instead demonstrate the gains from trade using Home's demand and supply curves, together with the concepts of **consumer surplus** and **producer surplus.** You may already be familiar with these concepts from an earlier economics course, but we provide a brief review here.

Consumer and Producer Surplus

Suppose that Home consumers have the demand curve D in panel (a) of Figure 8-1 and face the price of P_1. Then total demand is D_1 units. For the last unit purchased, the consumer buying it values that unit at close to its purchase price of P_1, so he or she obtains little or no surplus over the purchase price. But for all the earlier units purchased (from 0 to D_1 units), the consumers valued the product at *higher than* its

FIGURE 8-1



Consumer and Producer Surplus In panel (a), the consumer surplus from purchasing quantity D_1 at price P_1 is the area below the demand curve and above that price. The consumer who purchases D_2 is willing to pay price P_2 but has to pay only P_1. The difference is the consumer surplus and represents the satisfaction of consumers over and above the amount paid. In panel (b), the producer surplus from supplying the quantity S_1 at the price P_1 is the area above the supply curve and below that price. The supplier who supplies unit S_0 has marginal costs of P_0 but sells it for P_1. The difference is the producer surplus and represents the return to fixed factors of production in the industry.

purchase price: the consumers' willingness to pay for the product equals the height of the demand curve. For example, the person buying unit D_2 would have been willing to pay the price of P_2, which is the height of the demand curve at that quantity. Therefore, that individual obtains the surplus of $(P_2 - P_1)$ from being able to purchase the good at the price P_1.

For each unit purchased before D_1, the value that the consumer places on the product exceeds the purchase price of P_1. Adding up the surplus obtained on each unit purchased, from 0 to D_1, we can measure consumer surplus (CS) as the shaded region below the demand curve and above the price P_1. This region measures the satisfaction that consumers receive from the purchased quantity D_1, over and above the amount $P_1 \cdot D_1$ that they have paid.

Panel (b) of Figure 8-1 illustrates producer surplus. This panel shows the supply curve of an industry; the height of the curve represents the firm's marginal cost at each level of production. At the price of P_1, the industry will supply S_1. For the last unit supplied, the price P_1 equals the marginal cost of production for the firm supplying that unit. But for all earlier units supplied (from 0 to S_1 units), the firms were able to produce those units at a marginal cost *less than* the price P_1. For example, the firm supplying unit S_0 could produce it with a marginal cost of P_0, which is the height of the supply curve at that quantity. Therefore, that firm obtains the producer surplus of $(P_1 - P_0)$ from being able to sell the good at the price P_1.

For each unit sold before S_1, the marginal cost to the firm is less than the sale price of P_1. Adding up the producer surplus obtained for each unit sold, from 0 to S_1, we obtain producer surplus (PS) as the shaded region in panel (b) above the supply curve and below the price of P_1. It is tempting to think of producer surplus as the profits of firms, because for all units before S_1, the marginal cost of production is less than the sale price of P_1. But a more accurate definition of producer surplus is that it equals the *return to fixed factors of production in the industry*. That is, producer surplus is the difference between the sales revenue $P_1 \cdot S_1$ and the total variable costs of production (i.e., wages paid to labor and the costs of intermediate inputs). If there are fixed factors such as capital or land in the industry, as in the specific-factors model we studied in Chapter 3, then producer surplus equals the returns to these fixed factors of production. We might still loosely refer to this return as the "profit" earned in the industry, but it is important to understand that producer surplus is not *monopoly profit*, because we are assuming perfect competition (i.e., zero monopoly profits) throughout this chapter.[4]

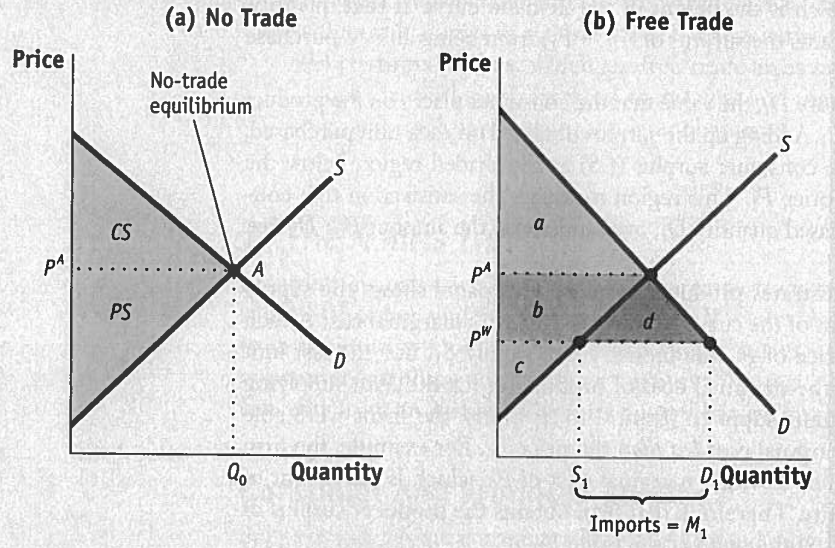
Home Welfare

To examine the effects of trade on a country's welfare, we consider once again a world composed of two countries, Home and Foreign, with each country consisting of producers and consumers. Total Home welfare can be measured by adding up consumer and producer surplus. As you would expect, the greater the total amount of Home welfare, the better off are the consumers and producers overall in the economy. To measure the gains from trade, we will compare Home welfare in no-trade and free-trade situations.

No Trade In panel (a) of Figure 8-2, we combine the Home demand and supply curves in a single diagram. The no-trade equilibrium occurs at the autarky price of P^A, where

[4] Recall from Chapter 6 that under imperfect competition, firms can influence the price of their goods and hence earn positive monopoly profits.

FIGURE 8-2



The Gains from Free Trade in Home With Home demand of D and supply of S, the no-trade equilibrium is at point A, at the price P^A producing Q_0. With free trade, the world price is P^W, so quantity demanded increases to D_1 and quantity supplied falls to S_1. Since quantity demanded exceeds quantity supplied, Home imports $D_1 - S_1$. Consumer surplus increases by the area $(b + d)$, and producer surplus falls by area b. The gains from trade are measured by area d.

the quantity demanded equals the quantity supplied, of Q_0. Consumer surplus is the region above the price of P^A and below the demand curve, which is labeled as CS in panel (a) and also shown as area a in panel (b). Producer surplus is the area below the price of P^A and above the supply curve, which is labeled as PS in panel (a) and also shown as area $(b + c)$ in panel (b). So the sum of consumer surplus and producer surplus is the area between the demand and supply curves, or $CS + PS$ = area $(a + b + c)$. That area equals Home's welfare in the market for this good in the absence of international trade.

Free Trade for a Small Country Now suppose that Home can engage in international trade for this good. As we have discussed in earlier chapters, the world price P^W is determined by the intersection of supply and demand in the world market. Generally, there will be many countries buying and selling on the world market. We will suppose that the Home country is a **small country**, by which we mean that it is small in comparison with all the other countries buying and selling this product. For that reason, Home will be a *price taker* in the world market: it faces the fixed world price of P^W, and its own level of demand and supply for this product has no influence on the world price. In panel (b) of Figure 8-2, we assume that the world price P^W is *below* the Home no-trade price of P^A. At the lower price, Home demand will increase from Q_0 under no trade to D_1, and Home supply will decrease from Q_0 under no trade to S_1. The difference between D_1 and S_1 is *imports* of the good, or $M_1 = D_1 - S_1$. Because the world price P^W is below the no-trade price of P^A, the Home country is an importer of the product at the world price. If, instead, P^W were above P^A, then Home would be an exporter of the product at the world price.

Gains from Trade Now that we have established the free-trade equilibrium at price P^W, it is easy to measure Home welfare as the sum of consumer and producer surplus with trade, and compare it with the no-trade situation. In panel (b) of Figure 8-2,

Home consumer surplus at the price P^W equals the area $(a + b + d)$, which is the area below the demand curve and above the price P^W. In the absence of trade, consumer surplus was the area a, so the drop in price from P^A to P^W has increased consumer surplus by the amount $(b + d)$. Home consumers clearly gain from the drop in price.

Home firms, on the other hand, suffer a decrease in producer surplus from the drop in price. In panel (b), Home producer surplus at the price P^W equals the area c, which is the area above the supply curve and below the price P^W. In the absence of trade, producer surplus was the area $(b + c)$, so the drop in price from P^A to P^W has decreased producer surplus by the amount b. Home firms clearly lose from the drop in price.

Comparing the gains of consumers, $(b + d)$, with the losses of producers, area b, we see that consumers gain more than the producers lose, which indicates that total Home welfare (the sum of consumer surplus and producer surplus) has gone up. We can calculate the total change in Home welfare due to the opening of trade by adding the *changes* in consumer surplus and producer surplus:

Rise in consumer surplus:	$+(b + d)$
Fall in producer surplus:	$-b$
Net effect on Home's welfare:	$+d$

The area d is a measure of the *gains from trade* for the importing country due to free trade in this good. It is similar to the gains from trade that we have identified in earlier chapters using the production possibilities frontier and indifference curves, but it is easier to measure: the triangle d has a base equal to free-trade imports $M_1 = D_1 - S_1$, and a height that is the drop in price, $P^A - P^W$, so the gains from trade equal the area of the triangle, $\frac{1}{2} \cdot (P^A - P^W) \cdot M_1$. Of course, with many goods being imported, we would need to add up the areas of the triangles for each good and take into account the net gains on the export side to determine the overall gains from trade for a country. Because gains are positive for each individual good, after summing all imported and exported goods, the gains from trade are still positive.

Home Import Demand Curve

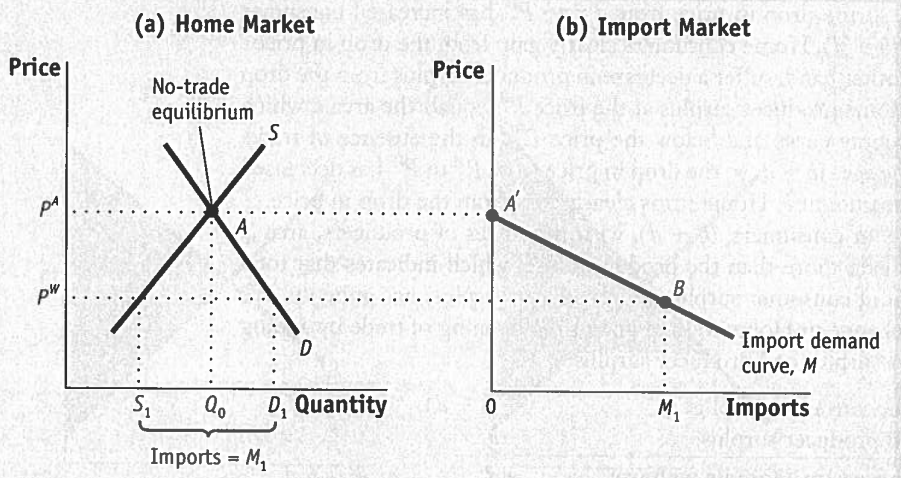
Before introducing a tariff, we use Figure 8-3 to derive the **import demand curve,** which shows the relationship between the world price of a good and the quantity of imports demanded by Home consumers. We first derived this curve in Chapter 2, for the Ricardian model. We now briefly review the derivation of the import demand curve before analyzing the effect of an import tariff on prices and welfare.

In panel (a) of Figure 8-3, we again show the downward-sloping demand curve (D) and the upward-sloping supply curve (S) for Home. The no-trade equilibrium is at point A, which determines Home's no-trade equilibrium price P^A, and its no-trade equilibrium quantity of Q_0. Because quantity demanded equals quantity supplied, there are zero imports of this product. Zero imports is shown as point A' in panel (b).

Now suppose the world price is at P^W, below the no-trade price of P^A. At the price of P^W, the quantity demanded in Home is D_1, but the quantity supplied by Home suppliers is only S_1. Therefore, the quantity imported is $M_1 = D_1 - S_1$, as shown by the point B in panel (b). Joining points A' and B, we obtain the downward-sloping import demand curve M.

Notice that the import demand curve applies for all prices *below* the no-trade price of P^A in Figure 8-3. Having lower prices leads to greater Home demand and less

FIGURE 8-3



Home Import Demand With Home demand of D and supply of S, the no-trade equilibrium is at point A, with the price P^A and import quantity Q_0. Import demand at this price is zero, as shown by the point A' in panel (b). At a lower world price of P^W, import demand is $M_1 = D_1 - S_1$, as shown by point B. Joining up all points between A' and B, we obtain the import demand curve, M.

Home supply and, therefore, positive imports. What happens if the world price is *above* the no-trade price? In that case, the higher price would lead to greater Home supply and less Home demand, so Home would become an exporter of the product.

3 Import Tariffs for a Small Country

We can now use this supply and demand framework to show what happens when a small country imposes a tariff. As we have already explained, an importing country is "small" if its tariff does not have any effect on the world price of the good on which the tariff is applied. As we will see, the Home price of the good will increase due to the tariff. Because the tariff (which is a tax) is applied at the border, the price charged to Home's consumers will increase by the amount of the tariff.

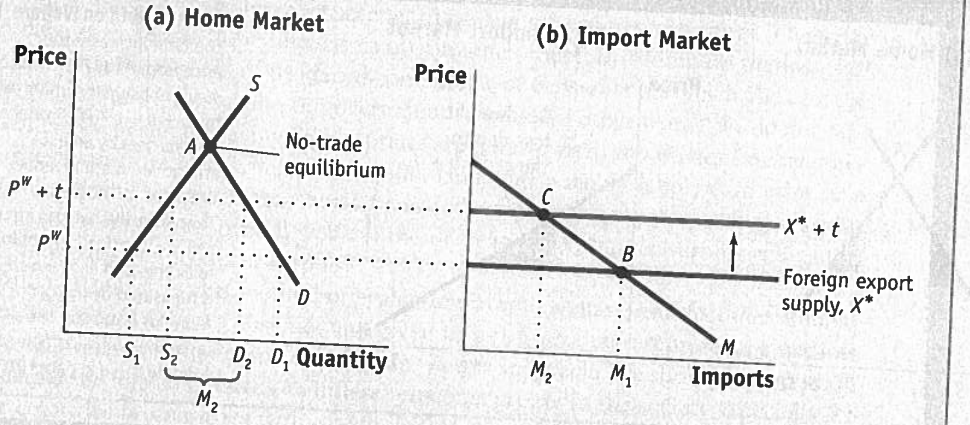
Free Trade for a Small Country

In Figure 8-4, we again show the free-trade equilibrium for the Home country. In panel (b), the Foreign export supply curve X^* is horizontal at the world price P^W. The horizontal export supply curve means that Home can import any amount at the price P^W without having an impact on that price. The free-trade equilibrium is determined by the intersection of the Foreign export supply and the Home import demand curves, which is point B in panel (b), at the world price P^W. At that price, Home demand is D_1 and Home supply is S_1, shown in panel (a). Imports at the world price P^W are then just the difference between demand and supply, or $M_1 = D_1 - S_1$.

Effect of the Tariff

With the import tariff of t dollars, the export supply curve facing the Home country shifts up by exactly that amount, reflecting the higher price that must be paid to

FIGURE 8-4



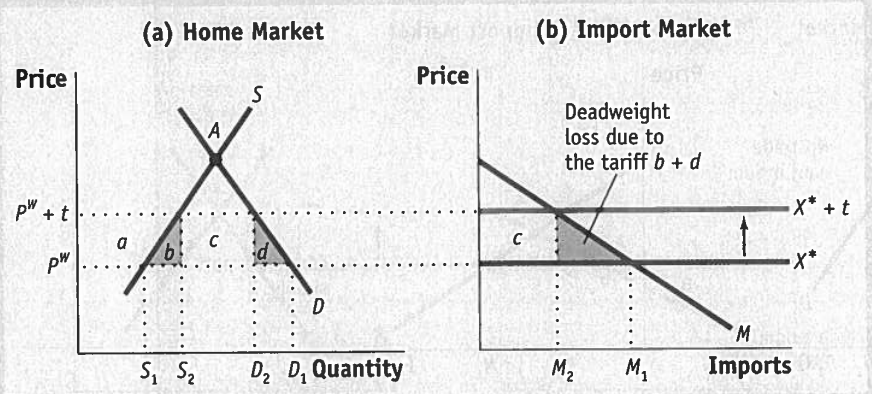
Tariff for a Small Country Applying a tariff of t dollars will increase the import price from P^W to $P^W + t$. The domestic price of that good also rises to $P^W + t$. This price rise leads to an increase in Home supply from S_1 to S_2, and a decrease in Home demand from D_1 to D_2, in panel (a). Imports fall due to the tariff, from M_1 to M_2 in panel (b). As a result, the equilibrium shifts from point B to C.

import the good. The shift in the Foreign export supply curve is analogous to the shift in domestic supply caused by a sales tax, as you may have seen in earlier economics courses; it reflects an effective increase in the costs of the firm. In panel (b) of Figure 8-4, the export supply curve shifts up to $X^* + t$. The intersection of the post-tariff export supply curve and the import demand curve now occurs at the price of $P^W + t$ and the import quantity of M_2. The import tariff has reduced the amount imported, from M_1 under free trade to M_2 under the tariff, because of its higher price.

We assume that the imported product is identical to the domestic alternative that is available. For example, if the imported product is a women's cruiser bicycle, then the Home demand curve D in panel (a) is the demand for women's cruisers, and the Home supply curve is the supply of women's cruisers. When the import price rises to $P^W + t$, then we expect that the Home price for locally produced bicycles will rise by the same amount. This is because at the higher import price of $P^W + t$, the quantity of cruisers demanded in Home falls from its free-trade quantity of D_1 to D_2. At the same time, the higher price will encourage Home's firms to increase the quantity of cruisers they supply from the free-trade quantity of S_1 to S_2. As firms increase the quantity they produce, however, the marginal costs of production rise. The Home supply curve (S) reflects these marginal costs, so the Home price will rise along the supply curve until Home firms are supplying the quantity S_2, at a marginal cost just equal to the import price of $P^W + t$. Since marginal costs equal $P^W + t$, the price charged by Home firms will also equal $P^W + t$, and the domestic price will equal the import price.

Summing up, Home demand at the new price is D_2, Home supply is S_2, and the difference between these are Home imports of $M_2 = D_2 - S_2$. Foreign exporters still receive the "net-of-tariff" price (i.e., the Home price minus the tariff) of P^W, but Home consumers pay the higher price $P^W + t$. We now investigate how the rise in the Home price from P^W to $P^W + t$ affects consumer surplus, producer surplus, and overall Home welfare.

FIGURE 8-5



Effect of Tariff on Welfare The tariff increases the price from P^W to $P^W + t$. As a result, consumer surplus falls by $(a + b + c + d)$. Producer surplus rises by area a, and government revenue increases by the area c. Therefore, the net loss in welfare, the deadweight loss to Home, is $(b + d)$, which is measured by the two triangles b and d in panel (a) or the single (combined) triangle $b + d$ in panel (b).

Effect of the Tariff on Consumer Surplus In Figure 8-5, we again show the effect of the tariff of t dollars, which is to increase the price of the imported and domestic good from P^W to $P^W + t$. Under free trade, consumer surplus in panel (a) was the area under the demand curve and above P^W. With the tariff, consumers now pay the higher price, $P^W + t$, and their surplus is the area under the demand curve and above the price $P^W + t$. The fall in consumer surplus due to the tariff is the area between the two prices and to the left of Home's demand, which is $(a + b + c + d)$ in panel (a) of Figure 8-5. This area is the amount that consumers lose due to the higher price caused by the tariff.

Effect of the Tariff on Producer Surplus We can also trace the impact of the tariff on producer surplus. Under free trade, producer surplus was the area above the supply curve in panel (a) and below the price of P_W. With the tariff, producer surplus is the area above the supply curve and below the price $P_W + t$: since the tariff increases the Home price, firms are able to sell more goods at a higher price, thus increasing their surplus. We can illustrate this rise in producer surplus as the amount between the two prices and to the left of Home supply, which is labeled as a in panel (a). This area is the amount that Home firms gain because of the higher price caused by the tariff. As we have just explained, the rise in producer surplus should be thought of as an increase in the return to fixed factors (capital or land) in the industry. Sometimes we even think of labor as a partially fixed factor because the skills learned in one industry cannot necessarily be transferred to other industries. In that case, it is reasonable to think that the increase in Home producer surplus can also benefit Home's workers in the import-competing industry, along with capital and land, but this benefit comes at the expense of consumer surplus.

Effect of the Tariff on Government Revenue In addition to affecting consumers and producers, the tariff also affects government revenue. The amount of revenue collected is the tariff t times the quantity of imports $(D_2 - S_2)$. In Figure 8-5, panel (a), this revenue is shown by the area c. The collection of revenue is a gain for the government in the importing country.

Overall Effect of the Tariff on Welfare We are now in a position to summarize the impact of the tariff on the welfare of the Home importing country, which is the sum of producer surplus, consumer surplus, and government revenues. Thus, our approach is to *add up* these impacts to obtain a net effect. In adding up the losses of consumers and the gains of producers, one dollar of consumer surplus is the same as one dollar of producer surplus or government revenue. In other words, we do not care whether the consumers facing higher prices are poor or rich, and do not care whether the specific factors in the industry (capital, land, and possibly labor) earn a lot or a little. Under this approach, transferring one dollar from consumer to producer surplus will have no impact on overall welfare: the decrease in consumer surplus will cancel out the increase in producer surplus.

You may object to this method of evaluating overall welfare, and feel that a dollar taken away from a poor consumer and given to a rich producer represents a net loss of overall welfare, rather than zero effect, as in our approach. We should be careful in evaluating the impact of tariffs on different income groups in the society, especially for poor countries or countries with a high degree of inequality among income groups. But for now we ignore this concern and simply add up consumer surplus, producer surplus, and government revenue. Keep in mind that under this approach we are just evaluating the *efficiency* of tariffs and not their effect on equity (i.e., how fair the tariff is to one group versus another).

The overall impact of the tariff in the small country can be summarized as follows:

Fall in consumer surplus:	$-(a + b + c + d)$
Rise in producer surplus:	$+a$
Rise in government revenue:	$+c$
Net effect on Home's welfare:	$\mathbf{-(b + d)}$

In Figure 8-5(b), the triangle $(b + d)$ is the *net welfare loss* in a small importing country due to the tariff. We sometimes refer to this area as a **deadweight loss,** meaning that it is not offset by a gain elsewhere in the economy. Notice that in panel (a) the area a, which is a gain for producers, just cancels out that portion of the consumer surplus loss; the area a is effectively a transfer from consumers to producers via the higher domestic prices induced by the tariff. Likewise, area c, the gain in government revenue, also cancels out that portion of the consumer surplus loss; this is a transfer from consumers to the government. Thus, the area $(b + d)$ is the remaining loss for consumers that is not offset by a gain elsewhere. This deadweight loss is measured by the two triangles, b and d, in panel (a), or by the combined triangle $(b + d)$ in panel (b). The two triangles b and d of deadweight loss can each be given a precise interpretation, as follows.

Production Loss Notice that the base of triangle b is the net increase in Home supply due to the tariff, from S_1 to S_2. The height of this triangle is the increase in marginal costs due to the increase in supply. The unit S_1 was produced at a marginal cost equal to P^W, which is the free-trade price, but every unit above that amount is produced with higher marginal costs. The fact that marginal costs exceed the world price means that this country is producing the good inefficiently: it would be cheaper to import it rather than produce the extra quantity at home. The area of triangle b equals the increase in marginal costs for the extra units produced and can be interpreted as the **production loss** (or the *efficiency loss*) for the economy due to producing at marginal costs above the world price. Notice that the production loss is only a portion of the overall deadweight loss, which is $(b + d)$ in Figure 8-5.

Consumption Loss The triangle d in panel (a) (the other part of the deadweight loss) can also be given a precise interpretation. Because of the tariff and the price increase from P^W to $P^W + t$, the quantity consumed in Home is reduced from D_1 to D_2. The area of the triangle d can be interpreted as the drop in consumer surplus for those individuals who are no longer able to consume the units between D_1 and D_2 because of the higher price. We refer to this drop in consumer surplus as the **consumption loss** for the economy.

Why and How Are Tariffs Applied?

Our finding that a tariff always leads to deadweight losses for a small importing country explains why most economists oppose the use of tariffs. If a small country suffers a loss when it imposes a tariff, why do so many have tariffs as part of their trade policies? One answer is that a developing country does not have any other source of government revenue. Import tariffs are "easy to collect" because every country has customs agents at major ports checking the goods that cross the border. It is easy to tax imports, even though the deadweight loss from using a tariff is typically higher than the deadweight loss from using "hard-to-collect" taxes, such as income taxes or value-added taxes. These taxes are hard to collect because they require individuals and firms to honestly report earnings, and the government cannot check every report (as they can check imports at the border). Still, to the extent that developing countries recognize that tariffs have a higher deadweight loss, we would expect that over time they would shift away from such easy-to-collect taxes. That is exactly what has occurred, according to one research study.[5] The fraction of total tax revenue collected from easy-to-collect taxes such as tariffs fell during the 1980s and 1990s, especially in developing countries, whereas the fraction of revenue raised from "hard to collect" taxes rose over this same period.

A second reason why tariffs are used even though they have a deadweight loss is politics. The tariff benefits Home producers, as we have seen, so if the government cares more about producer surplus than consumer surplus, it might decide to use the tariff despite the deadweight loss it incurs. Indeed, the benefits to producers (and their workers) are typically more concentrated on specific firms and states than the costs to consumers, which are spread nationwide. This is our interpretation of the tariff that President George W. Bush granted to the steel industry from 2002 to 2004: its benefits were concentrated in the steel-producing states of Pennsylvania, West Virginia, and Ohio, and its costs to consumers—in this case, steel-using industries—were spread more widely.[6] For the tariff on tires imported from China granted by President Obama from 2009 to 2012, the argument is a bit different. This tariff was requested by the United Steelworkers, the union who represents workers in the U.S. tire industry, and it was expected to benefit those workers. But U.S. tire producers did not support

[5] Joshua Aizenman and Yothin Jinjarak, January 2006, "Globalization and Developing Countries—A Shrinking Tax Base?" National Bureau of Economic Research (NBER) Working Paper No. 11933.

[6] Although the steel tariff was used to obtain votes from the steel-producing states, it also served another political purpose. In 2002 President George W. Bush faced a vote on whether the president should be granted "fast-track authority" to negotiate trade agreements with other countries. Fast-track authority allows the president to present a new trade agreement to the Congress for an up-or-down vote within 90 days, without having the terms of the trade agreement revised by the Congress. This authority expires every five years. In 2002 the steel tariff prompted some members of Congress to vote in favor of fast-track authority, which passed in Congress by only two votes. Fast-track authority, also called "trade promotion authority," was allowed to lapse in July 2007 and was not renewed again until June 2015.

the tariff because many of them were already manufacturing tires in other countries—especially China—and this tariff made it more costly for them to do so.

In both the steel and tire cases, the president was not free to impose just any tariff, but had to follow the rules of the GATT discussed earlier in this chapter. Recall that Article XIX of the GATT, known as the "safeguard" or "escape clause," allows a temporary tariff to be used under certain circumstances. GATT Article XIX is mirrored in U.S. trade law. In **Side Bar: Safeguard Tariffs,** we list the key passages for two sections of the Trade Act of 1974, as amended, both of which deal with safeguard tariffs.

First, Section 201 states that a tariff can be requested by the president, by the House of Representatives, by the Senate, or by any other party such as a firm or union that files a petition with the U.S. International Trade Commission (ITC). That commission determines whether rising imports have been a "substantial cause of serious injury, or threat thereof, to the U.S. industry. . . ." The commission then makes a recommendation to the president who has the final authority to approve or veto the tariff. Section 201 goes further in defining a "substantial cause" as a "cause that is important and not less than any other cause." Although this kind of legal language sounds obscure, it basically means that rising imports have to be *the most important* cause of injury to justify import protection. The steel tariff used by President Bush met this criterion, but as we see in later chapters, many other requests for tariffs do not meet this criterion and are not approved.

A second, more recent amendment to the Trade Act of 1974 is Section 421 that applies only to China. This provision was added by the United States as a condition

SIDE BAR

Safeguard Tariffs

The U.S. Trade Act of 1974, as amended, describes conditions under which tariffs can be applied in the United States, and it mirrors the provisions of the GATT and WTO. Two sections of the Trade Act of 1974 deal with the use of "safeguard" tariffs:

Section 201

Upon the filing of a petition. . . , the request of the President or the Trade Representative, the resolution of either the Committee on Ways and Means of the House of Representatives or the Committee on Finance of the Senate, or on its own motion, the [International Trade] Commission shall promptly make an investigation to determine whether an article is being imported into the United States in such increased quantities as to be a *substantial cause of serious injury, or the threat thereof, to the domestic industry* producing an article like or directly competitive with the imported article.

. . . For purposes of this section, the term "substantial cause" means a cause which is *important and not less than any other cause.*

Section 421

Upon the filing of a petition . . . the United States International Trade Commission . . . shall promptly make an investigation to determine whether products of the People's Republic of China are being imported into the United States in such increased quantities or under such conditions as to *cause or threaten to cause market disruption to the domestic producers* of like or directly competitive products.

. . . (1) For purposes of this section, *market disruption* exists whenever imports of an article like or directly competitive with an article produced by a domestic industry are increasing rapidly, either absolutely or relatively, so as to be a *significant cause of material injury, or threat of material injury, to the domestic industry.*

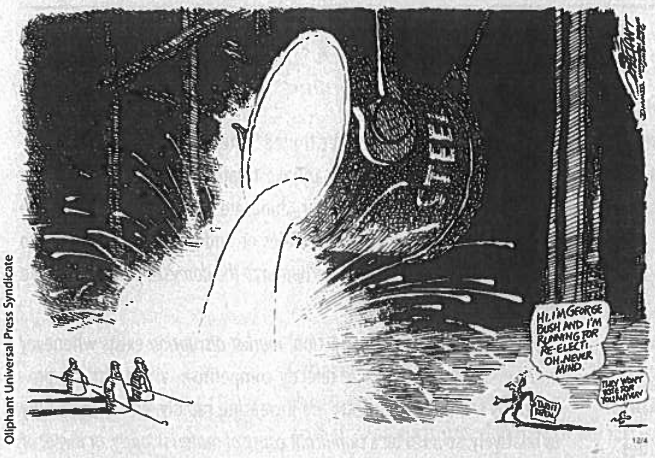
(2) For purposes of paragraph (1), the term "significant cause" refers to a cause which contributes significantly to the material injury of the domestic industry, *but need not be equal to or greater than any other cause.* [Italics added]

Source: http://www.law.cornell.edu/uscode/text/19/2252 and *http://www.law.cornell.edu/uscode/text/19/2451.*

to China's joining the WTO in 2001.[7] Because the United States was worried about exceptional surges in imports from China, it drafted this legislation so that tariffs could be applied in such a case. Under Section 421, various groups can file a petition with the U.S. International Trade Commission, which makes a recommendation to the president. The commission must determine whether rising imports from China cause "market disruption" in a U.S. industry, which means "a significant cause of material injury, or threat of material injury, to the domestic industry." Furthermore, the term "significant cause" refers to "a cause which contributes significantly to the material injury of the domestic industry, but need not be equal to or greater than any other cause." Again, the legal language can be hard to follow, but it indicates that tariffs can be applied even when rising imports from China *are not the most important* cause of injury to the domestic industry. Section 421 can therefore be applied under weaker conditions than Section 201, and it was used by President Obama to justify the tariff on tires imported from China.

APPLICATION
U.S. Tariffs on Steel and Tires

The U.S. steel and tire tariffs highlight the political motivation for applying tariffs despite the deadweight losses associated with them. We can use our small-country model introduced previously to calculate a rough estimate of how costly these tariffs were in terms of welfare. Although the United States may not be a small country when it comes to its influence on import and export prices, it is a good starting point for our analysis, and we will examine the large-country case in the next section. For now, we stay with our small-country model and illustrate the deadweight loss due to a tariff with the U.S. steel tariff in place from March 2002 to December 2003. After that calculation, we compare the steel tariff with the more recent tariff on tires.



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To fulfill his campaign promise to protect the steel industry, President George W. Bush requested that the ITC initiate a Section 201 investigation into the steel industry. This was one of the few times that a president had initiated a Section 201 action; usually, firms or unions in an industry apply to the ITC for import protection. After investigating, the ITC determined that the conditions of Section 201 and Article XIX were met, and it recommended that tariffs be put in place to protect the U.S. steel industry. The tariffs recommended by the ITC varied across products, ranging from 10% to 20% for the first year, as shown in Table 8-1, and then falling over time so as to be eliminated after three years.

The ITC decision was based on several factors.[8] First, imports had been rising and prices were falling in the steel industry from 1998 to early 2001, leading to substantial

[7] Section 421 was added to U.S. trade law for 12 years, and expired on December 11, 2013.
[8] We focus here on the ITC conclusions for flat-rolled carbon steel, from U.S. International Trade Commission, 2001, Steel: Investigation No. TA-201-73, Volume I, Publication 3479, Washington, D.C.