

# Microeconomics with Ethics

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## Chapter 18 Government Policies: International Trade and Tariffs

When we analyze a market using a supply and demand curve we are often silent about the scope of the market. Is the market a local community market, the market in a particular city or state, the market in an entire country, or the market for the product in the entire world? This issue is ignored largely because to include it means to add more complexity to the situation. In this chapter, we will add that complexity by assuming that the markets we have been considering earlier were national markets in a particular country that is not open to international trade with other countries. The term autarky refers to a country that is not open to international trade and therefore in autarky all producers and consumers of the goods must be domestic. This situation is also commonly referred to as a closed economy.

One reason a country might not trade is because it is isolated geographically from others. For example, prior to the 13<sup>th</sup> century, people living in Europe had scant knowledge of peoples in Asia and vice versa. After Marco Polo traveled overland to Asia and back and published a book about his adventures, more people began to travel these long distances to trade for exotic treasures. However, until water routes to Asia were discovered by explorers over the next few centuries, transportation costs remained sufficiently high that very little trade occurred. Thus, both geographic isolation (distance), and imperfect information (lack of knowledge of others) restricts markets to localized areas.

During the age of exploration, people from all over the world gained knowledge of each other, while later geographic distance became smaller due to technological advances in transportation. In time, markets became more and more international as trade between countries expanded rapidly. By the mid 18<sup>th</sup> century, early economists like Adam Smith, and later David Ricardo, fought against the popular mercantilist ideas favoring expanded exports and restrictions on imports. They argued that countries should open to international trade in both directions because the benefits exceeded the costs. Those economies that trade freely with other countries are commonly referred to as open economies.

In this chapter, we'll explore some of these issues in the context of perfectly competitive markets. First, we will consider what happens when a country that is initially closed to trade, opens up and begins to trade freely. Two possible outcomes are presented; when opening to trade causes exports to occur and when opening to trade causes imports in a particular market. Afterwards we'll look at the price, quantity, and welfare effects arising from a tariff (import tax) assessed on imported goods from another country.

## 18.1 Effects of International Trade

### Learning Objectives

1. Learn what happens in a perfectly competitive market when a country opens up to free trade and product is exported.
2. Learn what happens in a perfectly competitive market when a country opens up to free trade and product is imported.

In modern times, governments can make choices about how open they want their economy to be with respect to international trade. A completely open policy to international trade is called free trade. Very few countries pursue such a policy although many economists have long argued its virtues. Countries that have come closest in recent times are probably Hong Kong and Singapore. The extreme opposite government policy is to close one's borders to trade and rely exclusively on the products that can be produced within one's own country. Economists call this situation autarky. The country that has been closest to autarky in recent times is North Korea. Most countries in the world today are somewhere between these two extremes, allowing international trade to some degree, while also restricting international trade to a degree. Economists often call these situations protectionist and suggest that highly protectionist countries are similar to North Korea while less protectionist countries are more like Hong Kong and Singapore.

As noted above, Adam Smith and David Ricardo were early advocates of freer trade, but despite their arguments against mercantilism over 200 years ago, many politicians today still adhere to a form of mercantilism, believing that exports are good for the country, but imports are bad. We can address that issue directly by considering what the market model of perfect competition tells us would happen if a closed domestic market in autarky were to open up and begin to engage in international trade.

There are several outcomes that can arise and we will consider each of them in turn. The first outcome is that a country may become an exporter of a product, the second outcome is that it may become an importer.

### International Exporting

Let's consider exports. To most economic observers exports are viewed as a good thing. Politicians are usually quick to point out that by increasing exports to other countries, businesses will become more profitable and workers will have more jobs. Politicians also often complain about high barriers to trade in other countries. That's because their barriers to trade prevent our businesses from exporting as much and that hurts our country. In 2010, in the midst of a recession in the US, President Obama announced the National Export Initiative, which was intended to double US exports by the year 2014. By exporting more, it was hoped the US would be prompted out of its recession. Most everyone accepts this rationale, so let's see how closely it conforms to the results of an economic analysis.

In Figure 18.1, we present the domestic supply and demand curve for a particular product, let's call it coffee. By calling it domestic we mean that the market encompasses an entire national market of coffee consumers and coffee producers over some, unstated, period of time. The intersection of supply and demand determines an equilibrium price and quantity that we now call the autarky price,  $P_{Aut}$ , and the autarky quantity,  $Q_{Aut}$ . This is the price and the quantity we

would expect to prevail if the country were closed to international trade. It is the price that equalizes domestic supply of coffee with domestic demand for coffee.

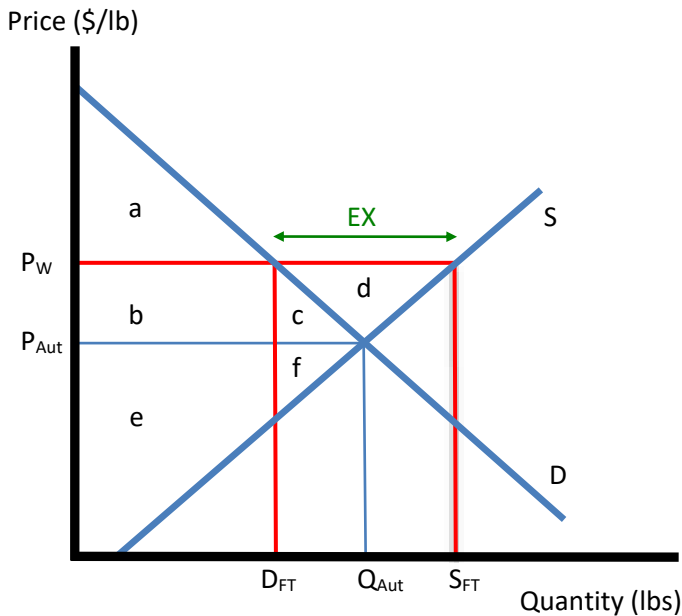
Next, suppose the government changes its policy, in some unspecified way, and suddenly enables domestic firms and consumers to engage in trade for coffee with others in the rest of the world. Assume that the price of coffee in the market abroad is  $P_W$ , which we'll call the world price, and that  $P_W > P_{Aut}$ . Also assume that if consumers or producers engage in any trades with others in the rest of the world, there are no transportation costs to move the products to other locations. We make this assumption to keep the model simple and focus attention on the primary effects.

If trade is suddenly free and costless, and if the price abroad is higher than at home, then international trade will be motivated by domestic firm behavior. Producers, who are striving to make as much money as possible, will want to sell their product in the world market to obtain the higher price. The ability to sell at the higher price will also stimulate them to expand production up to the free trade supply level,  $S_{FT}$ .

However, as they shift their product from the domestic to the foreign market, it will cause excess demand at home if the price stays the same. That in turn will lead to an increase in price locally which will cause domestic demand to fall to a lower free trade demand level,  $D_{FT}$ . Because the country is open to international trade, identical products must sell for identical prices at home and abroad. If they were different prices and there are no transportation costs, then there remain profit making opportunities. Because we assume firms are profit maximizing, they would not ignore opportunities like these.

The difference between the two new quantities,  $(S_{FT} - D_{FT})$ , represents the quantity of coffee that is being exported in the final free trade equilibrium. In other words, after moving to free trade and facing a higher price for coffee in the rest of the world, coffee production by domestic firms will rise to  $S_{FT}$ . Because more coffee is produced at home, more workers will be needed to produce the extra quantity, hence employment in the coffee industry will rise. The domestic quantity,  $D_{FT}$ , will be sold to domestic consumers and the remaining coffee  $(S_{FT} - D_{FT})$  will be exported and sold to foreign consumers of coffee.

Figure 18.1 International Trade: The Export Case



Side Note: This analysis contains one other implicit assumption, namely, that the coffee exports by this country are too small to cause the price in the rest of the world to change. We call this the small country assumption. In contrast, if the country were large, then the exports abroad would noticeably raise supply and thereby cause the price,  $P_W$ , to fall. This would have a slightly different effect in the market, than will be shown here, and you can learn about the differences by taking an international trade course.

### Welfare Effects of Exporting

We can evaluate the gains and losses that arise due to opening to trade by measuring the changes in consumer and producer surplus. These are summarized in Table 18.1.

Table 18.1
Welfare Effects of Opening to Trade and Exporting
$\Delta CS = -(b + c)$
$\Delta PS = +(b + c + d)$
$\Delta GR = 0$
$\Delta MW = +d$

Note that in the autarky equilibrium, consumer surplus is given by areas  $a + b + c$  in Figure 18.1. After opening to trade, the price rises to equal the world price at  $P_W$ . The new level of consumer surplus falls to area  $a$ . That implies the change in surplus is given by  $(a) - (a + b + c) = -(b + c)$ . Thus, overall benefits to the home consumers actually falls because the country is exporting.

This makes sense because they must pay a higher price. This is also something you will rarely hear mentioned by those who champion greater exports. They almost never mention that some people in the country will lose when the country opens up foreign markets and exports more.

Producer surplus in the autarky equilibrium is given by area  $(e + f)$  in Figure 18.1. When the price rises in opening to trade, producer surplus increases to  $(b + c + d + e + f)$ . That means the change in producer surplus is  $(b + c + d + e + f) - (e + f) = + (b + c + d)$ . Thus, domestic producers of the product being exported are made better-off when foreign export markets are opened to trade. Not only does profits, or surplus, increase, but as mentioned before, production increases and more workers will be hired in the industry. These are the effects that are heralded by trade advocates who argue that exporting more is good for the country.

We include one more row in Table 18.1 to emphasize that there are no government revenue effects when a country opens to trade. Admittedly, if the product did have a tax applied to it before opening the market to international trade, then there would be a change in quantities produced and consumed and an impact on taxes collected. However, because we did not mention a tax in the exercise means that we implicitly assumed there is no tax to consider.

Finally we can address if it is accurate what people say about exports; namely that exports are good for a country. The net welfare effects, or the change in market welfare, is found by adding the surplus effects across all who are affected. Notice that the losses to consumers are offset directly by benefits to producers (area  $b + c$ ). Indeed we can think of this as a transfer of money from consumers to producers. But there is a positive area  $d$  left over, which means there is a net increase in overall welfare accruing to market participants. This, it is true that in a perfectly competitive market setting open to trade and exporting is good for the market and therefore good for the country.

Nevertheless, we should not lose sight of the fact that opening to trade caused some to gain and others to lose. Income is redistributed because of trade. However, market welfare (sometimes called national welfare in a trade situation) rises, implying that those who gain (domestic producers) gain more than those who lose (domestic consumers). This model does not suggest that everyone in the country benefits when the country exports more, though.

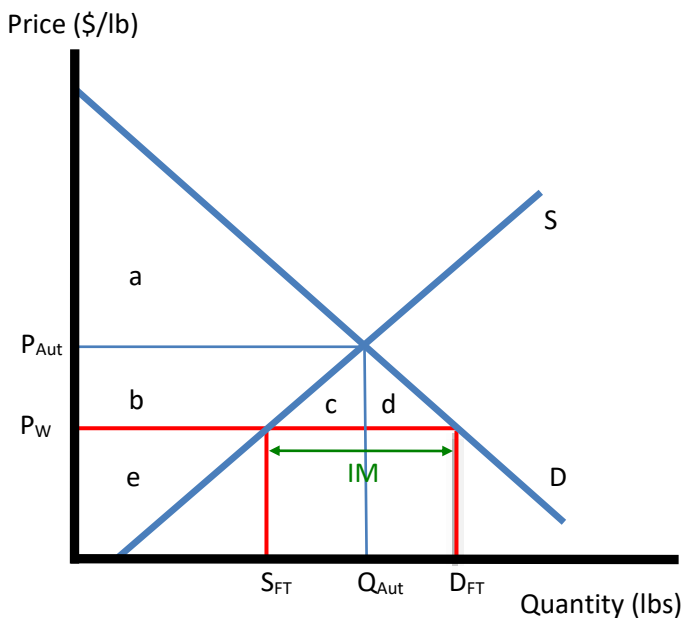
### **International Importing**

Next, consider imports. To many economic observers, imports are often derided as a bad thing for the country. One reason is because imports can displace domestic production of similar products. If one cares about the success of domestic businesses, or are concerned about the availability of jobs for domestic workers, then it's reasonable to be concerned when an increase in imported goods causes home firms to shut down and lay off workers. Observers often extend this concern more broadly when they complain about the country running a trade deficit with other countries. A trade deficit occurs when the aggregate sum of all imported goods exceeds the aggregate sum of all exported goods in the country during a year. These concerns are similar to the concerns of mercantilists many centuries ago who argued that economic prosperity is promoted the more a country exports and the less it imports. In other words, trade deficits are bad for a country and therefore the reverse trade pattern, trade surpluses must be good for a country.

Above we determined that exports are indeed good for the country overall, despite the unpleasantness caused by redistribution. Now we must check to see if imports are indeed bad for the country as is believed by many economic observers.

In Figure 18.2 we present the domestic supply and demand curve for a particular product, let's again call it coffee. The intersection of supply and demand determines an equilibrium price and quantity that we call the autarky price  $P_{Aut}$ , and the autarky quantity,  $Q_{Aut}$ . It is the price that equalizes domestic supply of coffee with domestic demand for coffee.

Figure 18.2 International Trade: The Import Case



Now suppose the government changes its policy, in some unspecified way, and suddenly enables domestic firms and consumers to engage in trade for coffee with others in the rest of the world. Assume that the price of coffee in the market abroad is  $P_W$ , which we'll call the world price, and that  $P_W < P_{Aut}$ . Again, assume that if consumers or producers engage in any trades with others in the rest of the world, there are no transportation costs to move the products to other locations. If trade is suddenly free and costless, and if the price abroad is higher than at home, then international trade will be motivated by domestic consumer behavior. Consumers, who are striving to increase their utility as much as possible, will want to buy products in the world market to obtain the lower price. The ability to buy at the lower price will also stimulate them to expand consumption up to the free trade demand level,  $D_{FT}$ .

However, as they shift their purchases from the domestic to the foreign market, it will cause excess supply at home if the price stays the same. That in turn will lead to a decrease in price locally which will cause domestic supply to fall to a lower free trade supply level,  $S_{FT}$ .

The difference between the two new quantities,  $(D_{FT} - S_{FT})$ , represents the quantity of coffee that is being imported in the final free trade equilibrium. In other words, after moving to free trade and facing a lower price for coffee in the rest of the world, coffee consumption by domestic consumers will rise to  $D_{FT}$ . Part of that demand will be supplied by domestic firms, up to  $S_{FT}$ , and the remaining coffee desired  $(D_{FT} - S_{FT})$  will be imported from abroad meaning it will be supplied by foreign producers of coffee. Because a smaller quantity of coffee is produced at home, fewer workers will be needed to produce the product, hence employment in the coffee industry will fall. This is consistent with the concerns noted above.

## Welfare Effects of Importing

We can evaluate the gains and losses that arise due to opening to trade by measuring the changes in consumer and producer surplus. These are summarized in Table 18.2.

Table 18.2
Welfare Effects of Opening to Trade and Importing
$\Delta CS = + (b + c + d)$
$\Delta PS = - (b)$
$\Delta GR = 0$
$\Delta MW = + c + d$

Note that in the autarky equilibrium, consumer surplus is given by areas  $a$  in Figure 18.2. After opening to trade, the price falls to equal the world price at  $P_w$ . The new level of surplus rises to area  $(a + b + c)$ . That implies the change in surplus is given by  $(a + b + c + d) - (a) = + (b + c + d)$ . Thus, overall benefits to the home consumers increases because the country is importing the product. This makes sense because consumers are now able to pay a lower price. This is also something you will rarely hear mentioned by those who are concerned about greater imports. They almost never highlight the benefits that will accrue when the country opens up foreign trade and begins to import more.

Producer surplus in the autarky equilibrium is given by area  $(b + e)$  in Figure 18.2. When the price falls in opening to trade, producer surplus decreases to  $(e)$ . That means the change in producer surplus is  $(e) - (b + e) = - (b)$ . Thus, domestic producers of the product being imported are made worse-off when coffee imports come into the country. Not only do profits, or surplus, decrease, but as mentioned before, production decreases and workers will be laid off in the coffee industry. These are the effects that observers who worry about imports will emphasize in their arguments that imports are bad for the country.

Again for completeness we include one more row in Table 18.2 to emphasize that there are no government revenue effects when a country opens to trade and begins to import. Because we did not mention a tax in this exercise, it means that we implicitly assumed there is no tax to consider.

Finally we can address whether it is accurate what some people say about imports; namely that imports are bad for a country. The net welfare effects, or the change in market welfare, is found by adding the surplus effects across all who are affected. Notice that the losses to producers are offset directly by benefits to consumers (area  $b$ ). We can think of this as a transfer of money from producers to domestic consumers. But there is a positive area  $(c + d)$  left over, which means there is a net increase in overall welfare accruing to market participants. Thus, it is not true that in a perfectly competitive market setting opening to trade and importing a product is bad for the market and therefore bad for the country. Instead, it is the exact opposite. Opening to trade and importing raises overall economic well-being in the country.

As before, we should not lose sight of the fact that opening to trade caused some to gain and others to lose. Income is redistributed because of trade. However, market welfare (sometimes

called national welfare in a trade situation) rises, implying that those who gain (domestic consumers) gain more than those who lose (domestic producers). This model does not suggest that everyone in the country benefits when the country imports, instead the sum of the gains exceed the sum of the losses.

### **Key Takeaways**

1. A country that opens to international trade and begins to export a product will experience an increase in the price, an increase in domestic supply and a decrease in domestic demand. The excess supply will be exported to foreign markets.
2. In a country that opens to international trade and begins to export a product, domestic producers will earn higher profits and employment in the industry will increase. Consumers will suffer a loss in surplus. Overall, for a small country, the benefits to producers exceeds the losses to consumers causing an increase in market welfare, or economic efficiency.
3. A country that opens to international trade and begins to import a product will experience a decrease in the price, a decrease in domestic supply and an increase in domestic demand. The excess demand will be imported from foreign markets.
4. In a country that opens to international trade and begins to import a product, domestic producers will lose profits and employment in the industry will decrease. Consumers will enjoy and increase in surplus. Overall, for a small country, the benefits to consumers exceeds the losses to producers causing an increase in market welfare, or economic efficiency.
5. Opening up to free trade causes a redistribution of income, meaning some groups benefit and some groups lose.
6. In terms of economic efficiency, or market welfare, exports are good and imports are also good. Furthermore, the more a country exports the better, and, contrary to popular opinion, the more a country imports the better.

## **18.2 Effects of an Import Tariff**

### **Learning Objective**

1. Learn the market effects of an import tariff in a perfectly competitive small country .

Today when governments want to raise revenue to finance public spending or increases in transfers to needy households they use a wide array of taxes on everything from wage and capital income to real estate ownership and the profits earned by businesses. Collecting these taxes is often a daunting task involving careful accounting of property values and honest reporting of income and profit streams. Tax institutions need to carefully monitor this process and stand ready to enforce punishments against those who would cheat the system.

However, long ago, before the inventions of computing systems made it much easier to measure and track economic activity, there was one simple method used by most early governments to collect revenue, import tariffs. A tariff is a tax that is assessed on any good that is imported into the country from abroad. The tariff has a number of features that make it especially popular.

First, a tariff is relatively easy to collect. Most valuable traded goods arrive in a country through a small number of entry points, either roads or rail lines crossing the border, or ports where



shops can dock and unload. In more modern times another access point is airports. To collect a tax, it is not too difficult to erect a barrier at each entry point and assign customs officials to identify the goods in transit and assess a tax to allow entry and sale in the country. This was much less administratively costly than tracking workers wage payments, especially several hundred years ago.

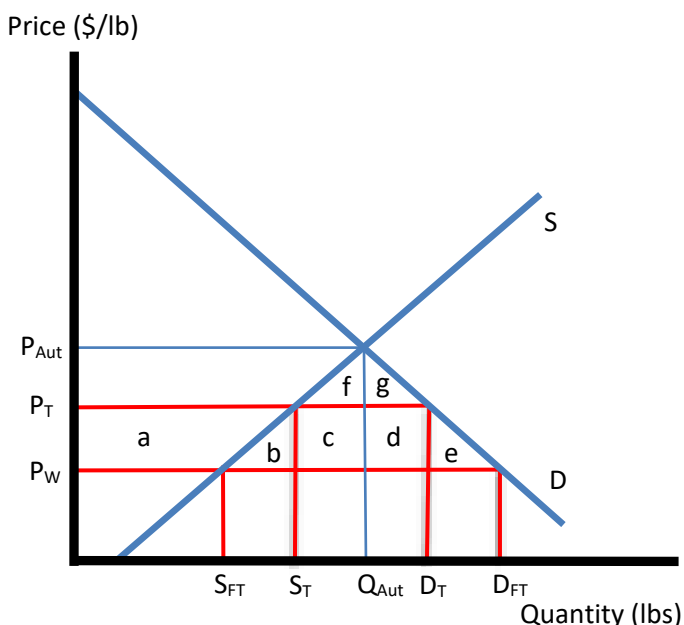
The second advantage of tariffs is that the tax is ostensibly charged to the foreign firms who are trying to sell their products in your country. Since no one enjoys paying taxes, governments are often keen to collect money in ways that appear like they are not harming their own citizens. Charging foreigners seems fair to most residents of a country. As we'll soon see though, this feature is not what it seems to be.

Finally, tariffs do create an advantage for domestic firms who compete in selling the same products that are being imported. A tariff assessed on competing foreign firms but not on your own firms, puts the foreign business at a disadvantage. The advantage gained by domestic firms is called protection, which is why you will sometime hear the term protective tariffs. Some may misunderstand the term protection to mean that the tariff is protecting the country from foreigners but as we'll see below, that need not be the case.

### The Price and Quantity Effects of an Import Tariff

To analyze the effects of a tariff we must begin with a situation in which the country is initially importing a product. Consider a market for a product, such as bread, depicted in Figure 18.3.

Figure 18.3 Effects of an Import Tariff



Suppose the country is open to free trade and the world price of bread is  $P_W$ . At the price  $P_W$  total demand by domestic consumers would be  $D_{FT}$ , total supply by domestic producers would

be  $S_{FT}$  and the difference between the two,  $D_{FT} - S_{FT}$ , would be the quantity of bread imported into the country in free trade.

Now let's suppose the government implement a specific tariff on imported bread equal in value to  $T$  dollars per pound. Assuming lawful behavior and no attempts to smuggle the good into the country to avoid the tariff, the imported bread price would rise to  $P_W + T$  since this is the price needed to cover their costs of production and the entry fee into the country. Let's let  $P_T = P_{FT} + T$ .

Initially there will be a price difference between imported bread and domestically produced bread, but this will not last long if the market participants adhere to the assumptions of perfect competition. Because we assume all bread is identical, when the price of foreign bread rises, consumers will prefer to purchase the cheaper domestic bread. But, if the local price remains at  $P_W$ , demand will remain at  $D_{FT}$  while domestic firms will only be willing to supply  $S_{FT}$ . This means there is excess demand for domestic bread which implies that the market price can rise and enable the domestic firms to make greater profit. Because foreign firms must pay the import tariff, the domestic market price can be raised all the way up to the new foreign bread price of  $P_T$ . In this way, domestic bread firms maximize their profit.

The important and often overlooked implication is that the tariff on imported bread causes the price of all bread sold in the market to rise by the full amount of the tariff. The tax doesn't only affect foreign producers, it affects domestic producers and domestic consumers too.

Because the price of all bread rises to  $P_T$ , domestic demand falls from  $D_{FT}$  to  $D_T$  while domestic supply rises from  $S_{FT}$  to  $S_T$ . The difference between demand and supply measures the quantity imported which falls from  $(D_{FT} - S_{FT})$  to  $(D_T - S_T)$ . This is the expected effect. When a tax is implemented, on anything, we expect it to discourage that activity, thus, when a tariff is placed on imports, it reduces imports.

**Side Note:** As mentioned earlier we are maintaining the assumption that the importing country is small. This means that when import demand falls in the foreign market, it is too small to affect the price of the product in that market. If lower import demand did affect the price, it would cause the world price to fall and we would label the country a large country. You can learn more about that situation, which applies to large markets like the US and the EU, in an international trade course.

One other small point to make: the larger the tariff rate set, the higher will be the final price  $P_T$ . Remember, the tariff rate is the vertical distance between  $P_T$  and  $P_W$  in Figure 18.3. Suppose the tariff were raised to a higher level such that  $T = P_{Aut} - P_W$ . In this case the domestic price would rise to  $P_{Aut}$  and domestic supply and demand would equal each other at the quantity  $Q_{Aut}$ . That means the tariff would force imports to zero and eliminate trade. Any tariff set at this level, or higher, that is any tariff such that  $T \geq P_{Aut} - P_W$ , is called a prohibitive tariff because it prohibits trade from taking place.

The implication is that a more highly protective tariff is one that moves the market back to autarky and therefore, in the extreme, with a prohibitive tariff in place, would eliminate the benefits from trade discussed above.

## Welfare Effect of an Import Tariff

We can evaluate the gains and losses that arise from a tariff by measuring the changes in consumer and producer surplus. These are summarized in Table 18.3.

Table 18.3
Welfare Effects of an Import Tariff
$\Delta CS = -(a + b + c + d)$
$\Delta PS = + a$
$\Delta GR = + c$
$\Delta MW = -(b + d)$

Since the tariff raises the price of bread in the market to  $P_T$ , the consumer surplus decreases. The change is given by the area bounded by the original price line at  $P_W$ , and the new price line  $P_T$ , from the vertical axis to the demand curve. That area is a negative  $(a + b + c + d)$ , a loss to consumers of bread.

The increase in price from the tariff causes producer surplus to increase. The change is given by the area bounded by the original price line at  $P_W$ , and the new price line  $P_T$ , from the vertical axis to the supply curve. That area is a positive  $(a)$ , a gain to domestic producers of bread. Not only do profits, or surplus, increase, but when production increases the firms will need to hire more workers and some employment in the industry will rise. These are the positive effects that are often emphasized by supporters of tariffs.

There is another positive effect of the tariff, the government collects revenue that will be used to support government program and benefit the people of the country. We'll say then that taxpayers are the ones who enjoy these benefits, not the government who is merely an intermediary in most cases. The value of tariff, or government, revenue, GR is given by the product of the tariff rate  $T$  and the quantity imported with the tariff in place. That means  $GR = T \times (D_T - S_T) = \text{area } + c$ .

Finally we can address whether it is accurate what some people say about tariffs; namely that tariffs protect the country or are good for the country. The net welfare effects, or the change in market welfare, is found by adding the surplus effects across all who are affected. Notice that the losses to consumer are in part by benefits to producer (area  $a$ ). We can think of this as a transfer of money from consumers to domestic producers caused by the tariff. There is another offsetting effect; the government revenue is also equivalent to part of the loss to consumers given by area  $c$ . We can think of this as a transfer of money from consumers to domestic taxpayers caused by the tariff.

However, there remains two negative areas left over, namely  $-(b + d)$ , which means there is a net decrease in overall welfare accruing to market participants. Economists refer to these negative areas as deadweight losses. They represent the measurement of the loss in economic efficiency arising from the use of a tariff. Thus, it is not true that in a perfectly competitive market setting a tariff protects the country, or is good for the country. Instead, it is the exact

opposite. An import tariff reduces overall economic well-being in the country. The country is worse-off when a tariff is implemented

This analysis does not suggest that the supporters of tariffs are wrong when they highlight the positive effects that accrue to the businesses, workers, and taxpayers. These positive effects are accounted for and measured in the analysis. However, when we measure all the effects of the tariff and compare them, we find that the losses to consumers are much larger than these positive benefits.

It is worth emphasizing how the effects of a tariff can be deceptive. Since a tariff is collected at the border and paid for by the foreign firms, a consumer in the importing country might think it won't affect him or her directly. The local consumer might even believe that as long as they buy from domestic firms they will not be affected by the tariff. However, this is a misunderstanding of how markets are likely to work. As demonstrated above, the tariff will give domestic firms an opportunity to thrive by raising their own prices and supply. This enables them to hire more workers and make higher profits. This is why import-competing businesses are the ones "protected" by the tariff. But the money to finance these local benefits do not come from the foreign firms, instead it comes directly from the domestic consumers who must pay higher prices for all their bread, whether foreign or domestically produced. The domestic bread consumers also finance the extra government revenue that helps taxpayers. Again, even though the tariff is directly collected from the foreign firms when the bread comes across the border, it is indirectly being paid for by the domestic bread consumers via the higher price. Recall from Chapter 17, this is what we call the tax incidence. Using economics terms, the tax incidence of a tariff, in a small country case, is borne entirely by the domestic consumer.

One might ask why domestic consumers don't regularly complain very much about higher tariffs. In fact during the Trump administration, the US raised tariffs on many products imported from China by 25% and the action was applauded by most people across the US. One reason is because the effects are complicated. Consumers generally don't realize that the incidence of the tax may be completely on them. The second reason consumers don't complain much has to do with the logic of collective action, which will be discussed in Chapter 20.

### **Key Takeaways**

1. A specific import tariff applied in a small, perfectly competitive, free-trading import market causes an increase in the domestic price by the same amount as the tariff, an increase in domestic supply, a decrease in domestic demand and a decrease in the quantity imported.
2. An import tariff set equal to, or greater than, the difference between the autarky price and the world price will prohibit, or eliminate, trade.
3. When a tariff is implemented by a small country, domestic producers will earn higher profits and employment in the industry will increase, domestic consumers will suffer a loss in surplus, and the government will earn tariff revenue benefiting taxpayers. Overall, the benefits to producers and taxpayers is exceeded by the losses to consumers causing a decrease in market welfare, or, economic efficiency.
4. A tariff will cause a redistribution of income in that some groups benefit from a tariff (producers and taxpayers) while other groups lose (consumers).
5. A tariff is bad for the country (market efficiency falls) when countries are small and markets are perfectly competitive.