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Application: International Trade

If you check the labels on the clothes you are now wearing, you will probably find that some of your clothes were made in another country. A century ago, the textiles and clothing industry was a major part of the U.S. economy, but that is no longer the case. Faced with foreign competitors that can produce quality goods at low cost, many U.S. firms have found it increasingly difficult to produce and sell textiles and clothing at a profit. As a result, they have laid off their workers and shut down their factories. Today, much of the textiles and clothing that Americans consume are imported.

The story of the textiles industry raises important questions for economic policy: How does international trade affect economic well-being? Who gains and who loses from free trade among countries, and how do the gains compare to the losses?

Chapter 3 introduced the study of international trade by applying the principle of comparative advantage. According to this principle, all countries can benefit from trading with one another because trade allows each country to specialize in doing what it does best. But the analysis in Chapter 3 was incomplete. It did not explain how the international marketplace achieves these gains from trade or how the gains are distributed among various economic participants.

We now return to the study of international trade and take up these questions. Over the past several chapters, we have developed many tools for analyzing how

markets work: supply, demand, equilibrium, consumer surplus, producer surplus, and so on. With these tools, we can learn more about how international trade affects economic well-being.

THE DETERMINANTS OF TRADE

Consider the market for steel. The steel market is well suited to examining the gains and losses from international trade: Steel is made in many countries around the world, and there is much world trade in steel. Moreover, the steel market is one in which policymakers often consider (and sometimes implement) trade restrictions to protect domestic steel producers from foreign competitors. We examine here the steel market in the imaginary country of Isoland.

The Equilibrium without Trade

As our story begins, the Isolandian steel market is isolated from the rest of the world. By government decree, no one in Isoland is allowed to import or export steel, and the penalty for violating the decree is so large that no one dares try.

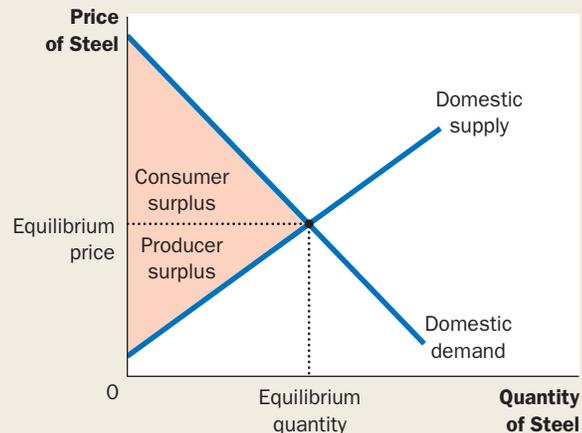
Because there is no international trade, the market for steel in Isoland consists solely of Isolandian buyers and sellers. As Figure 1 shows, the domestic price adjusts to balance the quantity supplied by domestic sellers and the quantity demanded by domestic buyers. The figure shows the consumer and producer surplus in the equilibrium without trade. The sum of consumer and producer surplus measures the total benefits that buyers and sellers receive from the steel market.

Now suppose that, in an election upset, Isoland elects a new president. The president campaigned on a platform of “change” and promised the voters bold new ideas. Her first act is to assemble a team of economists to evaluate Isolandian trade policy. She asks them to report back on three questions:

1 FIGURE

The Equilibrium without International Trade

When an economy cannot trade in world markets, the price adjusts to balance domestic supply and demand. This figure shows consumer and producer surplus in an equilibrium without international trade for the steel market in the imaginary country of Isoland.



- If the government allows Isolandians to import and export steel, what will happen to the price of steel and the quantity of steel sold in the domestic steel market?
- Who will gain from free trade in steel and who will lose, and will the gains exceed the losses?
- Should a tariff (a tax on steel imports) be part of the new trade policy?

After reviewing supply and demand in their favorite textbook (this one, of course), the Isolandian economics team begins its analysis.

The World Price and Comparative Advantage

The first issue our economists take up is whether Isoland is likely to become a steel importer or a steel exporter. In other words, if free trade is allowed, will Isolandians end up buying or selling steel in world markets?

To answer this question, the economists compare the current Isolandian price of steel to the price of steel in other countries. We call the price prevailing in world markets the **world price**. If the world price of steel is higher than the domestic price, then Isoland will export steel once trade is permitted. Isolandian steel producers will be eager to receive the higher prices available abroad and will start selling their steel to buyers in other countries. Conversely, if the world price of steel is lower than the domestic price, then Isoland will import steel. Because foreign sellers offer a better price, Isolandian steel consumers will quickly start buying steel from other countries.

world price

the price of a good that prevails in the world market for that good

In essence, comparing the world price and the domestic price before trade indicates whether Isoland has a comparative advantage in producing steel. The domestic price reflects the opportunity cost of steel: It tells us how much an Isolandian must give up to get one unit of steel. If the domestic price is low, the cost of producing steel in Isoland is low, suggesting that Isoland has a comparative advantage in producing steel relative to the rest of the world. If the domestic price is high, then the cost of producing steel in Isoland is high, suggesting that foreign countries have a comparative advantage in producing steel.

As we saw in Chapter 3, trade among nations is ultimately based on comparative advantage. That is, trade is beneficial because it allows each nation to specialize in doing what it does best. By comparing the world price and the domestic price before trade, we can determine whether Isoland is better or worse at producing steel than the rest of the world.

Quick Quiz The country Autarka does not allow international trade. In Autarka, you can buy a wool suit for 3 ounces of gold. Meanwhile, in neighboring countries, you can buy the same suit for 2 ounces of gold. If Autarka were to allow free trade, would it import or export wool suits?

THE WINNERS AND LOSERS FROM TRADE

To analyze the welfare effects of free trade, the Isolandian economists begin with the assumption that Isoland is a small economy compared to the rest of the world so that its actions have little effect on world markets. The small-economy

assumption has a specific implication for analyzing the steel market: If Isoland is a small economy, then the change in Isoland's trade policy will not affect the world price of steel. The Isolandians are said to be *price takers* in the world economy. That is, they take the world price of steel as given. They can sell steel at this price and be exporters or buy steel at this price and be importers.

The small-economy assumption is not necessary to analyze the gains and losses from international trade. But the Isolandian economists know from experience (and from reading Chapter 2 of this book) that making simplifying assumptions is a key part of building a useful economic model. The assumption that Isoland is a small economy greatly simplifies the analysis, and the basic lessons do not change in the more complicated case of a large economy.

The Gains and Losses of an Exporting Country

Figure 2 shows the Isolandian steel market when the domestic equilibrium price before trade is below the world price. Once free trade is allowed, the domestic price rises to equal the world price. No seller of steel would accept less than the world price, and no buyer would pay more than the world price.

Once the domestic price has risen to equal the world price, the domestic quantity supplied differs from the domestic quantity demanded. The supply

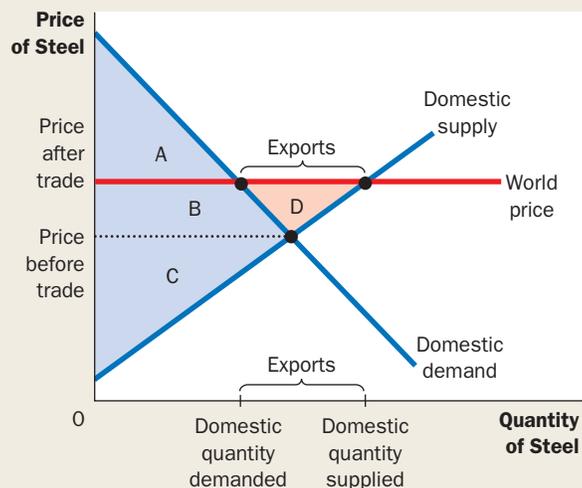
2 FIGURE

International Trade in an Exporting Country

Once trade is allowed, the domestic price rises to equal the world price. The supply curve shows the quantity of steel produced domestically, and the demand curve shows the quantity consumed domestically. Exports from Isoland equal the difference between the domestic quantity supplied and the domestic quantity demanded at the world price. Sellers are better off (producer surplus rises from C to B + C + D), and buyers are worse off (consumer surplus falls from A + B to A). Total surplus rises by an amount equal to area D, indicating that trade raises the economic well-being of the country as a whole.

| | Before Trade | After Trade | Change |
|------------------|--------------|---------------|----------|
| Consumer Surplus | A + B | A | -B |
| Producer Surplus | C | B + C + D | +(B + D) |
| Total Surplus | A + B + C | A + B + C + D | +D |

The area D shows the increase in total surplus and represents the gains from trade.



curve shows the quantity of steel supplied by Isolandian sellers. The demand curve shows the quantity of steel demanded by Isolandian buyers. Because the domestic quantity supplied is greater than the domestic quantity demanded, Isoland sells steel to other countries. Thus, Isoland becomes a steel exporter.

Although domestic quantity supplied and domestic quantity demanded differ, the steel market is still in equilibrium because there is now another participant in the market: the rest of the world. One can view the horizontal line at the world price as representing the demand for steel from the rest of the world. This demand curve is perfectly elastic because Isoland, as a small economy, can sell as much steel as it wants at the world price.

Now consider the gains and losses from opening up trade. Clearly, not everyone benefits. Trade forces the domestic price to rise to the world price. Domestic producers of steel are better off because they can now sell steel at a higher price, but domestic consumers of steel are worse off because they have to buy steel at a higher price.

To measure these gains and losses, we look at the changes in consumer and producer surplus. Before trade is allowed, the price of steel adjusts to balance domestic supply and domestic demand. Consumer surplus, the area between the demand curve and the before-trade price, is area $A + B$. Producer surplus, the area between the supply curve and the before-trade price, is area C . Total surplus before trade, the sum of consumer and producer surplus, is area $A + B + C$.

After trade is allowed, the domestic price rises to the world price. Consumer surplus is reduced to area A (the area between the demand curve and the world price). Producer surplus is increased to area $B + C + D$ (the area between the supply curve and the world price). Thus, total surplus with trade is area $A + B + C + D$.

These welfare calculations show who wins and who loses from trade in an exporting country. Sellers benefit because producer surplus increases by the area $B + D$. Buyers are worse off because consumer surplus decreases by the area B . Because the gains of sellers exceed the losses of buyers by the area D , total surplus in Isoland increases.

This analysis of an exporting country yields two conclusions:

- When a country allows trade and becomes an exporter of a good, domestic producers of the good are better off, and domestic consumers of the good are worse off.
- Trade raises the economic well-being of a nation in the sense that the gains of the winners exceed the losses of the losers.

The Gains and Losses of an Importing Country

Now suppose that the domestic price before trade is above the world price. Once again, after free trade is allowed, the domestic price must equal the world price. As Figure 3 shows, the domestic quantity supplied is less than the domestic quantity demanded. The difference between the domestic quantity demanded and the domestic quantity supplied is bought from other countries, and Isoland becomes a steel importer.

In this case, the horizontal line at the world price represents the supply of the rest of the world. This supply curve is perfectly elastic because Isoland is a small economy and, therefore, can buy as much steel as it wants at the world price.

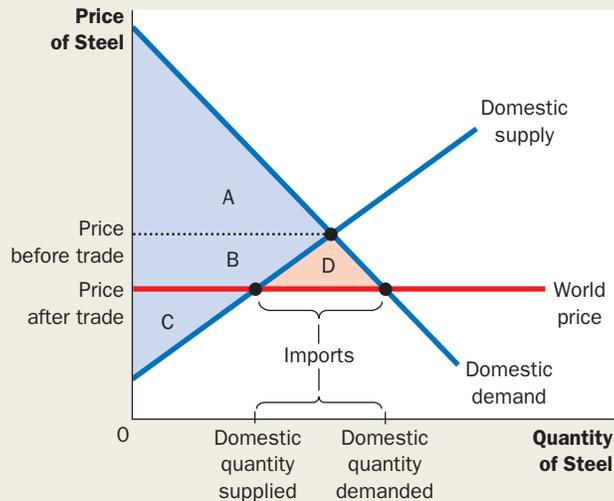
3 FIGURE

International Trade in an Importing Country

Once trade is allowed, the domestic price falls to equal the world price. The supply curve shows the amount produced domestically, and the demand curve shows the amount consumed domestically. Imports equal the difference between the domestic quantity demanded and the domestic quantity supplied at the world price. Buyers are better off (consumer surplus rises from A to $A + B + D$), and sellers are worse off (producer surplus falls from $B + C$ to C). Total surplus rises by an amount equal to area D , indicating that trade raises the economic well-being of the country as a whole.

| | Before Trade | After Trade | Change |
|------------------|--------------|-----------------|------------|
| Consumer Surplus | A | $A + B + D$ | $+(B + D)$ |
| Producer Surplus | $B + C$ | C | $-B$ |
| Total Surplus | $A + B + C$ | $A + B + C + D$ | $+D$ |

The area D shows the increase in total surplus and represents the gains from trade.



Now consider the gains and losses from trade. Once again, not everyone benefits. When trade forces the domestic price to fall, domestic consumers are better off (they can now buy steel at a lower price), and domestic producers are worse off (they now have to sell steel at a lower price). Changes in consumer and producer surplus measure the size of the gains and losses. Before trade, consumer surplus is area A , producer surplus is area $B + C$, and total surplus is area $A + B + C$. After trade is allowed, consumer surplus is area $A + B + D$, producer surplus is area C , and total surplus is area $A + B + C + D$.

These welfare calculations show who wins and who loses from trade in an importing country. Buyers benefit because consumer surplus increases by the area $B + D$. Sellers are worse off because producer surplus falls by the area B . The gains of buyers exceed the losses of sellers, and total surplus increases by the area D .

This analysis of an importing country yields two conclusions parallel to those for an exporting country:

- When a country allows trade and becomes an importer of a good, domestic consumers of the good are better off, and domestic producers of the good are worse off.
- Trade raises the economic well-being of a nation in the sense that the gains of the winners exceed the losses of the losers.



In The News

Cheap Clothes from China

At the end of 2004, the United States vastly expanded its openness to textile imports from China. Do the winners and losers from this change, as described in this article, coincide with our analysis?

Free of Quota, China Textiles Flood the U.S.

By David Barboza
and Elizabeth Becker

SHANGHAI, March 9—In the first month after the end of all quotas on textiles and apparel around the world, imports to the United States from China jumped about 75 percent, according to trade figures released by the Chinese government.

The statistics bear some of the first evidence that China's booming textile and apparel trade, unhampered by quotas, could be prepared to dominate the global textile trade and add to trade tensions around the world. The quotas came to an end on Dec. 31 as a result of an international agreement reached in 1993.

In January, the United States imported more than \$1.2 billion in textiles and apparel from China, up from about \$701 million a year ago. Imports of major apparel products from China jumped 546 percent. Last January, for example, China shipped 941,000 cotton knit shirts, which were limited by quotas; this January, it shipped 18.2 million,

a 1,836 percent increase. Imports of cotton knit trousers were up 1,332 percent from a year ago. . . .

Some analysts have predicted that China could capture as much as 70 percent of the American market in the next two years. Before the end of quotas, about 16 percent of apparel sold in the United States came from China. . . .

It is clear that efforts to move toward more open trade have freed China and other countries of many textile and apparel quotas and restrictions. And they have set the stage for China to become a global textile and apparel behemoth, lowering clothing prices for consumers around the world but upsetting and rewriting current trade balances. . . .

"The wolf is at the door and only the U.S. government can slam it shut, and it needs to do it right now," said Cass Johnson, president of the National Council of Textile Organizations, a trade group that is pressing the administration to impose immediate limits on Chinese imports.

Many Democrats in Congress say that imports from China are the biggest trade problem for the United States. Rep-



resentative Benjamin L. Cardin of Maryland, the ranking Democrat on the trade subcommittee of the House Ways and Means Committee, said in an interview that he would push the administration to pay more attention to China's trading practices. . . . Bush administration did agree last year to put limits on some Chinese textile and apparel imports in advance of any market disruption.

But importers and retailers, particularly the National Retail Federation, persuaded the Court of International Trade to issue an injunction against the administration's limits.

Source: *The New York Times*, March 10, 2005, page A1.

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Having completed our analysis of trade, we can better understand one of the *Ten Principles of Economics* in Chapter 1: Trade can make everyone better off. If Isoland opens up its steel market to international trade, that change will create winners and losers, regardless of whether Isoland ends up exporting or importing



steel. In either case, however, the gains of the winners exceed the losses of the losers, so the winners could compensate the losers and still be better off. In this sense, trade *can* make everyone better off. But *will* trade make everyone better off? Probably not. In practice, compensation for the losers from international trade is rare. Without such compensation, opening up to international trade is a policy that expands the size of the economic pie, while perhaps leaving some participants in the economy with a smaller slice.

We can now see why the debate over trade policy is often contentious. Whenever a policy creates winners and losers, the stage is set for a political battle. Nations sometimes fail to enjoy the gains from trade simply because the losers from free trade are better organized than the winners. The losers may turn their cohesiveness into political clout and lobby for trade restrictions, such as tariffs.

The Effects of a Tariff

tariff

a tax on goods produced abroad and sold domestically

The Isolandian economists next consider the effects of a **tariff**—a tax on imported goods. The economists quickly realize that a tariff on steel will have no effect if Isoland becomes a steel exporter. If no one in Isoland is interested in importing steel, a tax on steel imports is irrelevant. The tariff matters only if Isoland becomes a steel importer. Concentrating their attention on this case, the economists compare welfare with and without the tariff.

Figure 4 shows the Isolandian market for steel. Under free trade, the domestic price equals the world price. A tariff raises the price of imported steel above the world price by the amount of the tariff. Domestic suppliers of steel, who compete with suppliers of imported steel, can now sell their steel for the world price plus the amount of the tariff. Thus, the price of steel—both imported and domestic—rises by the amount of the tariff and is, therefore, closer to the price that would prevail without trade.

The change in price affects the behavior of domestic buyers and sellers. Because the tariff raises the price of steel, it reduces the domestic quantity demanded from Q_1^D to Q_2^D and raises the domestic quantity supplied from Q_1^S to Q_2^S . Thus, the tariff reduces the quantity of imports and moves the domestic market closer to its equilibrium without trade.

Now consider the gains and losses from the tariff. Because the tariff raises the domestic price, domestic sellers are better off, and domestic buyers are worse off. In addition, the government raises revenue. To measure these gains and losses, we look at the changes in consumer surplus, producer surplus, and government revenue. These changes are summarized in the table in Figure 4.

Before the tariff, the domestic price equals the world price. Consumer surplus, the area between the demand curve and the world price, is area $A + B + C + D + E + F$. Producer surplus, the area between the supply curve and the world price, is area G . Government revenue equals zero. Total surplus, the sum of consumer surplus, producer surplus, and government revenue, is area $A + B + C + D + E + F + G$.

Once the government imposes a tariff, the domestic price exceeds the world price by the amount of the tariff. Consumer surplus is now area $A + B$. Producer surplus is area $C + G$. Government revenue, which is the quantity of after-tariff imports times the size of the tariff, is the area E . Thus, total surplus with the tariff is area $A + B + C + E + G$.

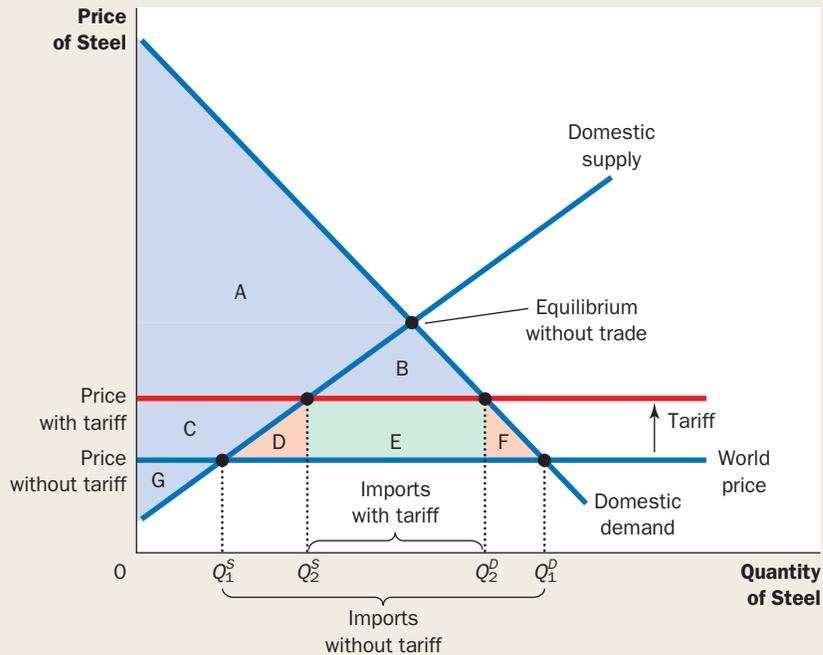
4 FIGURE

The Effects of a Tariff

A tariff reduces the quantity of imports and moves a market closer to the equilibrium that would exist without trade. Total surplus falls by an amount equal to area D + F. These two triangles represent the deadweight loss from the tariff.

| | Before Trade | After Trade | Change |
|--------------------|---------------------------|-------------------|------------------|
| Consumer Surplus | A + B + C + D + E + F | A + B | -(C + D + E + F) |
| Producer Surplus | G | C + G | +C |
| Government Revenue | None | E | +E |
| Total Surplus | A + B + C + D + E + F + G | A + B + C + E + G | -(D + F) |

The area D + F shows the fall in total surplus and represents the deadweight loss of the tariff.



To determine the total welfare effects of the tariff, we add the change in consumer surplus (which is negative), the change in producer surplus (positive), and the change in government revenue (positive). We find that total surplus in the market decreases by the area D + F. This fall in total surplus is called the *deadweight loss* of the tariff.

A tariff causes a deadweight loss simply because a tariff is a type of tax. Like most taxes, it distorts incentives and pushes the allocation of scarce resources away from the optimum. In this case, we can identify two effects. First, the tariff on steel raises the price of steel that domestic producers can charge above the



FYI

Import Quotas: Another Way to Restrict Trade

Beyond tariffs, another way that nations sometimes restrict international trade is by putting limits on how much of a good can be imported. In this book, we will not analyze such a policy, other than to point out the conclusion: Import quotas are much like tariffs. Both tariffs and import quotas reduce the quantity of imports, raise the domestic price of the good, decrease the welfare of domestic consumers, increase the welfare of domestic producers, and cause deadweight losses.

There is only one difference between these two types of trade restriction: A tariff raises revenue for the government, whereas an import quota creates surplus for those who get the licenses to import. The profit for the holder of an import license is the difference between the domestic price (at which he sells the imported good) and the world price (at which he buys it).

Tariffs and import quotas are even more similar if the government charges a fee for the import licenses. Suppose the gov-

ernment sets the license fee equal to the difference between the domestic price and the world price. In this case, all of the profit of license holders is paid to the government in license fees, and the import quota works exactly like a tariff. Consumer surplus, producer surplus, and government revenue are precisely the same under the two policies.

In practice, however, countries that restrict trade with import quotas rarely do so by selling the import licenses. For example, the U.S. government has at times pressured Japan to “voluntarily” limit the sale of Japanese cars in the United States. In this case, the Japanese government allocates the import licenses to Japanese firms, and the surplus from these licenses accrues to those firms. This kind of import quota is, from the standpoint of U.S. welfare, strictly worse than a U.S. tariff on imported cars. Both a tariff and an import quota raise prices, restrict trade, and cause deadweight losses, but at least the tariff produces revenue for the U.S. government rather than profit for foreign producers.

world price and, as a result, encourages them to increase production of steel (from Q_1^S to Q_2^S). Second, the tariff raises the price that domestic steel buyers have to pay and, therefore, encourages them to reduce consumption of steel (from Q_1^D to Q_2^D). Area D represents the deadweight loss from the overproduction of steel, and area F represents the deadweight loss from the underconsumption. The total deadweight loss of the tariff is the sum of these two triangles.

The Lessons for Trade Policy

The team of Isolandian economists can now write to the new president:

Dear Madame President,

You asked us three questions about opening up trade. After much hard work, we have the answers.

Question: If the government allows Isolandians to import and export steel, what will happen to the price of steel and the quantity of steel sold in the domestic steel market?

Answer: Once trade is allowed, the Isolandian price of steel will be driven to equal the price prevailing around the world.

If the world price is now higher than the Isolandian price, our price will rise. The higher price will reduce the amount of steel Isolandians consume and raise the amount of steel that Isolandians produce. Isoland will, therefore, become a steel exporter. This occurs because, in this case, Isoland has a comparative advantage in producing steel.

Conversely, if the world price is now lower than the Isolandian price, our price will fall. The lower price will raise the amount of steel that Isolandians consume and lower the amount of steel that Isolandians produce. Isoland will, therefore, become a steel importer. This occurs because, in this case, other countries have a comparative advantage in producing steel.

Question: Who will gain from free trade in steel and who will lose, and will the gains exceed the losses?

Answer: The answer depends on whether the price rises or falls when trade is allowed. If the price rises, producers of steel gain, and consumers of steel lose. If the price falls, consumers gain, and producers lose. In both cases, the gains are larger than the losses. Thus, free trade raises the total welfare of Isolandians.

Question: Should a tariff be part of the new trade policy?

Answer: A tariff moves the economy closer to the no-trade equilibrium and, like most taxes, has deadweight losses. Although a tariff improves the welfare of domestic producers and raises revenue for the government, these gains are more than offset by the losses suffered by consumers. The best policy, from the standpoint of economic efficiency, would be to allow trade without a tariff.

We hope you find these answers helpful as you decide on your new policy.

Your faithful servants,
Isolandian economics team

Quick Quiz Draw a supply and demand curve for wool suits in the country of Autarka. When trade is allowed, the price of a suit falls from 3 to 2 ounces of gold. In your diagram, show the change in consumer surplus, the change in producer surplus, and the change in total surplus. How would a tariff on suit imports alter these effects?

THE ARGUMENTS FOR RESTRICTING TRADE

The letter from the economics team persuades the new president of Isoland to consider opening up trade in steel. She notes that the domestic price is now high compared to the world price. Free trade would, therefore, cause the price of steel to fall and hurt domestic steel producers. Before implementing the new policy, she asks Isolandian steel companies to comment on the economists' advice.



FYI

Other Benefits of International Trade

Our conclusions so far have been based on the standard analysis of international trade. As we have seen, there are winners and losers when a nation opens itself up to trade, but the gains to the winners exceed the losses of the losers. Yet the case for free trade can be made even stronger. There are several other economic benefits of trade beyond those emphasized in the standard analysis.

Here, in a nutshell, are some of these other benefits:

- *Increased variety of goods:* Goods produced in different countries are not exactly the same. German beer, for instance, is not the same as American beer. Free trade gives consumers in all countries greater variety from which to choose.
- *Lower costs through economies of scale:* Some goods can be produced at low cost only if they are produced in large quantities—a phenomenon called *economies of scale*. A firm in a small country cannot take full advantage of economies of scale if it can sell only in a small domestic market. Free trade gives firms access to larger world markets and allows them to realize economies of scale more fully.

- *Increased competition:* A company shielded from foreign competitors is more likely to have market power, which in turn gives it the ability to raise prices above competitive levels. This is a type of market failure. Opening up trade fosters competition and gives the invisible hand a better chance to work its magic.
- *Enhanced flow of ideas:* The transfer of technological advances around the world is often thought to be linked to international trade in the goods that embody those advances. The best way for a poor agricultural nation to learn about the computer revolution, for instance, is to buy some computers from abroad rather than trying to make them domestically.

Thus, free international trade increases variety for consumers, allows firms to take advantage of economies of scale, makes markets more competitive, and facilitates the spread of technology. If the Isolandian economists thought these effects were important, their advice to their president would be even more forceful.

Not surprisingly, the steel companies are opposed to free trade in steel. They believe that the government should protect the domestic steel industry from foreign competition. Let's consider some of the arguments they might give to support their position and how the economics team would respond.

Berry's World



"YOU LIKE PROTECTIONISM AS A 'WORKING MAN.' HOW ABOUT AS A CONSUMER?"

The Jobs Argument

Opponents of free trade often argue that trade with other countries destroys domestic jobs. In our example, free trade in steel would cause the price of steel to fall, reducing the quantity of steel produced in Isoland and thus reducing employment in the Isolandian steel industry. Some Isolandian steelworkers would lose their jobs.

Yet free trade creates jobs at the same time that it destroys them. When Isolandians buy steel from other countries, those countries obtain the resources to buy



In The News

Offshore Outsourcing

If you buy a new computer and call the company for tech support, you shouldn't be surprised if you end up talking to someone in Bangalore, India. In 2004, the author of this textbook, while an adviser to President Bush, was asked about the movement of such jobs overseas. I replied that the trend was "probably a plus for the economy in the long run." Most economists agreed, but some elected officials responded differently.

The Economics of Progress

By George F. Will

It is difficult to say something perfectly, precisely false. But House Speaker Dennis Hastert did when participating in the bipartisan piling-on against the president's economic adviser, who imprudently said something sensible.

John Kerry and John Edwards, who are not speaking under oath and who know that economic illiteracy has never been a disqualification for high office, have led the scrum against the chairman of the president's Council of Economic Advisers, N. Gregory Mankiw, who said the arguments for free trade apply to trade in services as well as manufactured goods. But the prize for the pithiest nonsense went to Hastert: "An economy suffers when jobs disappear."

So the economy suffered when automobiles caused the disappearance of the jobs of most blacksmiths, buggy makers, operators of livery stables, etc.? The economy did not seem to be suffering in 1999, when 33 million jobs were wiped out—by an economic dynamism that created 35.7 million jobs. How many of the 4,500 U.S. jobs that IBM is planning to create this year will be made possible by sending 3,000 jobs overseas?

Hastert's ideal economy, where jobs do not disappear, existed almost everywhere for almost everyone through almost all of human history. In, say, 12th-century France, the ox behind which a man plowed a field changed, but otherwise the plowman was doing what generations of his ancestors had done and what generations of his descendants were to do. Those were the good old days, before economic growth. . . .

For the highly competent workforce of this wealthy nation, the loss of jobs is not a zero-sum game: It is a trading up in social rewards. When the presidential candidates were recently in South Carolina, histrionically lamenting the loss of textile jobs, they surely noticed the huge BMW presence. It is the "offshoring" of German jobs because Germany's irrational labor laws, among other things, give America a comparative advantage. Such economic calculation explains the manufacture of Mercedes-Benzes in Alabama, Hondas in Ohio, Toyotas in California.

As long as the American jobs going offshore were blue-collar jobs, the political issue did not attain the heat it has now that white-collar job losses frighten a more articulate, assertive social class. . . .

Kerry says offshoring is done by "Benedict Arnold CEOs." But if he wants to improve the health of U.S. airlines, and the security of the jobs and pensions of most airline employees, should he not applaud Delta for saving \$25 million a year by sending some reservation services to India?

Does Kerry really want to restrain the rise of health care costs? Does he oppose having X-rays analyzed in India at a fraction of the U.S. cost?

In November, Indiana Gov. Joseph Kernan canceled a \$15 million contract with a firm in India to process state unemployment claims. The contract was given to a U.S. firm that will charge \$23 million. Because of this 53 percent price increase, there will be 8 million fewer state dollars for schools, hospitals, law enforcement, etc. And the benefit to Indiana is . . . what?

When Kernan made this gesture he probably was wearing something that was wholly or partly imported and that at one time, before offshoring, would have been entirely made here. Such potential embarrassments are among the perils of making moral grandstanding into an economic policy.

other goods from Isoland. Isolandian workers would move from the steel industry to those industries in which Isoland has a comparative advantage. Although the transition may impose hardship on some workers in the short run, it allows Isolandians as a whole to enjoy a higher standard of living.

Opponents of trade are often skeptical that trade creates jobs. They might respond that *everything* can be produced more cheaply abroad. Under free trade, they might argue, Isolandians could not be profitably employed in any industry. As Chapter 3 explains, however, the gains from trade are based on comparative advantage, not absolute advantage. Even if one country is better than another country at producing everything, each country can still gain from trading with the other. Workers in each country will eventually find jobs in the industry in which that country has a comparative advantage.

The National-Security Argument

When an industry is threatened with competition from other countries, opponents of free trade often argue that the industry is vital for national security. In our example, Isolandian steel companies might point out that steel is used to make guns and tanks. Free trade would allow Isoland to become dependent on foreign countries to supply steel. If a war later broke out and the foreign supply was interrupted, Isoland might be unable to produce enough steel and weapons to defend itself.

Economists acknowledge that protecting key industries may be appropriate when there are legitimate concerns over national security. Yet they fear that this argument may be used too quickly by producers eager to gain at consumers' expense.

One should be wary of the national-security argument when it is made by representatives of industry rather than the defense establishment. Companies have an incentive to exaggerate their role in national defense to obtain protection from foreign competition. A nation's generals may see things very differently. Indeed, when the military is a consumer of an industry's output, it would benefit from imports. Cheaper steel in Isoland, for example, would allow the Isolandian military to accumulate a stockpile of weapons at lower cost.

The Infant-Industry Argument

New industries sometimes argue for temporary trade restrictions to help them get started. After a period of protection, the argument goes, these industries will mature and be able to compete with foreign firms.

Similarly, older industries sometimes argue that they need temporary protection to help them adjust to new conditions. For example, in 2002, President Bush imposed temporary tariffs on imported steel. He said, "I decided that imports were severely affecting our industry, an important industry." The tariff, which ended up lasting 20 months, would offer "temporary relief so that the industry could restructure itself."

Economists are often skeptical about such claims. The primary reason is that the infant-industry argument is difficult to implement in practice. To apply pro-

tection successfully, the government would need to decide which industries will eventually be profitable and decide whether the benefits of establishing these industries exceed the costs to consumers of protection. Yet “picking winners” is extraordinarily difficult. It is made even more difficult by the political process, which often awards protection to those industries that are politically powerful. And once a powerful industry is protected from foreign competition, the “temporary” policy is sometimes hard to remove.

In addition, many economists are skeptical about the infant-industry argument even in principle. Suppose, for instance, that the Isolandian steel industry is young and unable to compete profitably against foreign rivals, but there is reason to believe that the industry can be profitable in the long run. In this case, the owners of the firms should be willing to incur temporary losses to obtain the eventual profits. Protection is not necessary for an industry to grow. Firms in various industries—such as many Internet firms today—incur temporary losses in the hope of growing and becoming profitable in the future. And many of them succeed, even without protection from foreign competition.

The Unfair-Competition Argument

A common argument is that free trade is desirable only if all countries play by the same rules. If firms in different countries are subject to different laws and regulations, then it is unfair (the argument goes) to expect the firms to compete in the international marketplace. For instance, suppose that the government of Neighborland subsidizes its steel industry by giving steel companies large tax breaks. The Isolandian steel industry might argue that it should be protected from this foreign competition because Neighborland is not competing fairly.

Would it, in fact, hurt Isoland to buy steel from another country at a subsidized price? Certainly, Isolandian steel producers would suffer, but Isolandian steel consumers would benefit from the low price. The case for free trade is no different: The gains of the consumers from buying at the low price would exceed the losses of the producers. Neighborland’s subsidy to its steel industry may be a bad policy, but it is the taxpayers of Neighborland who bear the burden. Isoland can benefit from the opportunity to buy steel at a subsidized price.

The Protection-as-a-Bargaining-Chip Argument

Another argument for trade restrictions concerns the strategy of bargaining. Many policymakers claim to support free trade but, at the same time, argue that trade restrictions can be useful when we bargain with our trading partners. They claim that the threat of a trade restriction can help remove a trade restriction already imposed by a foreign government. For example, Isoland might threaten to impose a tariff on steel unless Neighborland removes its tariff on wheat. If Neighborland responds to this threat by removing its tariff, the result can be freer trade.

The problem with this bargaining strategy is that the threat may not work. If it doesn’t work, the country has a difficult choice. It can carry out its threat and implement the trade restriction, which would reduce its own economic welfare.

Or it can back down from its threat, which would cause it to lose prestige in international affairs. Faced with this choice, the country would probably wish that it had never made the threat in the first place.

CASE STUDY | TRADE AGREEMENTS AND THE WORLD TRADE ORGANIZATION

A country can take one of two approaches to achieving free trade. It can take a *unilateral* approach and remove its trade restrictions on its own. This is the approach that Great Britain took in the 19th century and that Chile and South Korea have taken in recent years. Alternatively, a country can take a *multilateral* approach and reduce its trade restrictions while other countries do the same. In other words, it can bargain with its trading partners in an attempt to reduce trade restrictions around the world.

One important example of the multilateral approach is the North American Free Trade Agreement (NAFTA), which in 1993 lowered trade barriers among the United States, Mexico, and Canada. Another is the General Agreement on Tariffs and Trade (GATT), which is a continuing series of negotiations among many of the world's countries with the goal of promoting free trade. The United States helped to found GATT after World War II in response to the high tariffs imposed during the Great Depression of the 1930s. Many economists believe that the high tariffs contributed to the worldwide economic hardship of that period. GATT has successfully reduced the average tariff among member countries from about 40 percent after World War II to about 5 percent today.

The rules established under GATT are now enforced by an international institution called the World Trade Organization (WTO). The WTO was established in 1995 and has its headquarters in Geneva, Switzerland. As of February 2005, 148 countries have joined the organization, accounting for more than 97 percent of world trade. The functions of the WTO are to administer trade agreements, provide a forum for negotiations, and handle disputes that arise among member countries.

What are the pros and cons of the multilateral approach to free trade? One advantage is that the multilateral approach has the potential to result in freer trade than a unilateral approach because it can reduce trade restrictions abroad as well as at home. If international negotiations fail, however, the result could be more restricted trade than under a unilateral approach.

In addition, the multilateral approach may have a political advantage. In most markets, producers are fewer and better organized than consumers—and thus wield greater political influence. Reducing the Isolandian tariff on steel, for example, may be politically difficult if considered by itself. The steel companies would oppose free trade, and the users of steel who would benefit are so numerous that organizing their support would be difficult. Yet suppose that Neighborland promises to reduce its tariff on wheat at the same time that Isoland reduces its tariff on steel. In this case, the Isolandian wheat farmers, who are also politically powerful, would back the agreement. Thus, the multilateral approach to free trade can sometimes win political support when a unilateral reduction cannot. •



In The News

Globalization

The increasing integration of the world's economies, including the movement toward free world trade, is sometimes called *globalization*. The trend has some vocal opponents, but as this article discusses, they are not always well informed.

Hearts and Heads

By Paul Krugman

There is an old European saying: anyone who is not a socialist before he is 30 has no heart, anyone who is still a socialist after he is 30 has no head. Suitably updated, this applies perfectly to the movement against globalization—the movement that made its big splash in Seattle back in 1999 and is doing its best to disrupt the Summit of the Americas in Quebec City this weekend.

The facts of globalization are not always pretty. If you buy a product made in a third-world country, it was produced by workers who are paid incredibly little by Western standards and probably work under awful conditions. Anyone who is not bothered by those facts, at least some of the time, has no heart.

But that doesn't mean the demonstrators are right. On the contrary: anyone who thinks that the answer to world poverty is simple outrage against global trade has no head—or chooses not to use it. The anti-globalization movement already has a remarkable track record of hurting the very people and causes it claims to champion. . . .

Could anything be worse than having children work in sweatshops? Alas, yes. In 1993, child workers in Bangladesh were found to be producing clothing for Wal-Mart, and Senator Tom Harkin proposed legislation banning imports from countries employing under-

age workers. The direct result was that Bangladeshi textile factories stopped employing children. But did the children go back to school? Did they return to happy homes? Not according to Oxfam, which found that the displaced child workers ended up in even worse jobs, or on the streets—and that a significant number were forced into prostitution.

The point is that third-world countries aren't poor because their export workers earn low wages; it's the other way around. Because the countries are poor, even what look to us like bad jobs at bad wages are almost always much better than the alternatives: millions of Mexicans are migrating to the north of the country to take the low-wage export jobs that outrage opponents of NAFTA. And those jobs wouldn't exist if the wages were much higher: the same factors that make poor countries poor—low productivity, bad infrastructure, general social disorganization—mean that such countries can compete on world markets only if they pay wages much lower than those paid in the West.

Of course, opponents of globalization have heard this argument, and they have answers. At a conference last week, I heard paeans to the superiority of traditional rural lifestyles over modern, urban life—a claim that not only flies in the face of the clear fact that many peasants flee to urban jobs as soon as they can, but that (it seems to me) has a disagreeable element of cultural condescension,

especially given the overwhelming preponderance of white faces in the crowds of demonstrators. (Would you want to live in a pre-industrial village?) I also heard claims that rural poverty in the third world is mainly the fault of multinational corporations—which is just plain wrong, but is a convenient belief if you want to think of globalization as an unmitigated evil.

The most sophisticated answer was that the movement doesn't want to stop exports—it just wants better working conditions and higher wages.

But it's not a serious position. Third-world countries desperately need their export industries—they cannot retreat to an imaginary rural Arcadia. They can't have those export industries unless they are allowed to sell goods produced under conditions that Westerners find appalling, by workers who receive very low wages. And that's a fact the anti-globalization activists refuse to accept.

So who are the bad guys? The activists are getting the images they wanted from Quebec City: leaders sitting inside their fortified enclosure, with thousands of police protecting them from the outraged masses outside. But images can deceive. Many of the people inside that chain-link fence are sincerely trying to help the world's poor. And the people outside the fence, whatever their intentions, are doing their best to make the poor even poorer.

Quick Quiz The textile industry of Autarka advocates a ban on the import of wool suits. Describe five arguments its lobbyists might make. Give a response to each of these arguments.

CONCLUSION

Economists and the general public often disagree about free trade. In May 2000, for example, the U.S. Congress debated whether to grant China “Permanent Normal Trade Relations,” which would keep trade barriers low between the two countries. The public was split on the issue. In a *Wall Street Journal* poll, 48 percent agreed with the statement that “Foreign trade is bad for the U.S. economy, as cheap imports hurt wages and cost jobs.” Only 34 percent agreed that “Foreign trade is good for the U.S. economy, resulting in economic growth and jobs for Americans.” By contrast, economists overwhelmingly supported the proposal. They viewed free trade as a way of allocating production efficiently and raising living standards in both countries. In the end, Congress agreed with the economists, and the bill passed the House of Representatives by a vote of 237 to 197.

Economists view the United States as an ongoing experiment that confirms the virtues of free trade. Throughout its history, the United States has allowed unrestricted trade among the states, and the country as a whole has benefited from the specialization that trade allows. Florida grows oranges, Texas pumps oil, California makes wine, and so on. Americans would not enjoy the high standard of living they do today if people could consume only those goods and services produced in their own states. The world could similarly benefit from free trade among countries.

To better understand economists’ view of trade, let’s continue our parable. Suppose that the country of Isoland ignores the advice of its economics team and decides not to allow free trade in steel. The country remains in the equilibrium without international trade.

Then, one day, some Isolandian inventor discovers a new way to make steel at very low cost. The process is quite mysterious, however, and the inventor insists on keeping it a secret. What is odd is that the inventor doesn’t need any workers or iron ore to make steel. The only input he requires is wheat.

The inventor is hailed as a genius. Because steel is used in so many products, the invention lowers the cost of many goods and allows all Isolandians to enjoy a higher standard of living. Workers who had previously produced steel do suffer when their factories close, but eventually, they find work in other industries. Some become farmers and grow the wheat that the inventor turns into steel. Others enter new industries that emerge as a result of higher Isolandian living standards. Everyone understands that the displacement of these workers is an inevitable part of progress.

After several years, a newspaper reporter decides to investigate this mysterious new steel process. She sneaks into the inventor’s factory and learns that the inventor is a fraud. The inventor has not been making steel at all. Instead, he has

been smuggling wheat abroad in exchange for steel from other countries. The only thing that the inventor had discovered was the gains from international trade.

When the truth is revealed, the government shuts down the inventor's operation. The price of steel rises, and workers return to jobs in steel factories. Living standards in Isoland fall back to their former levels. The inventor is jailed and held up to public ridicule. After all, he was no inventor. He was just an economist.

SUMMARY

- The effects of free trade can be determined by comparing the domestic price without trade to the world price. A low domestic price indicates that the country has a comparative advantage in producing the good and that the country will become an exporter. A high domestic price indicates that the rest of the world has a comparative advantage in producing the good and that the country will become an importer.
- When a country allows trade and becomes an exporter of a good, producers of the good are better off, and consumers of the good are worse off. When a country allows trade and becomes an importer of a good, consumers are better off, and producers are worse off. In both cases, the gains from trade exceed the losses.
- A tariff—a tax on imports—moves a market closer to the equilibrium that would exist without trade and, therefore, reduces the gains from trade. Although domestic producers are better off and the government raises revenue, the losses to consumers exceed these gains.
- There are various arguments for restricting trade: protecting jobs, defending national security, helping infant industries, preventing unfair competition, and responding to foreign trade restrictions. Although some of these arguments have some merit in some cases, economists believe that free trade is usually the better policy.

KEY CONCEPTS

world price, p. 179

tariff, p. 184

QUESTIONS FOR REVIEW

1. What does the domestic price that prevails without international trade tell us about a nation's comparative advantage?
2. When does a country become an exporter of a good? An importer?
3. Draw the supply-and-demand diagram for an importing country. What is consumer surplus and producer surplus before trade is allowed? What is consumer surplus and producer surplus with free trade? What is the change in total surplus?
4. Describe what a tariff is and its economic effects.
5. List five arguments often given to support trade restrictions. How do economists respond to these arguments?
6. What is the difference between the unilateral and multilateral approaches to achieving free trade? Give an example of each.

PROBLEMS AND APPLICATIONS

1. Mexico represents a small part of the world orange market.
 - a. Draw a diagram depicting the equilibrium in the Mexican orange market without international trade. Identify the equilibrium price, equilibrium quantity, consumer surplus, and producer surplus.
 - b. Suppose that the world orange price is below the Mexican price before trade and that the Mexican orange market is now opened to trade. Identify the new equilibrium price, quantity consumed, quantity produced domestically, and quantity imported. Also show the change in the surplus of domestic consumers and producers. Has total surplus increased or decreased?
2. The world price of wine is below the price that would prevail in Canada in the absence of trade.
 - a. Assuming that Canadian imports of wine are a small part of total world wine production, draw a graph for the Canadian market for wine under free trade. Identify consumer sur-

- plus, producer surplus, and total surplus in an appropriate table.
- b. Now suppose that an unusual shift of the Gulf Stream leads to an unseasonably cold summer in Europe, destroying much of the grape harvest there. What effect does this shock have on the world price of wine? Using your graph and table from part (a), show the effect on consumer surplus, producer surplus, and total surplus in Canada. Who are the winners and losers? Is Canada as a whole better or worse off?
3. Suppose that Congress imposes a tariff on imported autos to protect the U.S. auto industry from foreign competition. Assuming that the United States is a price taker in the world auto market, show on a diagram: the change in the quantity of imports, the loss to U.S. consumers, the gain to U.S. manufacturers, government revenue, and the deadweight loss associated with the tariff. The loss to consumers can be decomposed into three pieces: a transfer to domestic producers, a transfer to the government, and a deadweight loss. Use your diagram to identify these three pieces.
 4. When China's clothing industry expands, the increase in world supply lowers the world price of clothing.
 - a. Draw an appropriate diagram to analyze how this change in price affects consumer surplus, producer surplus, and total surplus in a nation that imports clothing, such as the United States.
 - b. Now draw an appropriate diagram to show how this change in price affects consumer surplus, producer surplus, and total surplus in a nation that exports clothing, such as the Dominican Republic.
 - c. Compare your answers to parts (a) and (b). What are the similarities and what are the differences? Which country should be concerned about the expansion of the Chinese textile industry? Which country should be applauding it? Explain.
 5. According to an article in *The New York Times* (Nov. 5, 1993), "many Midwest wheat farmers oppose the [North American] free trade agreement [NAFTA] as much as many corn farmers support it." For simplicity, assume that the United States is a small country in the markets for both corn and wheat and that without the free trade agreement, the United States would not trade these commodities internationally. (Both of these assumptions are false, but they do not affect the qualitative responses to the following questions.)
 - a. Based on this report, do you think the world wheat price is above or below the U.S. no-trade wheat price? Do you think the world corn price is above or below the U.S. no-trade corn price? Now analyze the welfare consequences of NAFTA in both markets.
 - b. Considering both markets together, does NAFTA make U.S. farmers as a group better or worse off? Does it make U.S. consumers as a group better or worse off? Does it make the United States as a whole better or worse off?

6. Imagine that winemakers in the state of Washington petitioned the state government to tax wines imported from California. They argue that this tax would both raise tax revenue for the state government and raise employment in the Washington State wine industry. Do you agree with these claims? Is it a good policy?
7. Senator Ernest Hollings once wrote that “consumers *do not* benefit from lower-priced imports. Glance through some mail-order catalogs and you’ll see that consumers pay exactly the same price for clothing whether it is U.S.-made or imported.” Comment.
8. The nation of Textilia does not allow imports of clothing. In its equilibrium without trade, a T-shirt costs \$20, and the equilibrium quantity is 3 million T-shirts. One day, after reading Adam Smith’s *The Wealth of Nations* while on vacation, the president decides to open the Textilian market to international trade. The market price of a T-shirt falls to the world price of \$16. The number of T-shirts consumed in Textilia rises to 4 million, while the number of T-shirts produced declines to 1 million.
 - a. Illustrate the situation just described in a graph. Your graph should show all the numbers.
 - b. Calculate the change in consumer surplus, producer surplus, and total surplus that results from opening up trade. (Hint: Recall that the area of a triangle is $\frac{1}{2} \times \text{base} \times \text{height}$.)
9. Consider a country that imports a good from abroad. For each of following statements, say whether it is true or false. Explain your answer.
 - a. “The greater the elasticity of demand, the greater the gains from trade.”
 - b. “If demand is inelastic, there are no gains from trade.”
 - c. “If demand is inelastic, consumers do not benefit from trade.”
10. Assume the United States is an importer of televisions and there are no trade restrictions. U.S. consumers buy 1 million televisions per year, of which 400,000 are produced domestically and 600,000 are imported.
 - a. Suppose that a technological advance among Japanese television manufacturers causes the world price of televisions to fall by \$100. Draw a graph to show how this change affects the welfare of U.S. consumers and U.S. producers and how it affects total surplus in the United States.
 - b. After the fall in price, consumers buy 1.2 million televisions, of which 200,000 are produced domestically and 1 million are imported. Calculate the change in consumer surplus, producer surplus, and total surplus from the price reduction.
 - c. If the government responded by putting a \$100 tariff on imported televisions, what would this do? Calculate the revenue that would be raised and the deadweight loss. Would it be a good policy from the standpoint of U.S. welfare? Who might support the policy?

- d. Suppose that the fall in price is attributable not to technological advance but to a \$100 per television subsidy from the Japanese government to Japanese industry. How would this affect your analysis?
11. What trade disputes or trade agreements have been in the news lately? In these cases, who do you think are the winners and losers from free trade? Which group has more political clout? Note: Places to look for this information include the websites of the World Trade Organization (<http://www.wto.org>), the U.S. International Trade Commission (<http://www.usitc.gov>), and the International Trade Administration in the Department of Commerce (<http://www.ita.doc.gov>).
12. Consider a small country that exports steel. Suppose that a “pro-trade” government decides to subsidize the export of steel by paying a certain amount for each ton sold abroad. How does this export subsidy affect the domestic price of steel, the quantity of steel produced, the quantity of steel consumed, and the quantity of steel exported? How does it affect consumer surplus, producer surplus, government revenue, and total surplus? Is it a good policy from the standpoint of economic efficiency? (Hint: The analysis of an export subsidy is similar to the analysis of a tariff.)



For further information on topics in this chapter, additional problems, examples, applications, online quizzes, and more, please visit our website at <http://mankiw.swlearning.com>.

