

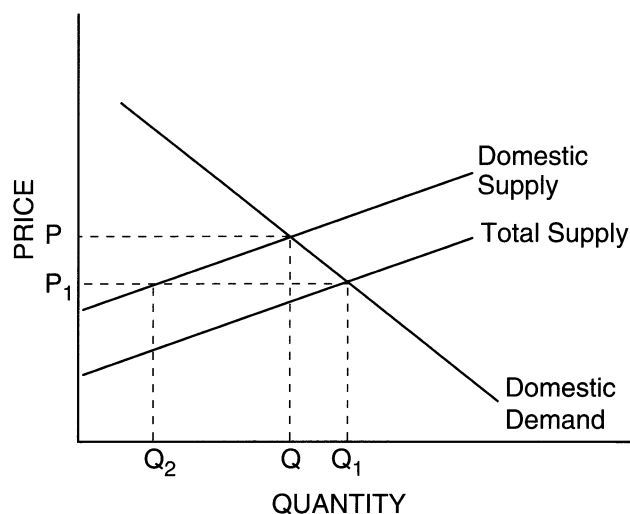
## Barriers to Trade

The free trade movement started about 200 years ago. Previously, it appears that one of the goals of governments was to stifle international trade, presumably for the benefit of their own economies. Over the last 50 years, there have been efforts to reduce trade barriers, with significant success during the 1990s. Examples of these efforts include the North American Free Trade Agreement (NAFTA), the World Trade Organization (WTO), the European Union (EU) and the Asia-Pacific Economic Cooperation (APEC) forum.

We want to be able to investigate the economic effects of various barriers to trade that a nation might impose to protect domestic industries. In Figure 51.1, the demand curve represents the demand by the domestic economy for a commodity that is produced domestically and also imported. The domestic supply curve indicates what the domestic suppliers are willing and able to produce at alternative prices. If there were no international trade or a complete ban on imports, the equilibrium price would be  $P$ , and the equilibrium quantity,  $Q$ , would be produced only by domestic firms.



Figure 51.1  
International Trade



If there is free international trade, the Total Supply curve represents the production by domestic and foreign producers. Domestic consumers would pay  $P_1$  and consume  $Q_1$ . They are able to consume more of the commodity at a lower price. Also, at  $P_1$ , domestic firms are producing  $Q_2$  and foreign producers are producing  $(Q_1 - Q_2)$ . Thus, domestic firms are producing less under free trade than they would if the nation did not import the commodity.

## Part A

### Quotas

Instead of permitting free trade or imposing a complete ban, a nation may decide to set a quota to limit the number of imports. Import quotas are sometimes referred to as *voluntary export restraints* (VERs) because the two countries have agreed that the exporting nation will not export more than a certain amount.

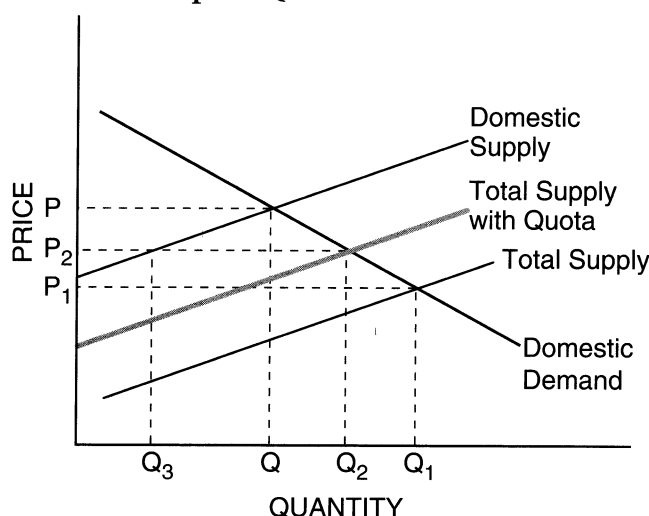
We can see the effect of an import quota by looking at Figure 51.2. Here the domestic price would be  $P$  and the quantity would be  $Q$  if there were a complete import ban. If there were free trade, the price would be  $P_1$  and the quantity demanded by domestic consumers would be  $Q_1$ .

Notice that under free trade, the entire market is supplied by foreign producers as the market is drawn in Figure 51.2. This does not have to be the case; it depends on the costs of the domestic industry and the domestic industry's ability to sell at the lower price.

Suppose the importing nation imposes a quota, or VER, of  $X$  amount; the Total Supply with Quota curve represents the new supply curve. Total Supply with Quota is the domestic supply curve plus  $X$  amount at every price level ( $X = Q_2 - Q_3$ ). The domestic price has risen from  $P_1$  to  $P_2$ , and consumers are able to purchase less of the commodity. Equilibrium quantity has decreased from  $Q_1$  units to  $Q_2$  units. However, domestic producers are now producing  $Q_3$  units, and foreign producers are supplying  $X = Q_2 - Q_3$ .



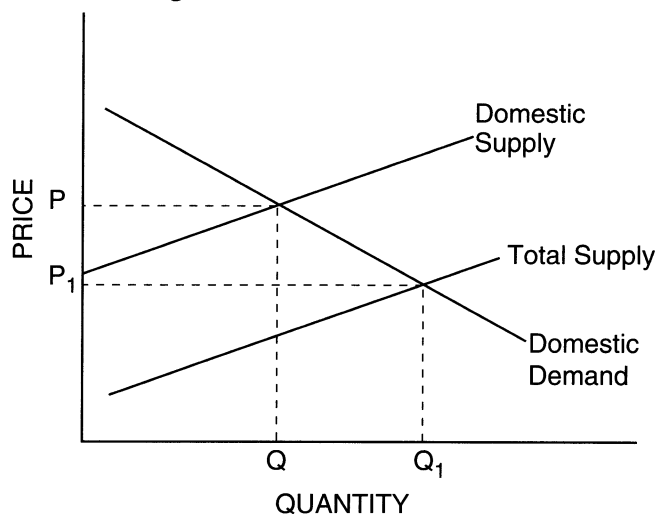
Figure 51.2  
Effects of Import Quota



1. Use Figure 51.3 to demonstrate what will happen to the domestic price, domestic production and the amount of imports if a quota is removed. The Domestic Supply and Total Supply curves on the graph are without any barriers to trade imposed. Be sure to show on the graph the supply curve with the quota. It is not on the graph now.



Figure 51.3

**Eliminating a Quota**

2. Write a paragraph summarizing the advantages and disadvantages of a quota to the domestic economy. Be sure to discuss the impact on domestic consumers, domestic producers and foreign producers.
3. If a quota is imposed, explain the methods people would use to circumvent the effects of the quota.

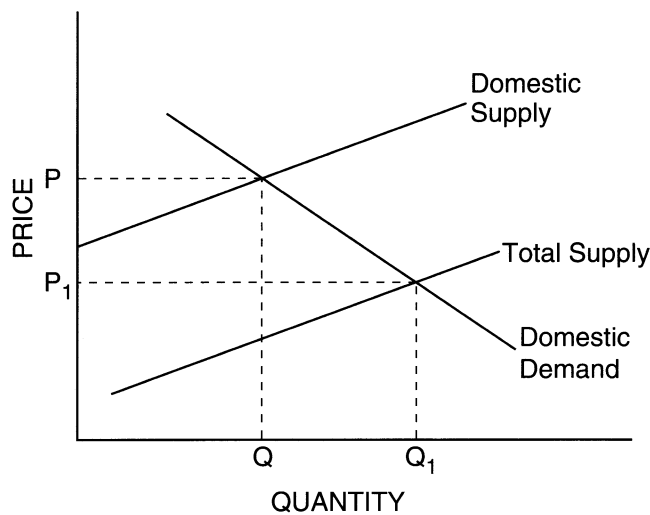
**Part B****Tariffs**

A tariff is a tax on an import. The imposition of a tax increases the cost of each unit, which is represented by a decrease in supply. This would result in an increase in equilibrium price and a decrease in equilibrium quantity.

4. Modify Figure 51.4 to show the effect of an import tariff of \$ $T$  per unit. Be sure to show on the graph the amount of the tariff. Add one curve to the graph, and label it Total Supply with Tariff. After the imposition of the tariff, label the new equilibrium price  $P_T$  and the equilibrium quantity  $Q_T$ .



Figure 51.4

**Effect of Import Tariff**

5. What is the effect of the tariff on the equilibrium price and quantity for domestic consumers compared with the free trade levels?

6. What are the similarities between the effects of a quota and those of a tariff?

7. What is the primary difference between the effects of a quota and those of a tariff?
8. Suppose a country can impose either a quota that raises the domestic price to  $P_2$  as in Figure 51.2 or a tariff that raises the domestic price to  $P_2$ . Explain whether domestic consumers would prefer a tariff or a quota and why.

### Part C

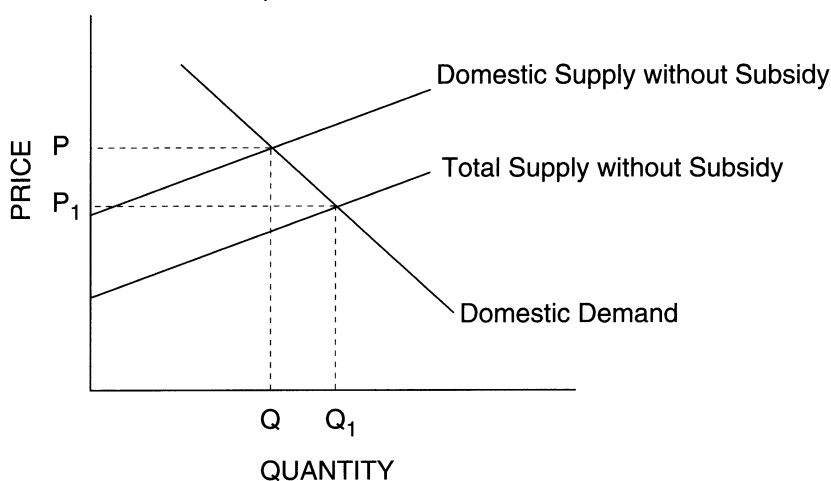
#### Export Subsidies

Nations may choose to assist domestic industries by providing subsidies to an industry. The subsidies would lower the costs and permit the industry to sell at a lower price. This assistance is called an *export subsidy* because the industry can now compete on the world market and export some of its product to other nations.

9. Modify Figure 51.5 to show the effects of an export subsidy on domestic producers. Indicate as  $P_S$  and  $Q_S$  the equilibrium price and quantity for domestic consumers after an export subsidy. Add two curves to the graph: a Domestic Supply with Subsidy curve and a Total Supply with Subsidy curve.



Figure 51.5  
Effects of a Subsidy



According to Figure 51.5 with your modification, what would be the equilibrium price and quantity for

- (A) a completely closed economy (no imports and no subsidy)? \_\_\_\_\_
- (B) an open economy (completely free trade) with no export subsidy? \_\_\_\_\_
- (C) an open economy with a domestic export subsidy? \_\_\_\_\_

10. What is the effect of an export subsidy on the equilibrium price and quantity for domestic consumers relative to the free trade equilibrium without a subsidy?
11. If an industry receives a subsidy, what will happen at the equilibrium to domestic production and the amount of imports?

## Part D

## Applications

12. One of the goals of the European Union is the elimination of trade barriers among the member nations. If this goal is achieved, which groups of people will benefit and which will not benefit?
13. Identify the arguments frequently used to impose some type of trade barrier. Discuss the pros and cons of three arguments.