

# **CHAPTER**

# **5**

# **Using Supply and Demand**

# Chapter Goals

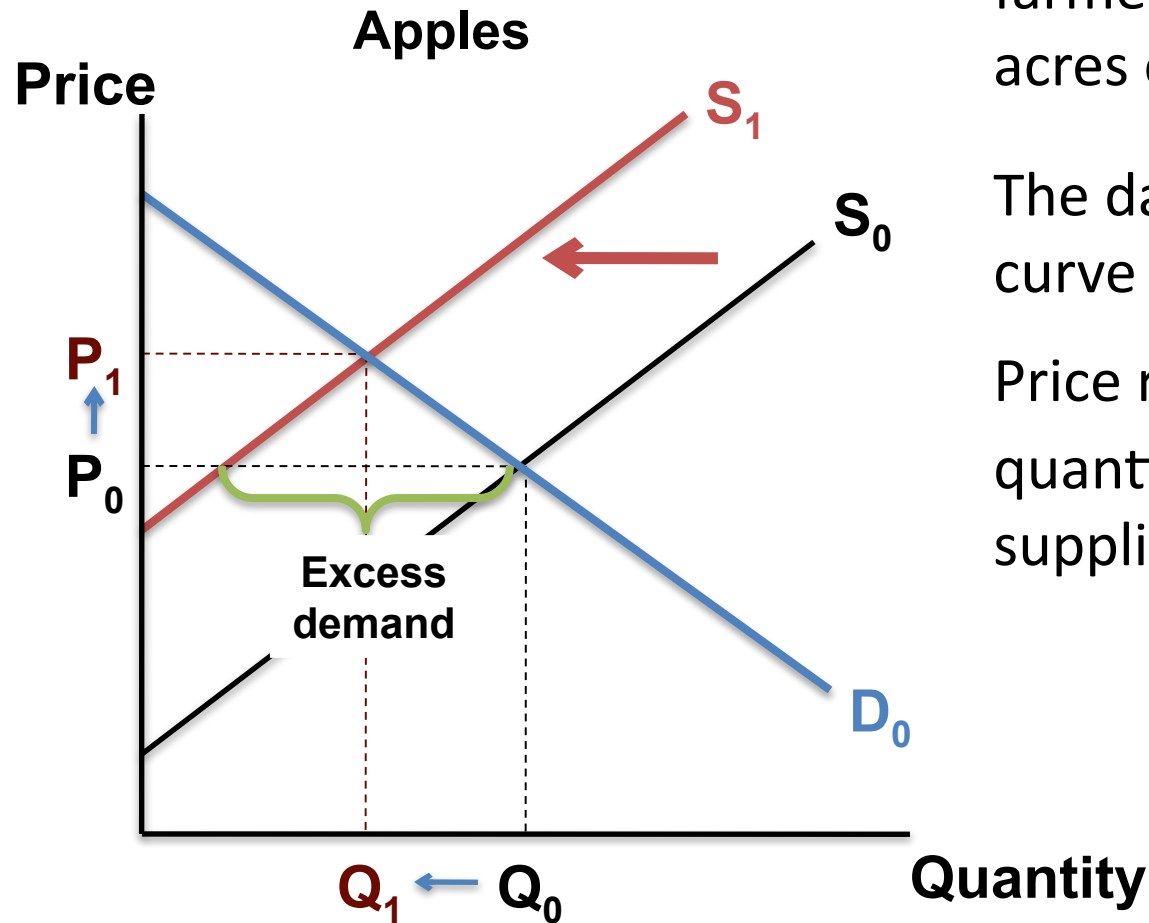
- Apply the supply and demand model to real-world events.
- Demonstrate the effect of a price ceiling and a price floor on a market.
- Explain the effect of excise taxes and tariffs on a market.
- Explain the effect of quantity restrictions on a market.
- Explain the effect of a third-party-payer system on equilibrium price and quantity.

# Application: Apples in the United States

A drought in California, leads farmers to leave 500,000 acres of land fallow.

The damage shifts the supply curve for apples to the left.

Price rises from  $P_0$  to  $P_1$  where quantity demanded = quantity supplied.

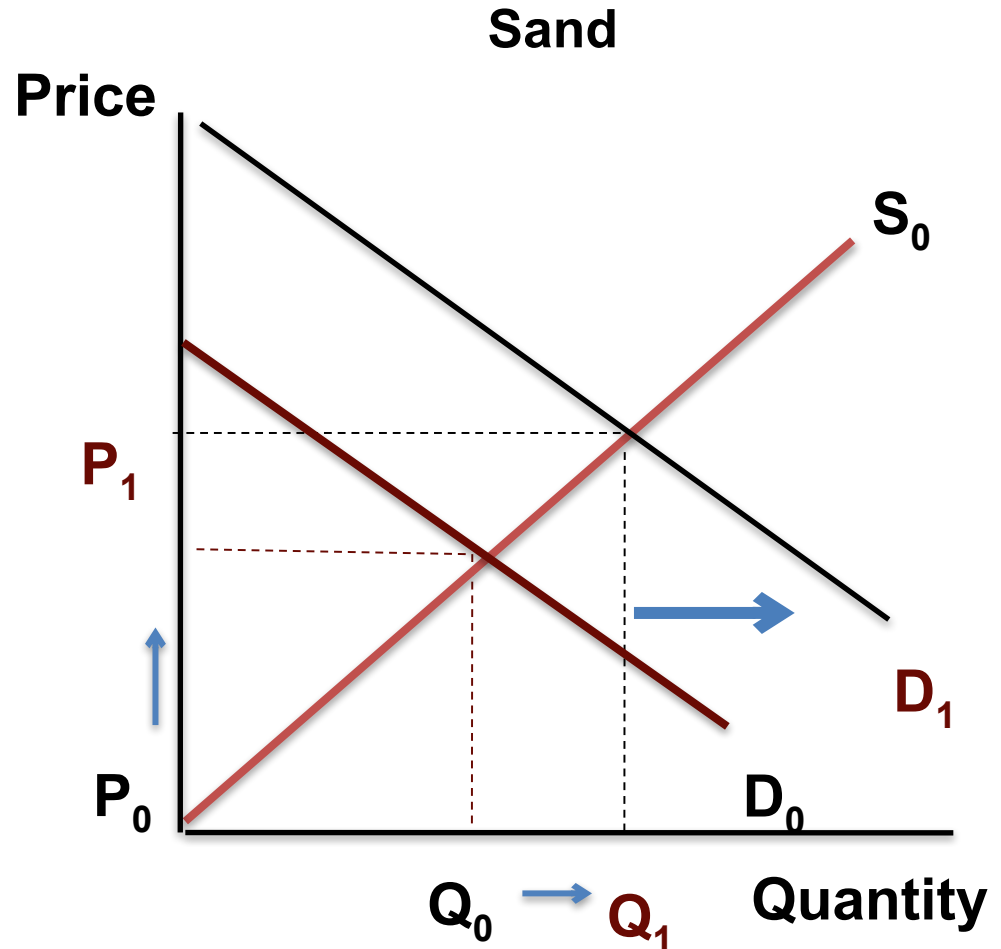


# Market: Sand in the United States

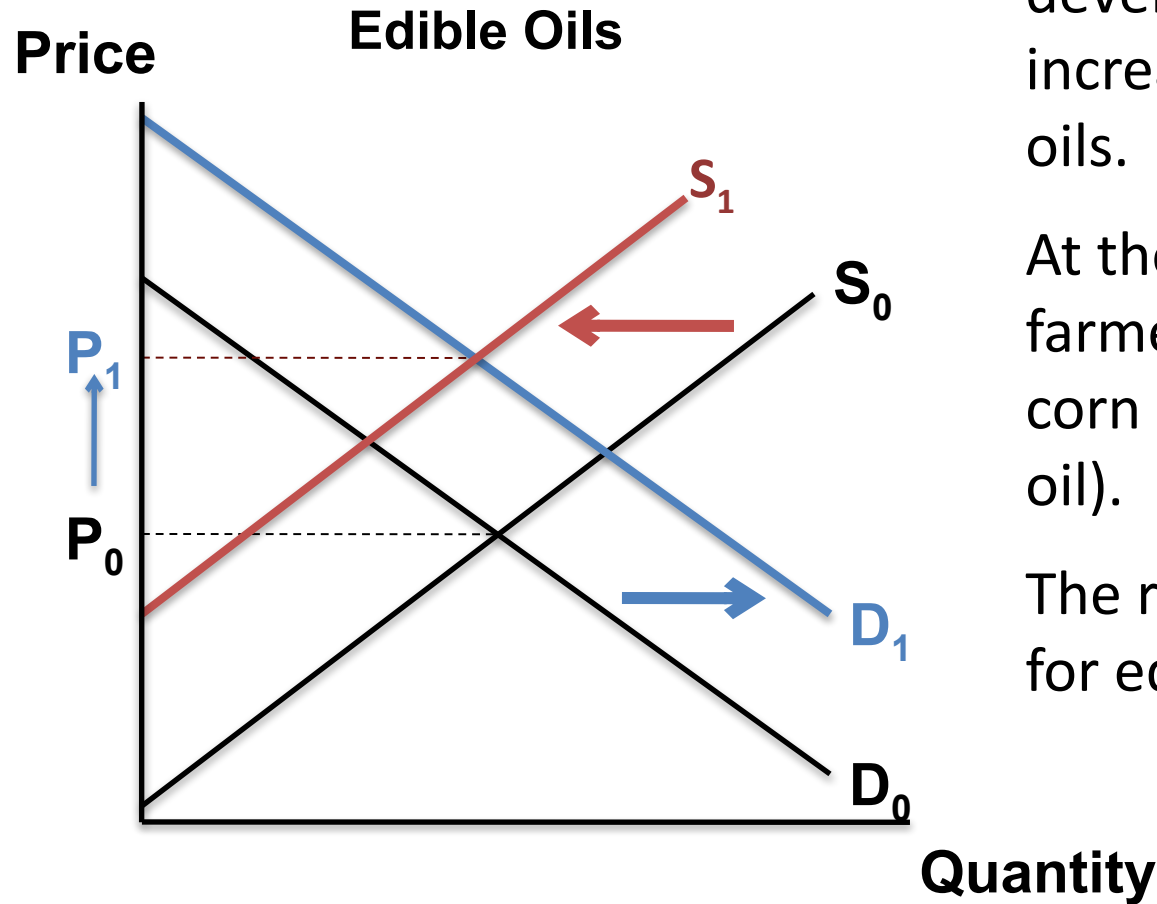
The price of sand in the United States rose due to an increase in the demand for sand.

Increasing sand costs caused the demand curve to shift right.

Price for sand increased from  $P_0$  to  $P_1$  where  $Q$  demanded =  $Q$  supplied.



# Application: Edible Oils in the World



Growing middle class in developing countries has increased demand for edible oils.

At the same time, U.S. farmers are growing more corn and less soy (less soy oil).

The result is increased prices for edible oils.

## A Review of Changes in Supply and Demand

|                        | No change<br>in Supply | Supply increases      | Supply decreases      |
|------------------------|------------------------|-----------------------|-----------------------|
| No change in<br>Demand | P same<br>Q same       | P down<br>Q up        | P up<br>Q down        |
| Demand<br>increases    | P up<br>Q up           | P ambiguous<br>Q up   | P up<br>Q ambiguous   |
| Demand<br>decreases    | P down<br>Q down       | P down<br>Q ambiguous | P ambiguous<br>Q down |

# Government Intervention: Price Ceilings and Price Floors

The invisible hand is not the only factor in determining prices; social and political forces also determine price.

Other factors include:

- Excise taxes and tariffs
- Quantity restrictions
- Third-party-payer markets

# Government Intervention: Price Ceilings

When a government wants to hold prices down to favor buyers, it imposes a price ceiling.

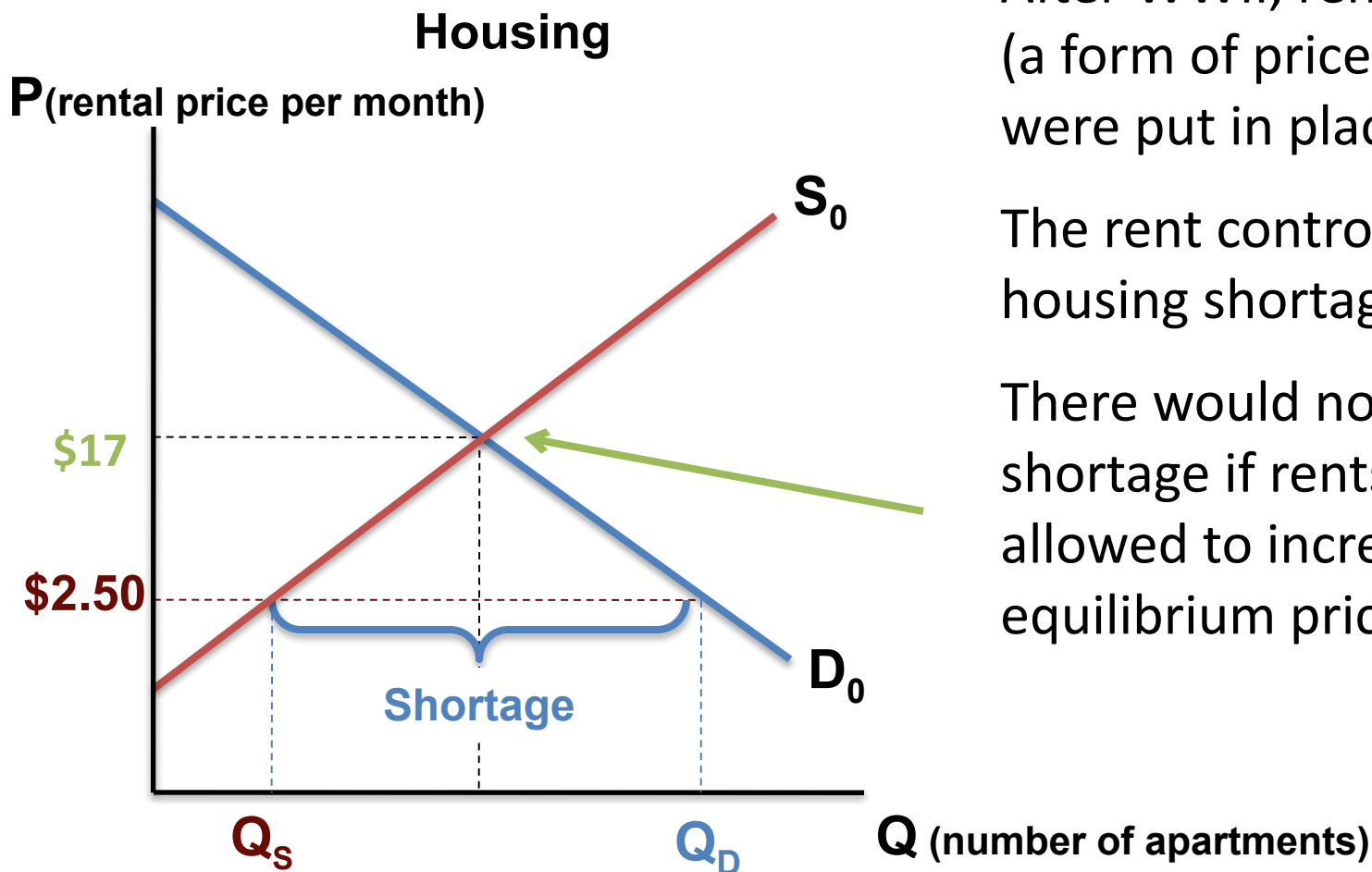
A **price ceiling** is a government-imposed limit on how high a price can be charged.

Price ceilings create shortages.

Price ceilings below equilibrium price will have an effect on the market.

With price ceilings, existing goods are no longer rationed entirely by price, so other methods of rationing arise.

# Price Ceiling: Rent Controls



After WWII, rent controls (a form of price ceiling) were put in place.

The rent controls caused a housing shortage.

There would not be a shortage if rents had been allowed to increase to the equilibrium price of \$17

# Government Intervention: Price Floors

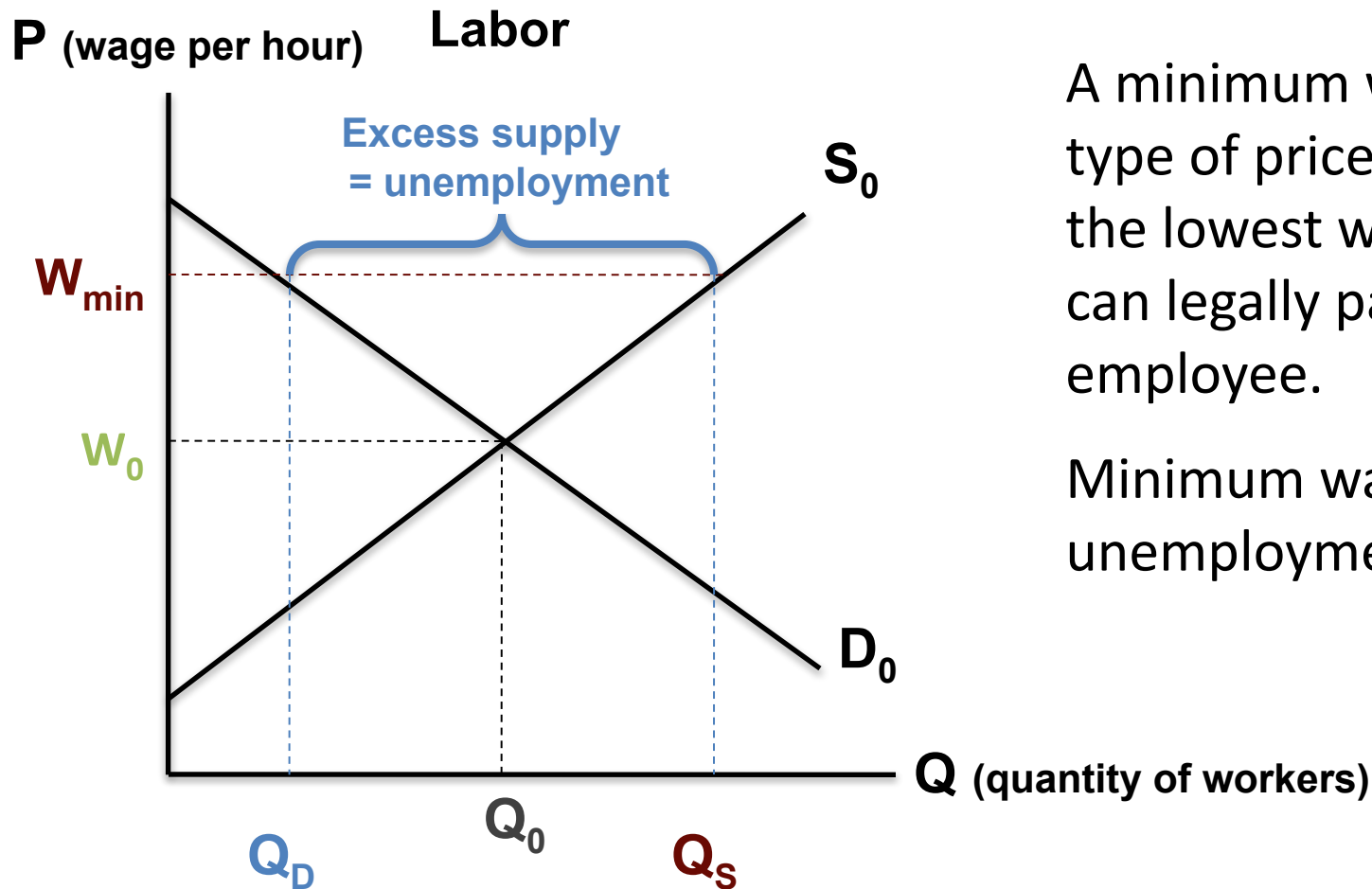
When a government wants to prevent a price from falling below a certain level to favor suppliers, it imposes a price floor.

A **price floor** is a government-imposed limit on how low a price can be charged.

Price floors create excess supply.

Price floors above equilibrium price will have an effect on the market.

# Application: A Minimum Wage



A minimum wage is a type of price floor, it is the lowest wage a firm can legally pay an employee.

Minimum wages cause unemployment.

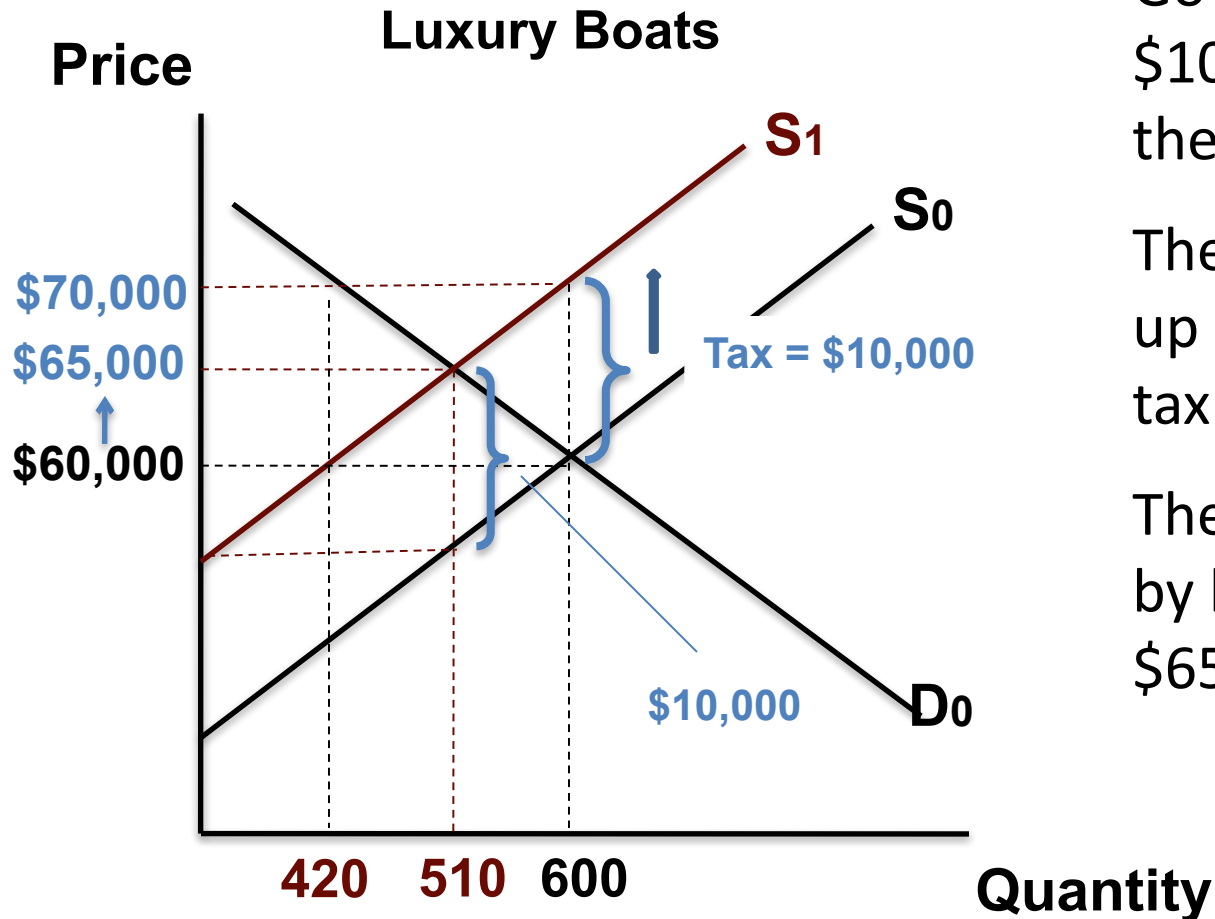
## Government Intervention: Excise Taxes and Tariffs

An **excise tax** is a tax that is levied on a specific good.  
Government impacts markets through taxation.

A **tariff** is an excise tax on an imported good.

The result of taxes and tariffs is an increase in equilibrium prices and reduce equilibrium quantities.

# Application: The Effect of an Excise Tax



Government imposes a \$10,000 luxury tax on the suppliers of boats.

The supply curve shifts up by the amount of the tax.

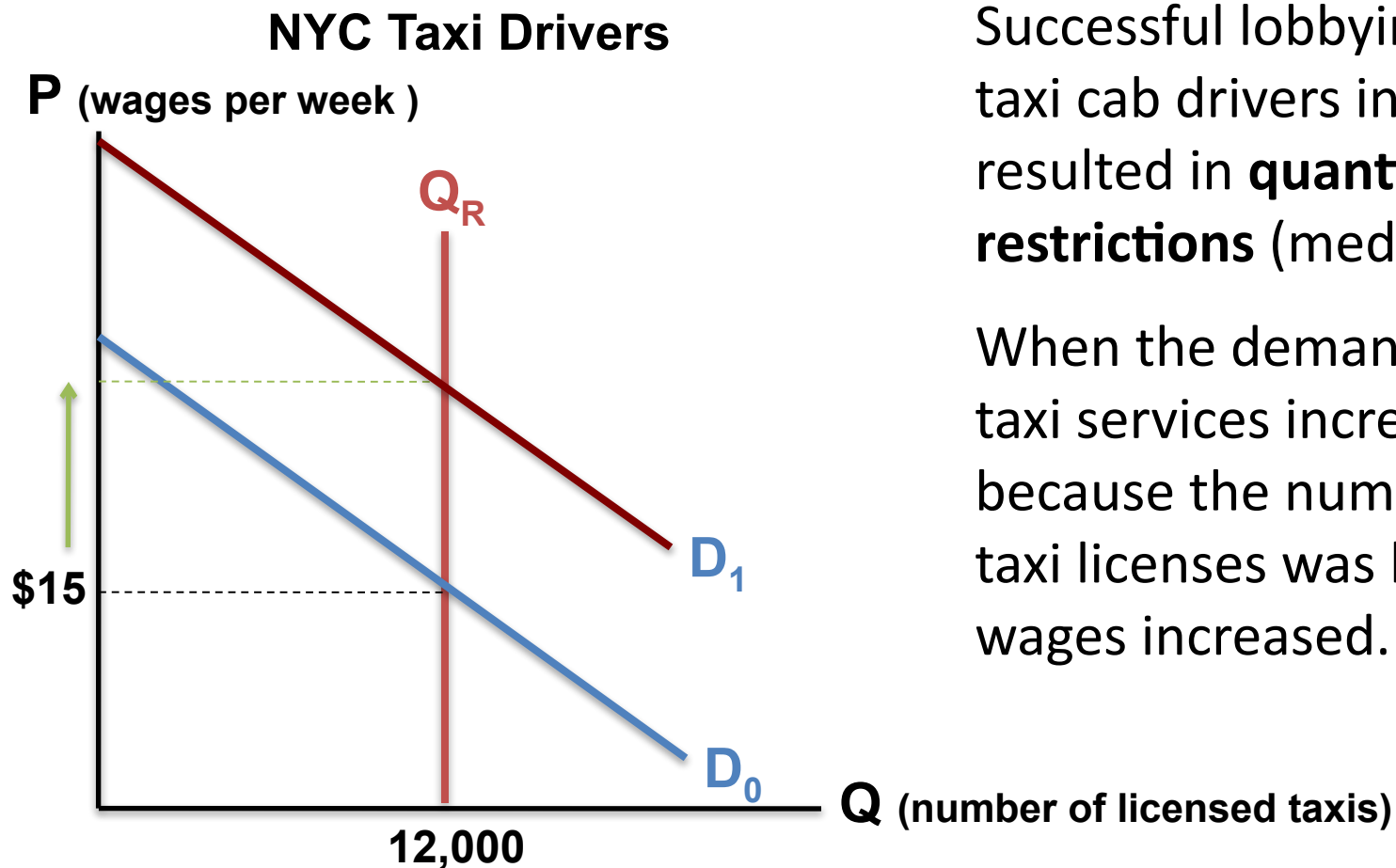
The price of boats rises by less than the tax to \$65,000.

## Government Intervention: Quantity Restrictions

Government regulates markets with licenses, which limit entry into a market.

The results of limited number of licenses in a market are increases in wages and an increases in the price of obtaining the license

## Application: The Effect of a Quantity Restriction (1 of 2)

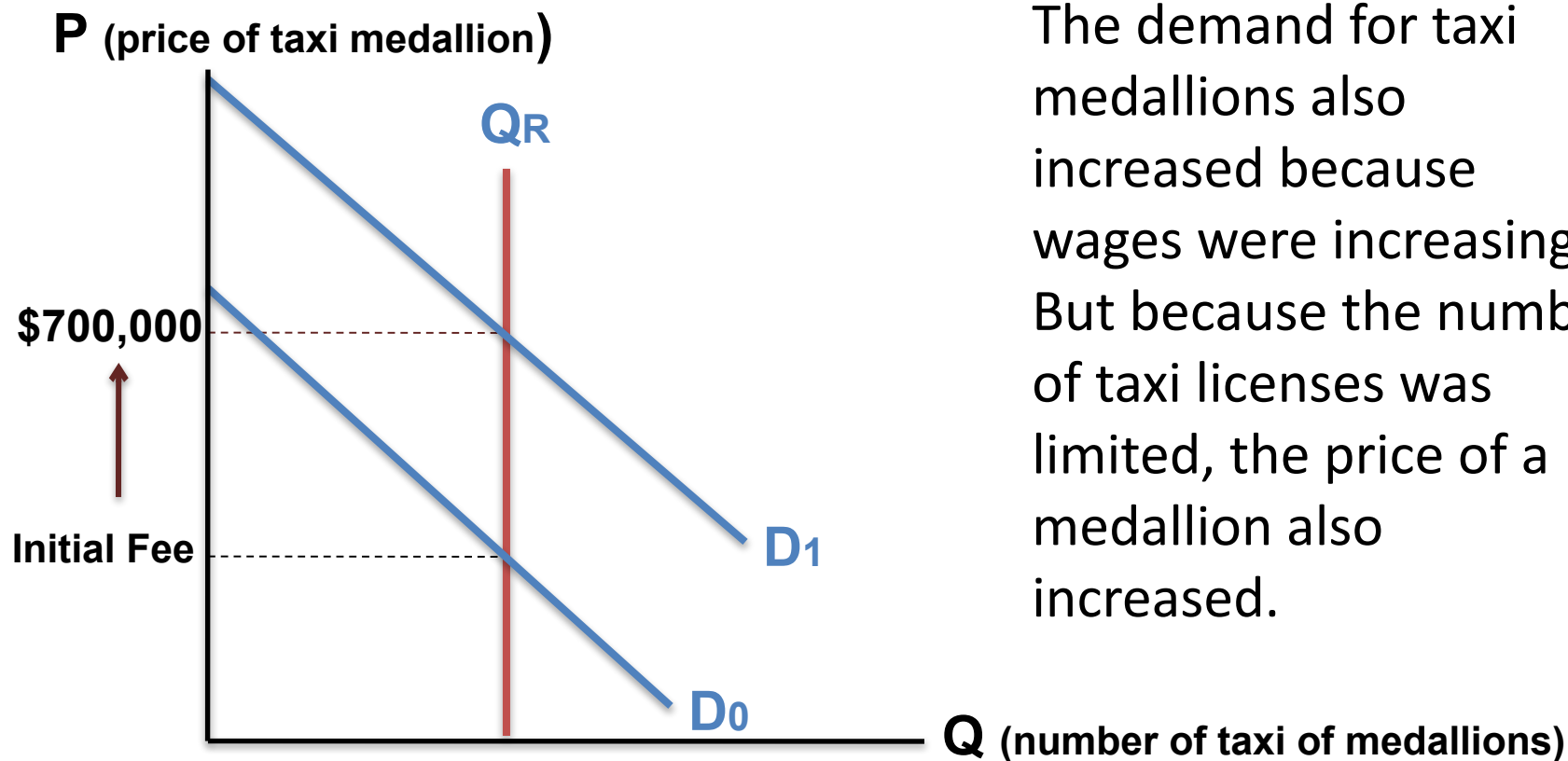


Successful lobbying by taxi cab drivers in NYC resulted in **quantity restrictions** (medallions).

When the demand for taxi services increased, because the number of taxi licenses was limited, wages increased.

## Application: The Effect of a Quantity Restriction (2 of 2)

### NYC Taxicab Medallions



The demand for taxi medallions also increased because wages were increasing. But because the number of taxi licenses was limited, the price of a medallion also increased.

## Government Intervention: Third-Party-Payer Markets

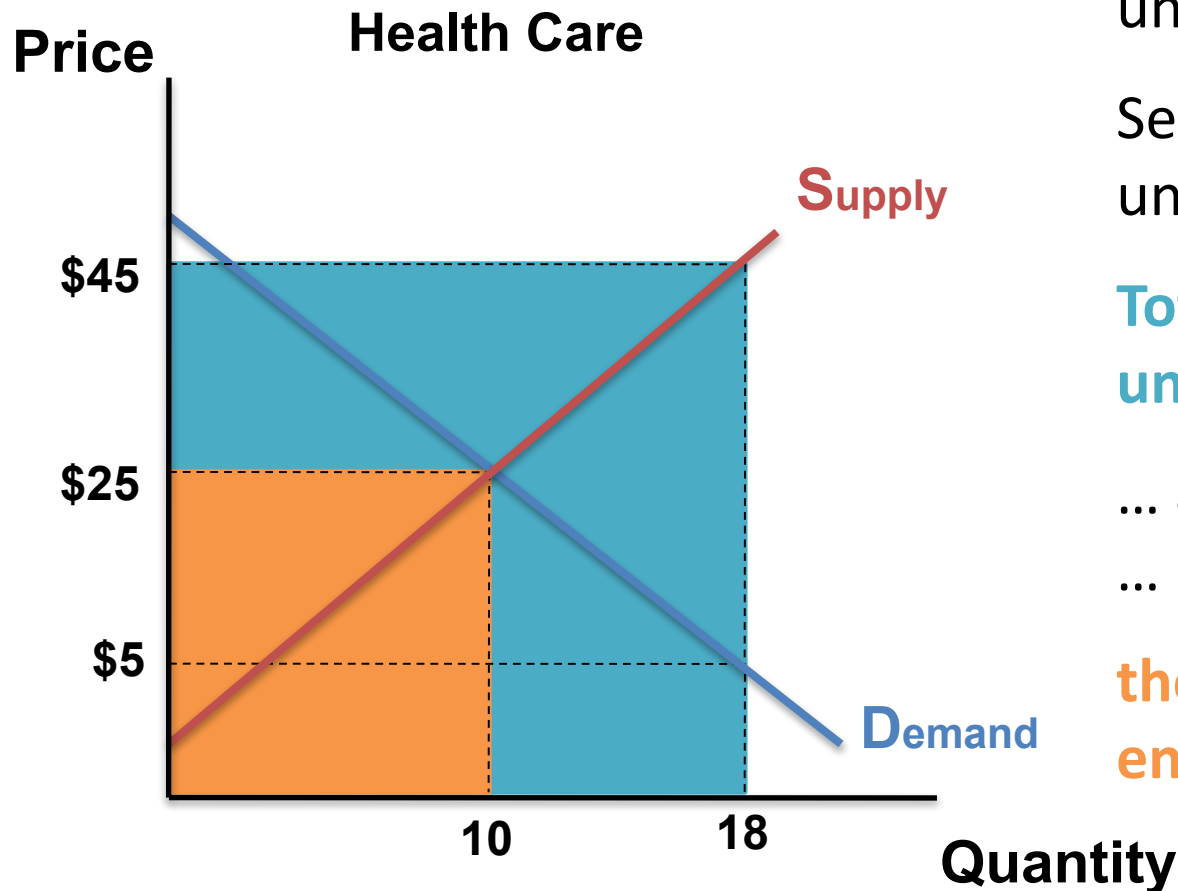
In **third-party-payer markets**, the person who receives the good differs from the person paying for the good.

Under a third-party-payer system, the person who chooses how much to purchase doesn't pay the entire cost.

Equilibrium quantity and total spending can be much higher in third-party-payer markets.

Goods from a third-party-payer system will be rationed through social and political means.

# Application: Third-Party-Payer Markets



With a copayment of \$5, consumers demand 18 units.

Sellers require \$45 per unit for that quantity.

**Total expenditures for 18 units of health care**

... are greater than when

...

**the consumer pays the entire cost.**

# Chapter Summary (1 of 2)

You can describe almost all events in terms of supply and demand.

Price ceilings, government imposed limits on how high a price can be charged, create shortages.

Price floors, government-imposed limits on how low a price can be charged, create surpluses.

Taxes and tariffs paid by suppliers shift the supply curve up by the amount of the tax or tariff and increase equilibrium price and decrease quantity.

# Chapter Summary (2 of 2)

Quantity restrictions increase equilibrium price and reduce equilibrium quantity.

In a third-party-payer market, the consumer and the one who pays the cost differ. Quantity demanded, price, and total spending are greater when a third party pays than when the consumer pays.