

# **EE211**

# **Principles of Microeconomics**

Chapter 2: Demand, Supply,  
Equilibrium and Applications

# Market

- Consists of 3 components: buyers, sellers and a particular product.
- Place is not required.
- market mechanism = *invisible hand* governing everything towards equilibrium via interaction between buyers and sellers.

# Hypothetical Market

- Perfect Competition
- Characteristics:
  - homogenous product
  - large number of sellers and buyers
  - no barriers for entry and exit
  - perfect information
  - perfect mobility of resources
  - absence of externalities

# The Law of Demand

- *Ceteris paribus*, the lower the price of a good, the larger the quantity consumers wish to purchase.
- *Inverse* relationship between price and quantity demanded.

# The Law of Demand

Quantity of CD demanded by Louise

Price per unit	Quantity demanded
1000	10
800	15
600	20
400	25
200	30

# Market Demand

Price per unit	Quantity demanded by	
	Louise	Rosie
1000	10	0
800	15	10
600	20	20
400	25	30
200	30	40

# Market Demand

- Different consumers do not have identical demand;
- but their demand exhibits the same characteristics -- downward-sloping
- Derived by summing horizontally the individual demand schedules.

# Market Demand

Price per unit	Quantity demanded by		Total
	Louise	Rosie	
1000	10	0	
800	15	10	
600	20	20	
400	25	30	
200	30	40	

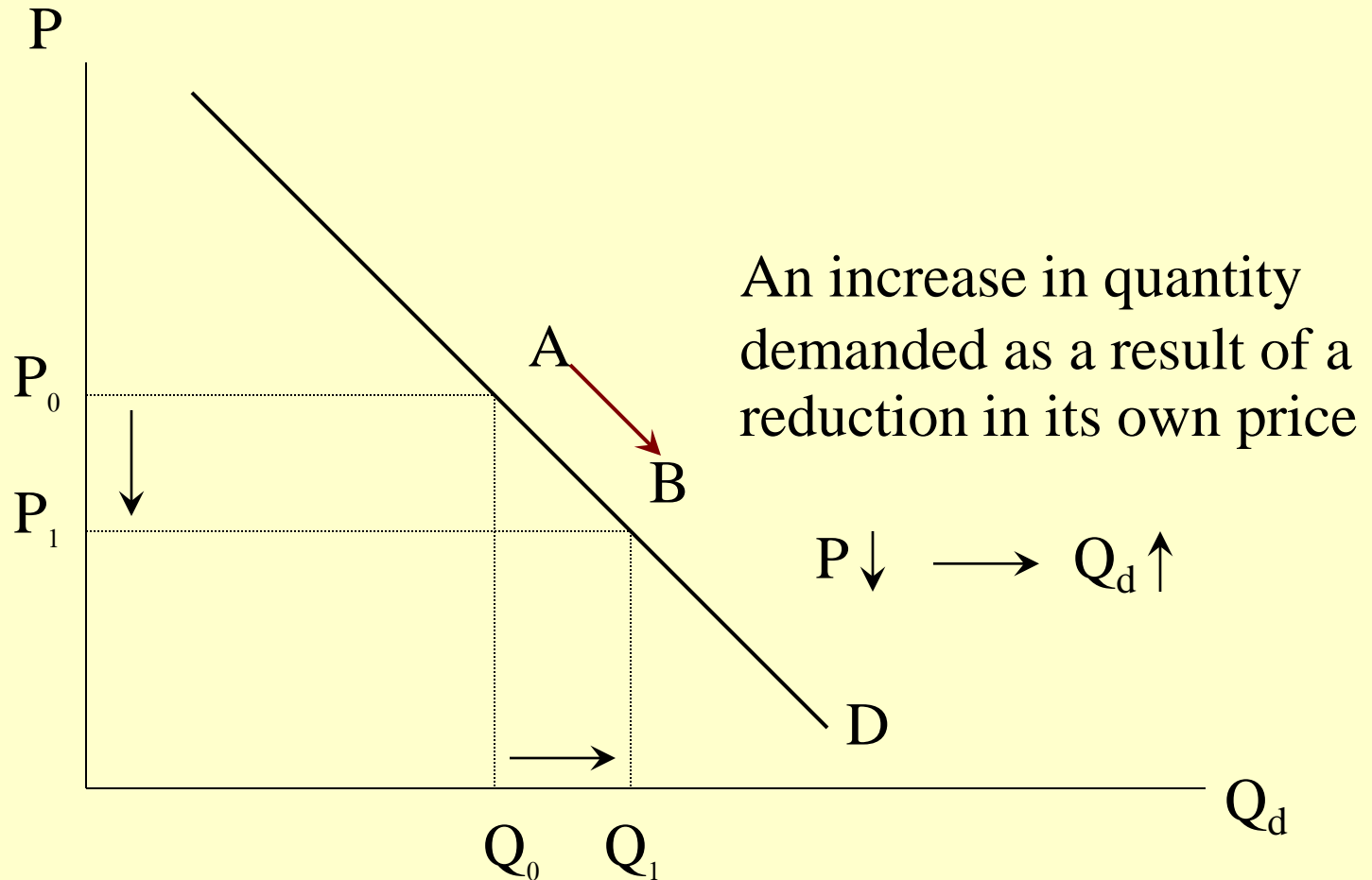
# Market Demand

- Now draw the market demand curve.

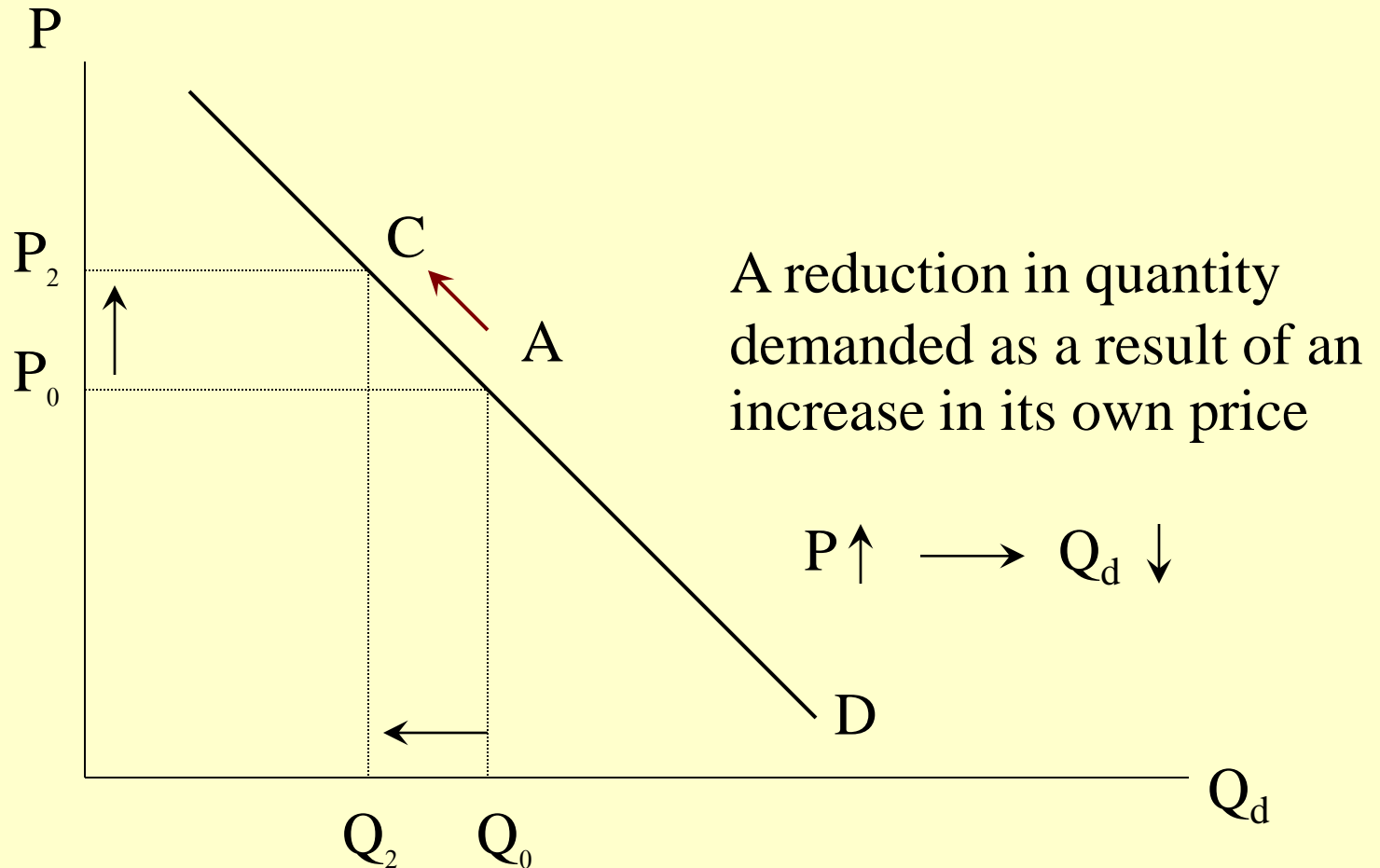
# Market Demand

# Change in Quantity Demanded vs Change in Demand

# Change in Quantity Demanded



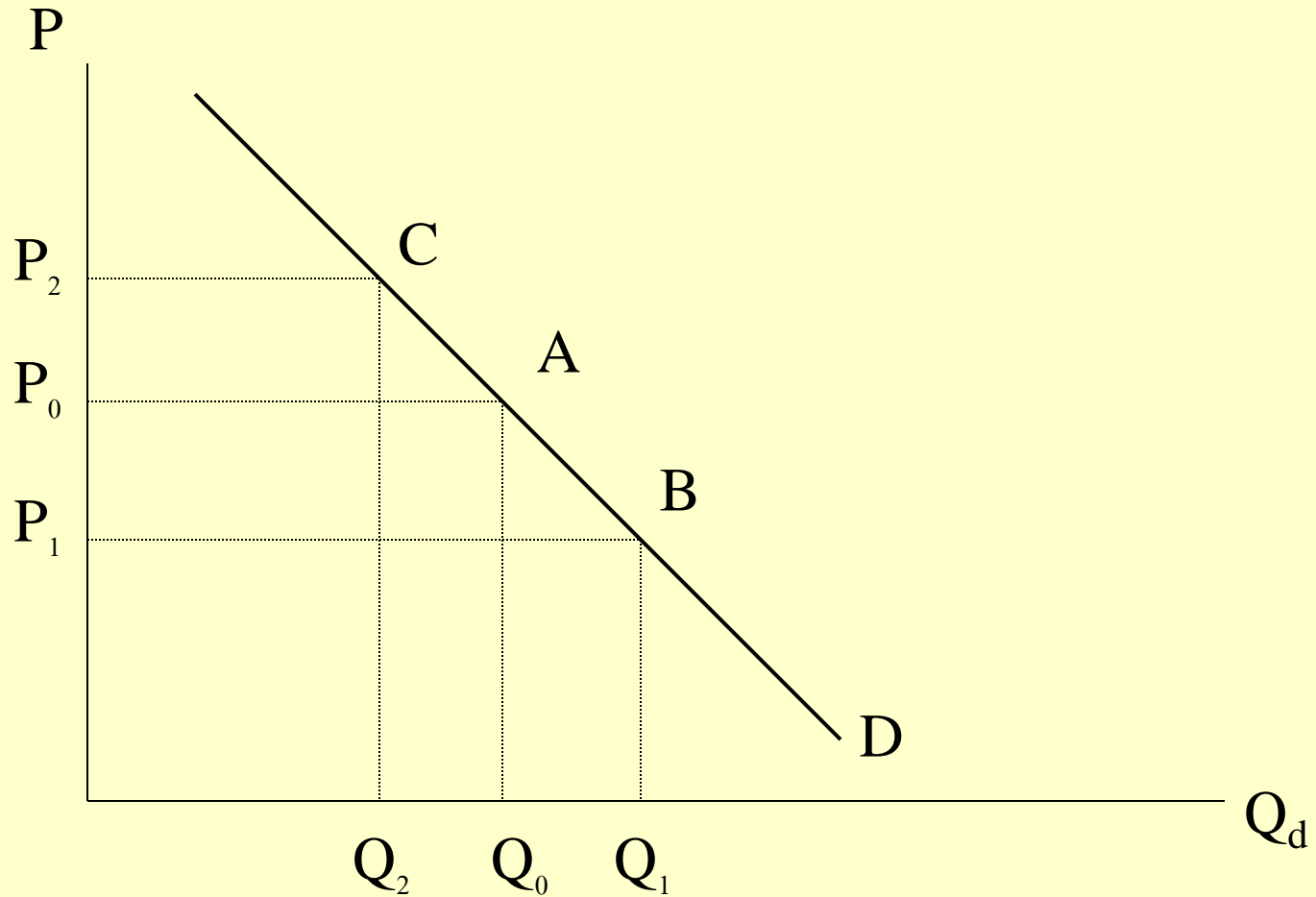
# Change in Quantity Demanded



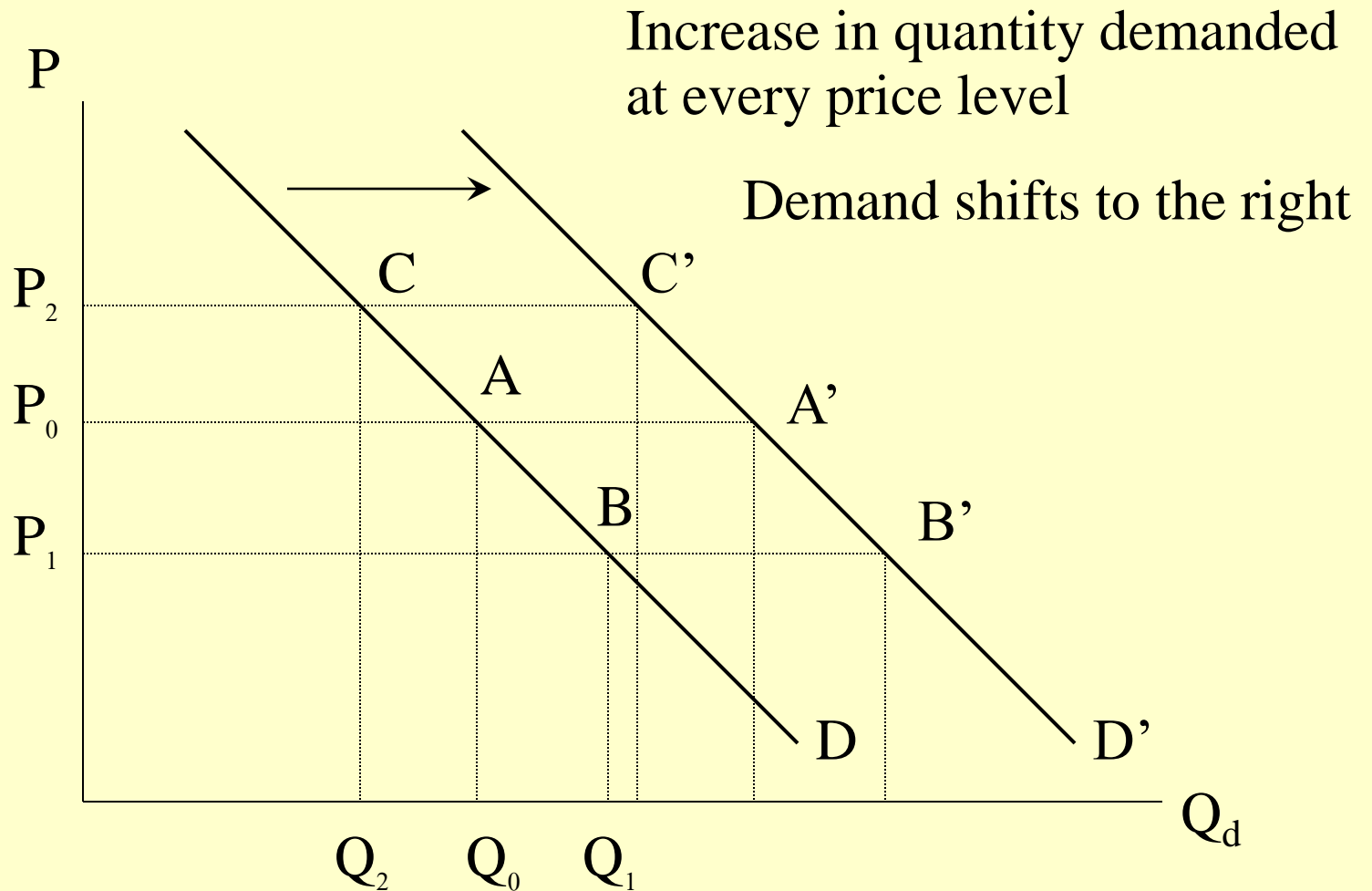
# Change in Quantity Demanded

- Change in  $Q_d$  occurs in response to  $\Delta P$ , other factors holding constant.
- Illustrated by *movement along* a given demand curve

# Change in Quantity Demanded



# Change in Demand



# Change in Demand

- Change in demand refers to a change in the entire demand curve.
- Illustrated by *shift* in the demand curve.

# Demand Shifters

- Income
  - normal goods
  - inferior goods
- Prices of related goods
  - substitute goods
  - complementary goods

# Demand Shifters (cont.)

- Tastes and Preferences
- Expectations of consumers
- Number of buyers  
(indicate size of the market)

# The Law of Supply

- *Ceteris paribus*, the higher the price of a good, the larger the quantity sellers are willing to offer for sale.
- Direct relationship between price and quantity supplied.

# The Law of Supply

Quantity of CD supplied by the Grammy Co., Ltd.

Price per unit	Quantity supplied
1000	25
800	20
600	15
400	10
200	5

# Market Supply

- Derived by summing horizontally the individual supply schedules.

# Market Supply

Price per unit	Quantity supplied by	
	Grammy	RS
1000	25	35
800	20	30
600	15	25
400	10	20
200	5	15

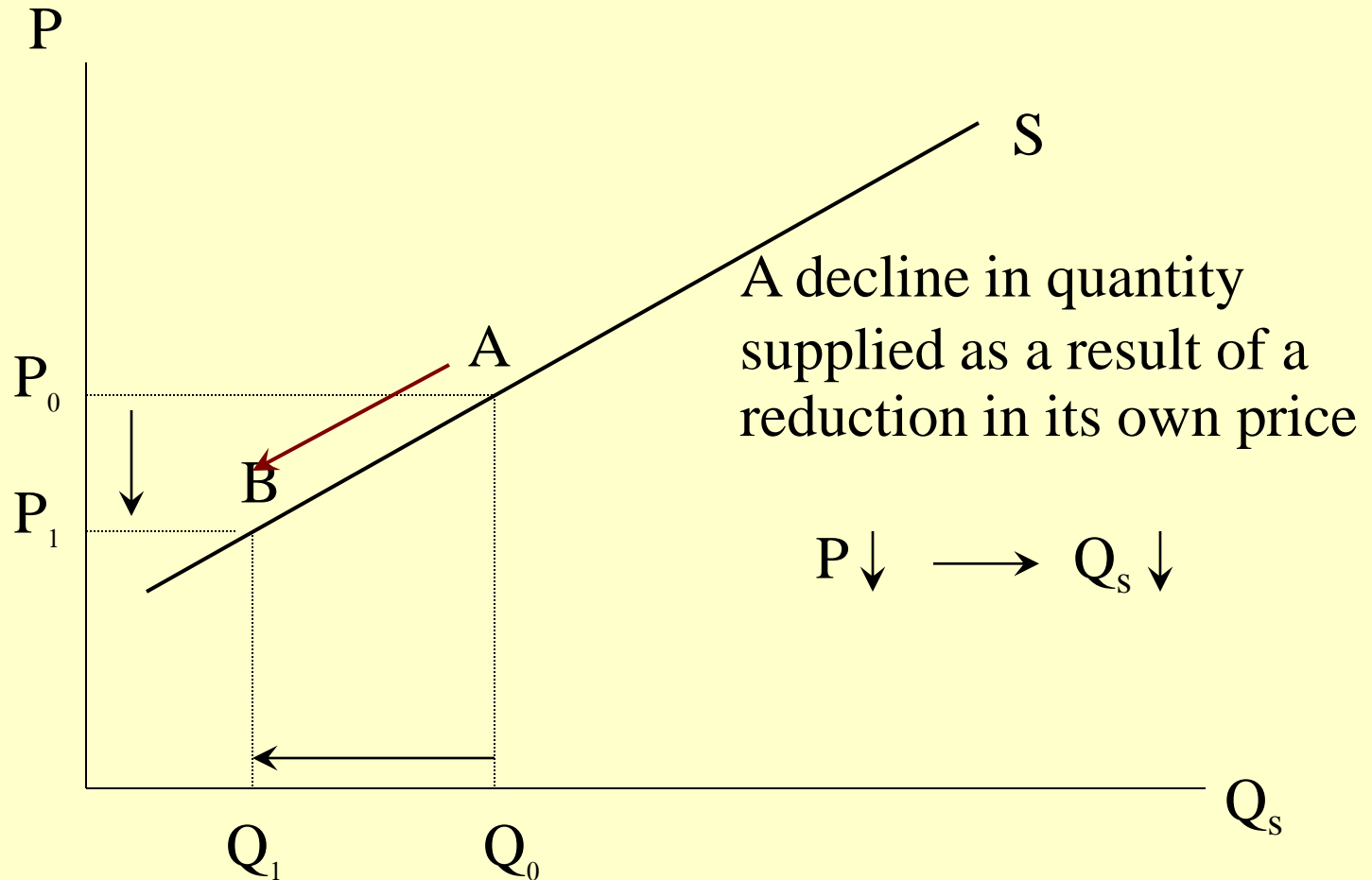
# Market Supply

Price per unit	Quantity supplied by		Total
	Grammy	RS	
1000	25	35	
800	20	30	
600	15	25	
400	10	20	
200	5	15	

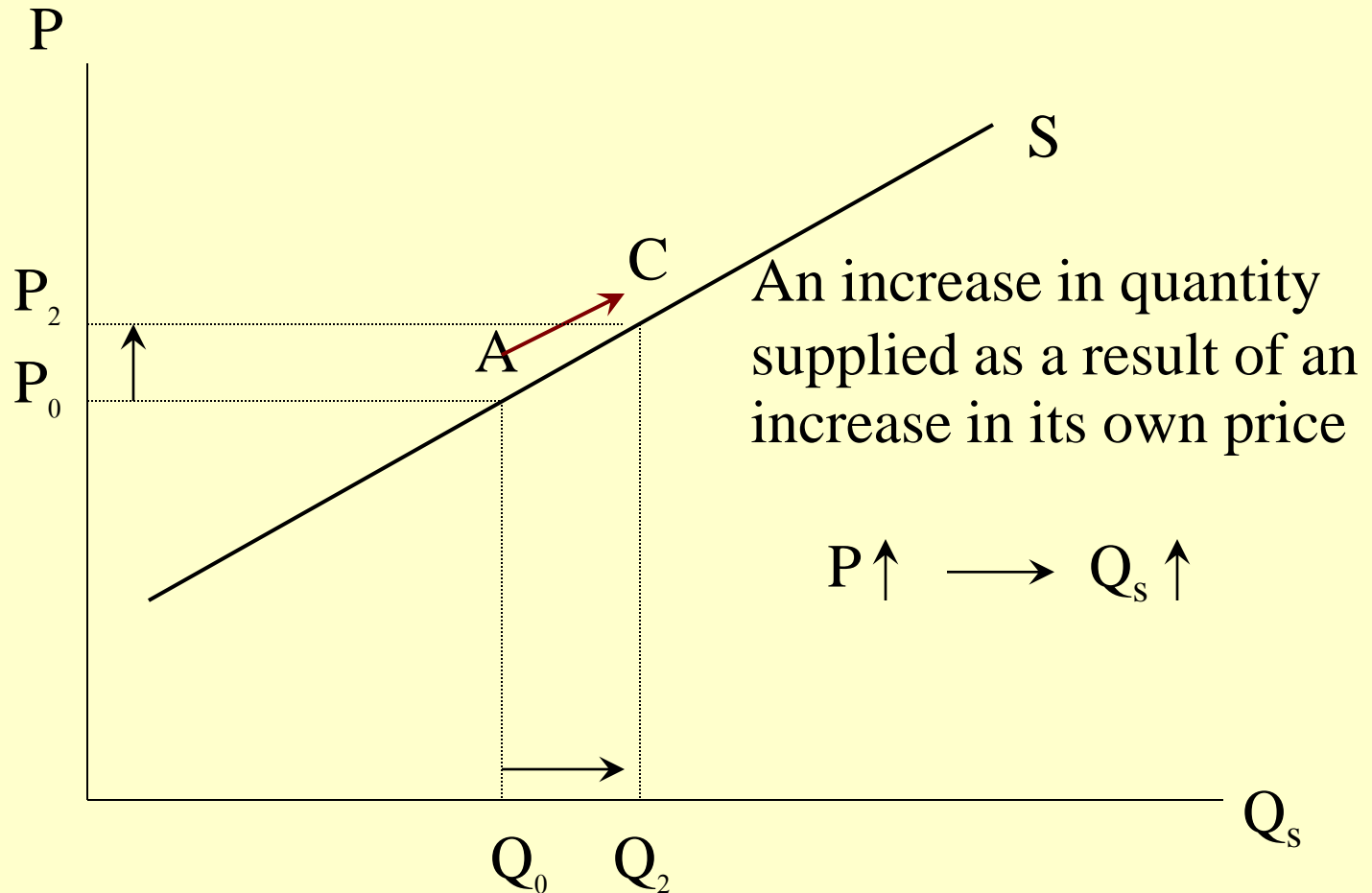
# Market Supply

# Change in Quantity Supplied vs Change in Supply

# Change in Quantity Supplied



# Change in Quantity Supplied



# Change in Quantity Supplied

- Change in  $Q_s$  occurs in response to  $\Delta P$ , other factors holding constant.
- Illustrated by *movement along* a given supply curve

# Change in Supply

- Change in supply refers to a change in the entire supply curve
- illustrated by *shift* in the supply curve

# Supply Shifters

- Number of sellers (entry and exit of firms)
- Technology
- Prices of inputs
- Expectations
- Prices of other goods and services
- Government policy, eg: Taxes and subsidies
- Discovery and depletion of raw materials

# Market Equilibrium

- A situation where both parties are happy with the prevailing state;
- and then there is no tendency to change.
- If disequilibrium exists, *market mechanism* will adjust automatically to bring about the equilibrium;
- so no need for anyone to intervene.

# Market Equilibrium

- In this case, Adam Smith called it an *'invisible hand'*.
- At equilibrium, we obtain equilibrium price and equilibrium quantity.
- Limitation: we cannot specify how long it takes for the market to establish an equilibrium

# Market Equilibrium

- Equilibrium price is where

$$Q_d = Q_s$$

- what if  $Q_d \neq Q_s$  ?
  - $Q_d > Q_s \implies$  Shortage drives price up.
  - $Q_d < Q_s \implies$  Surplus drives price down.

# Market Equilibrium

- So the equilibrium price can be called the *market clearing* price since
  - it removes from the market all frustrated buyers and sellers;
  - there is neither excess demand nor excess supply at the  $P_e$ .

# Market Equilibrium

- Three ways to illustrate equilibrium
  - table
  - graph
  - mathematical approach

# Market Equilibrium

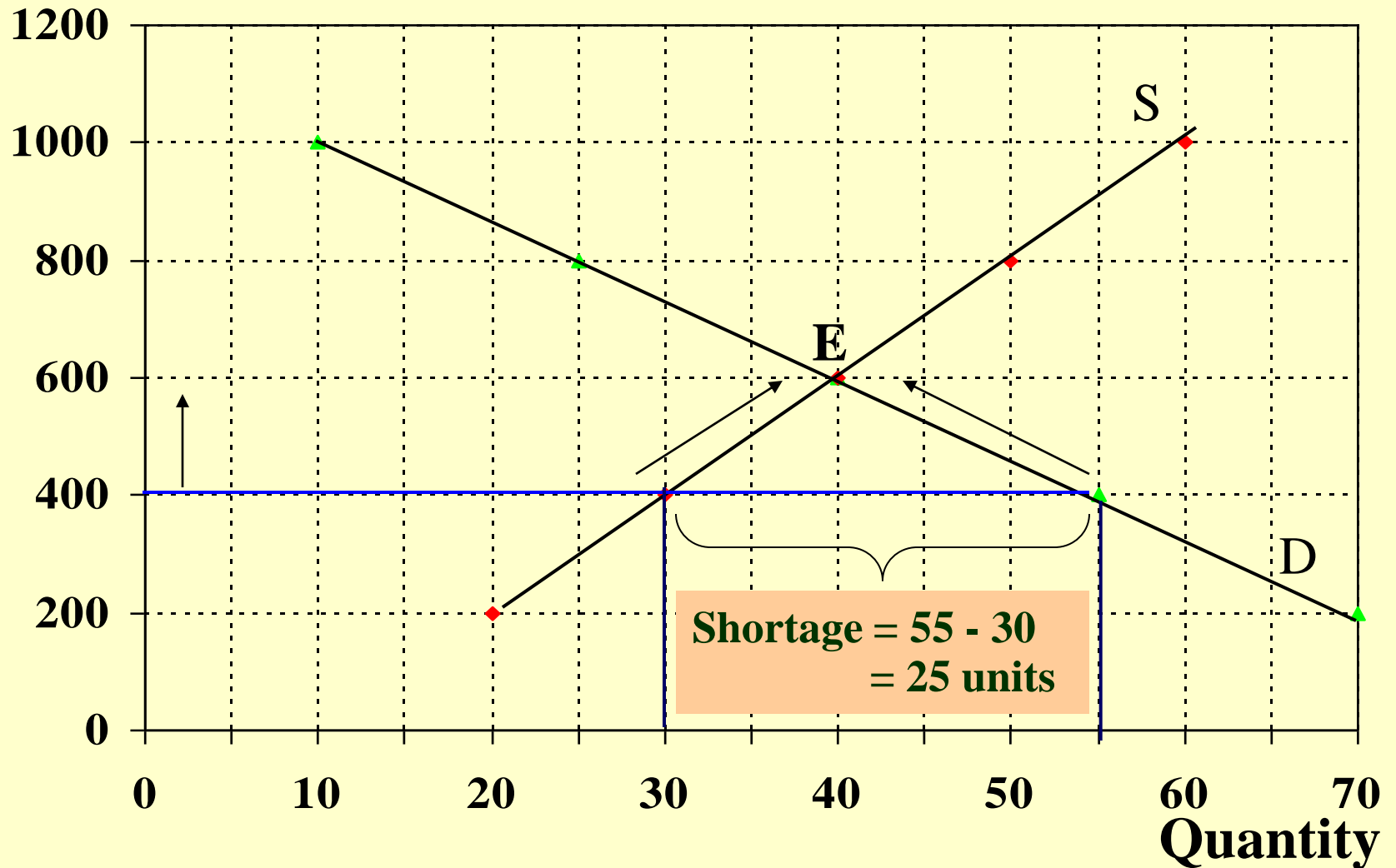
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Price per unit	Quantity demanded	Quantity supplied	Situation
1000	10	60	
800	25	50	
600	40	40	
400	55	30	
200	70	20	

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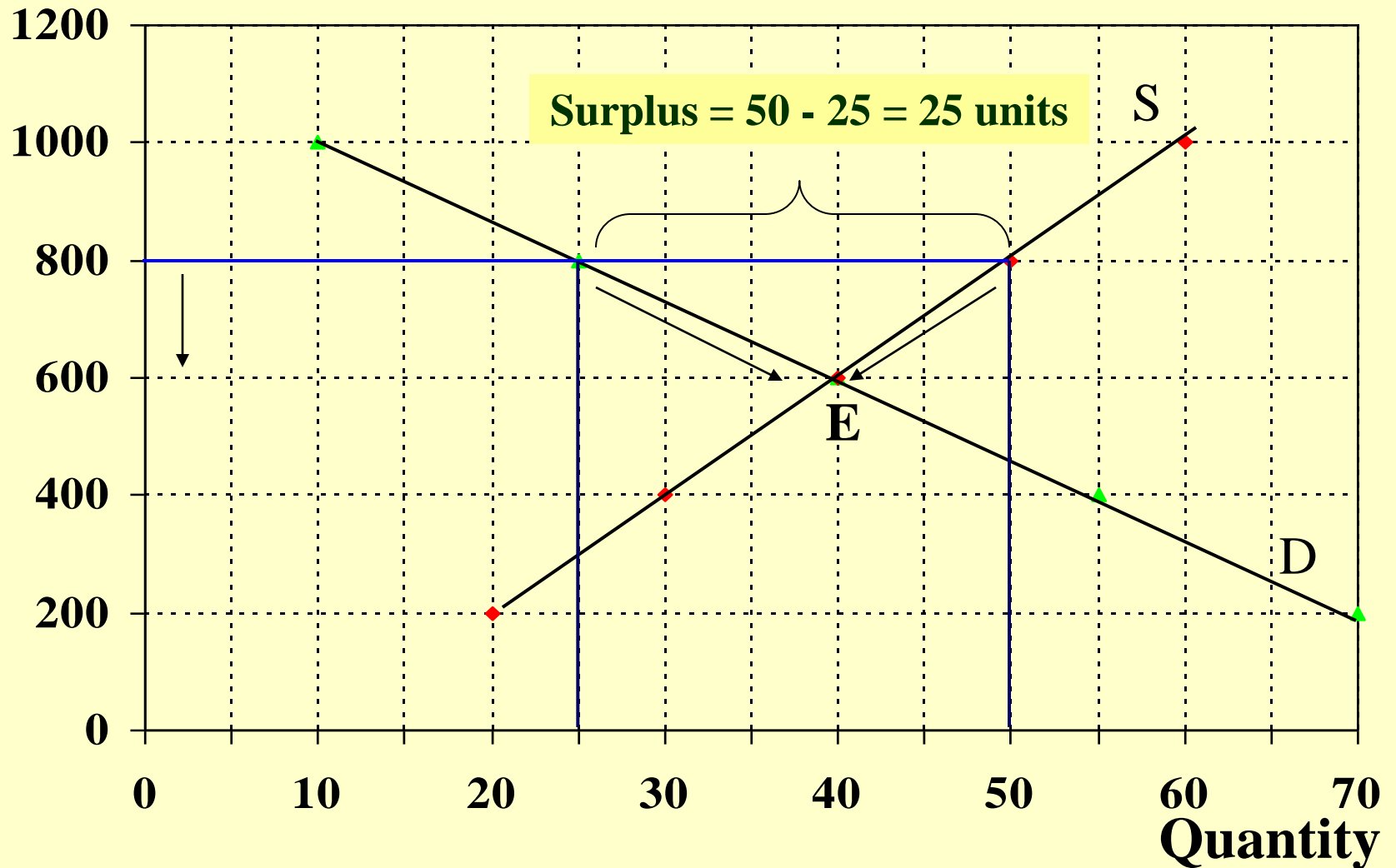
# Market Equilibrium

Price per unit



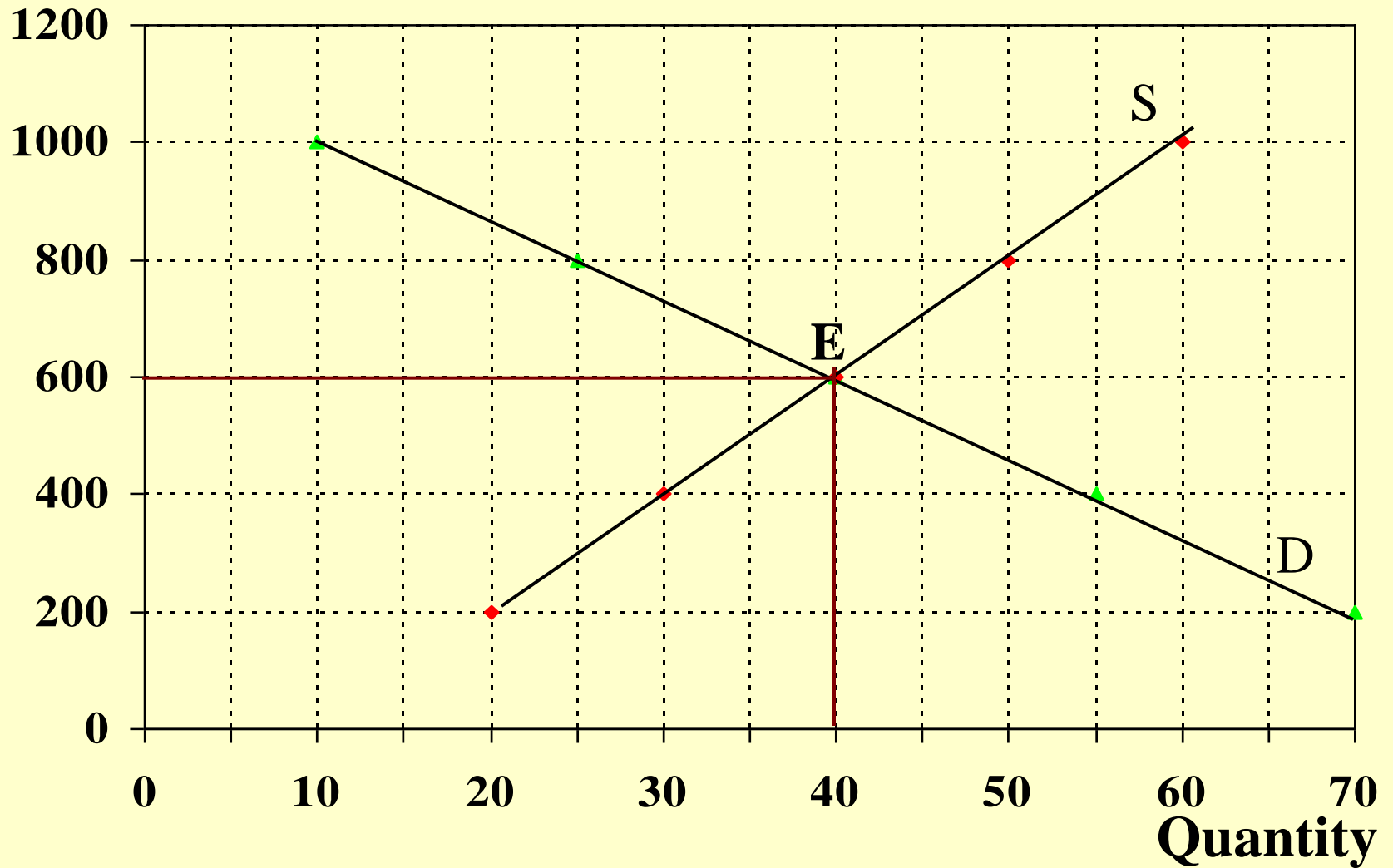
# Market Equilibrium

Price per unit



# Market Equilibrium

Price per unit



# A Mathematical Illustration of Market Equilibrium

- Given  $Q_d = 288 - 20P$ ; and  
 $Q_s = 178 + 30P$
- Find the equilibrium price and quantity.

# A Mathematical Illustration of Market Equilibrium

- Equilibrium price can take place at

# Change in Equilibrium

- Consider the market of rose, what will happen to the equilibrium if
  - today is valentine day
- Given  $S$ , what if  $\Delta D$ ?

# Summary of changes in equilibrium

	D ↓	D	D ↑
S ↓			
S			
S ↑			