Econ 100A: Intermediate Microeconomic Analysis Lecture 2

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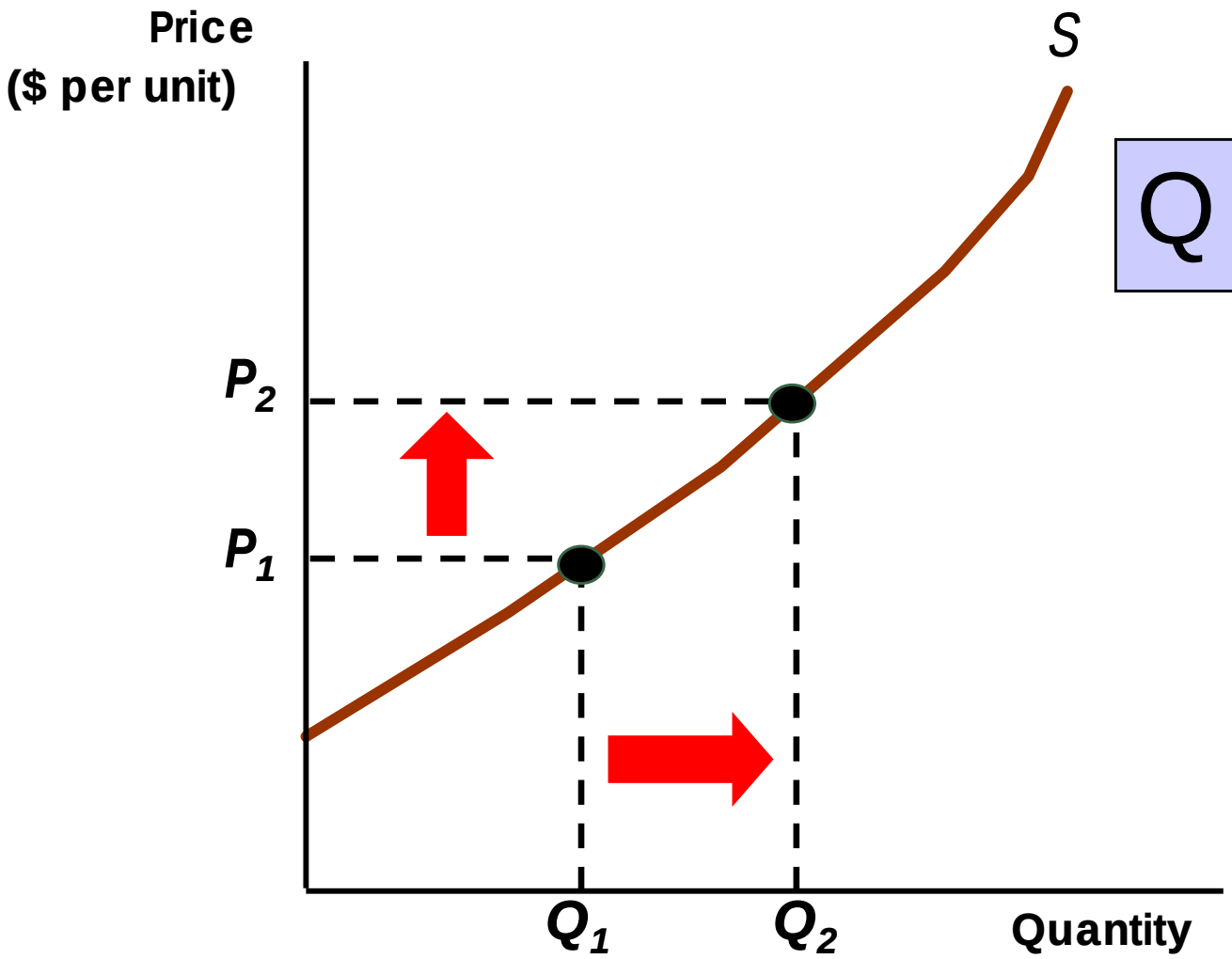
Real Versus Nominal Prices [M, p. 12]

- **Consumer Price Index (CPI)** is a measure of aggregate price level; CPI is a price of a "basket"
- **Nominal price** is the absolute (or current-dollar) price of a good or service when it is sold
- **Real price** is the price of a good relative to the CPI (or constant dollar price)
- In this class we will work with real prices (mostly)
- Calculating Real Prices

$$\underset{\substack{base\\ year}}{\text{RealPrice}} = \frac{\text{CPI}_{\text{base year}}}{\text{CPI}_{\text{current year}}} \text{ x Nominal Price}_{\text{current year}}$$

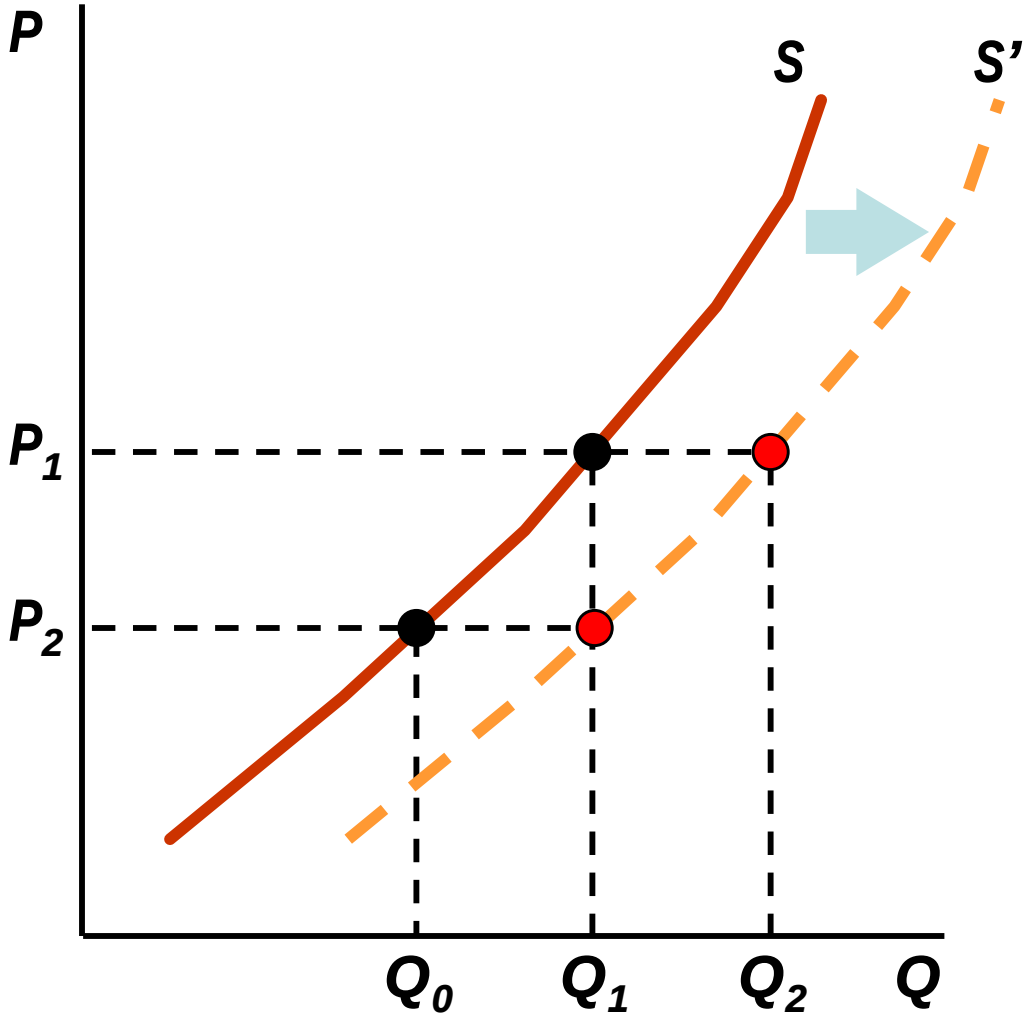
The Supply Curve, [M, p. 20]



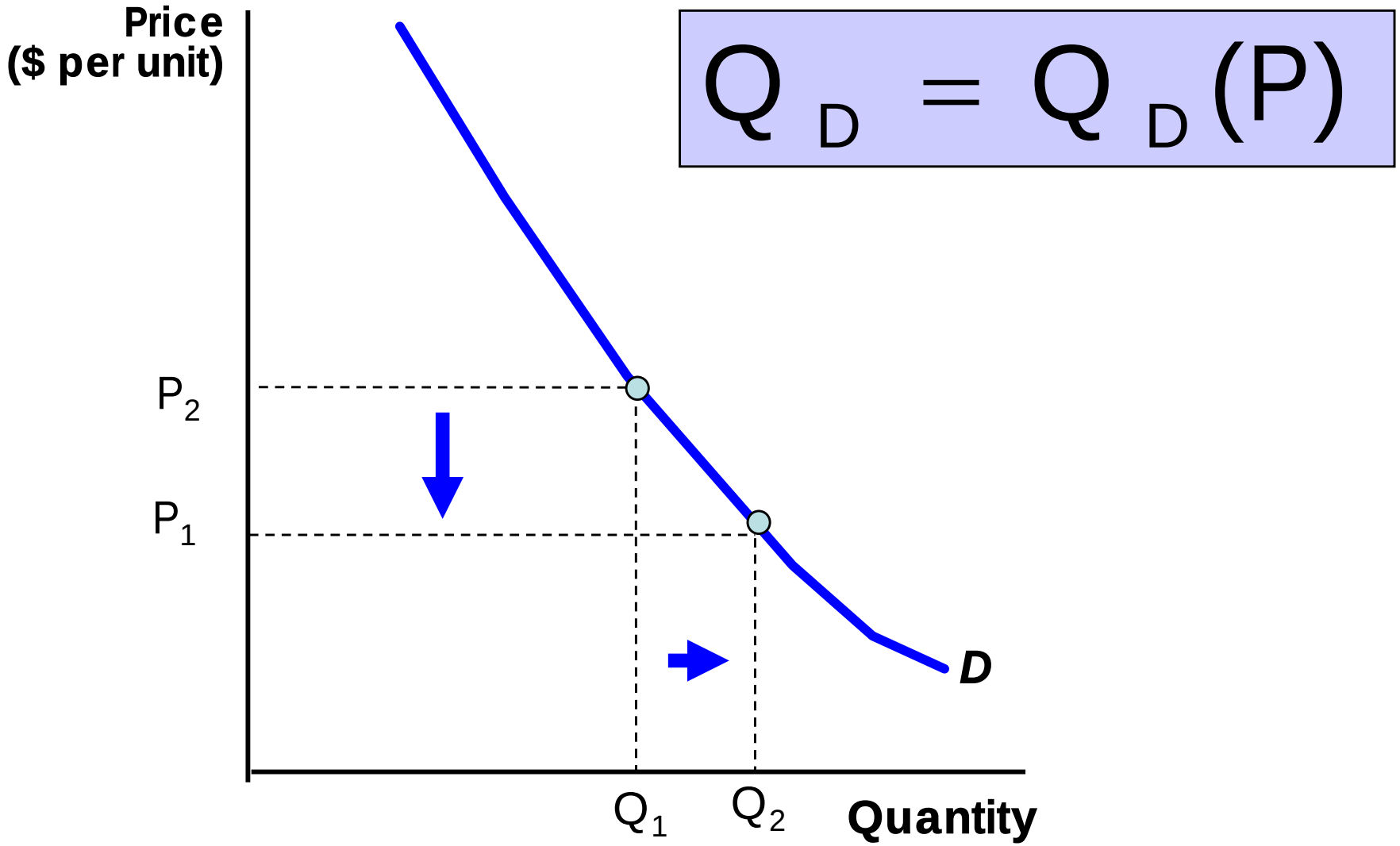
$$Q_S = Q_S(P)$$

Change in Supply, [M, p. 20]

- "Change in supply" refers to the shift in supply curve (and "change in quantity supplied" – to movements **along** the supply curve)
- If the cost of raw materials falls
  - ➔ Supply curve shifts right
- Supply shifts (right): Occurs if producer expenses fall, i.e.:
  - Price of inputs falls:
    - wage (price of labor)
    - interest rate (price of capital)
    - materials
    - energy (gas & electricity)
    - premises (real estate rent)

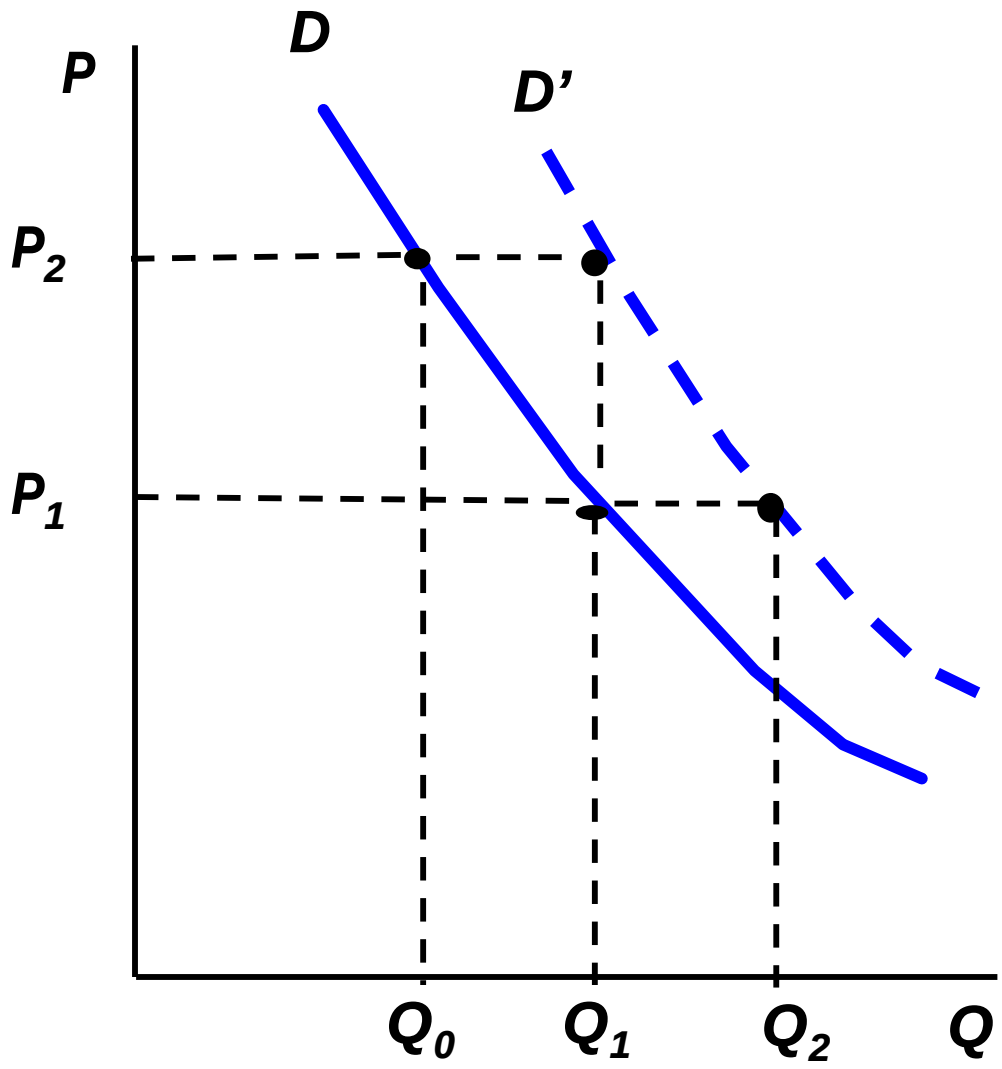


The Demand Curve [M, p. 22]

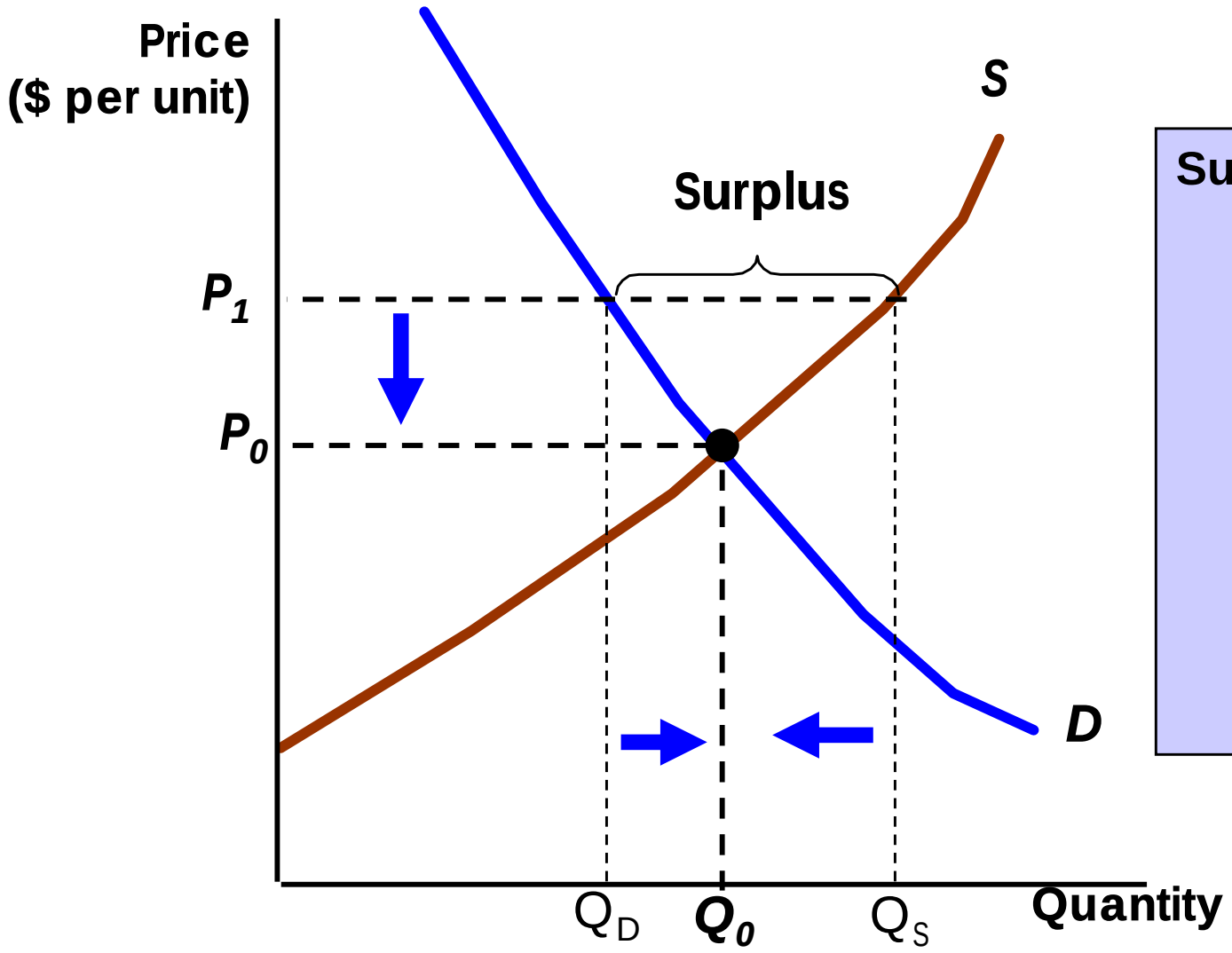


Change in Demand [M, p. 22]

- "Change in demand" refers to the shift in demand curve ("change in quantity demanded" – to movements **along** the demand curve)
- If Income Increases
  - ➔ Demand curve shifts right
- Demand shift (right): if positive demand shock, examples:
  - Hurricane, earthquake ➔ increased demand for housing in neighbor locations
  - Extremely hot summer ➔ increased demand for rentals of ocean vacation housing
  - Lower interest rates ➔ increased demand for buying housing
  - Baby boom ➔ increased demand for all types of housing

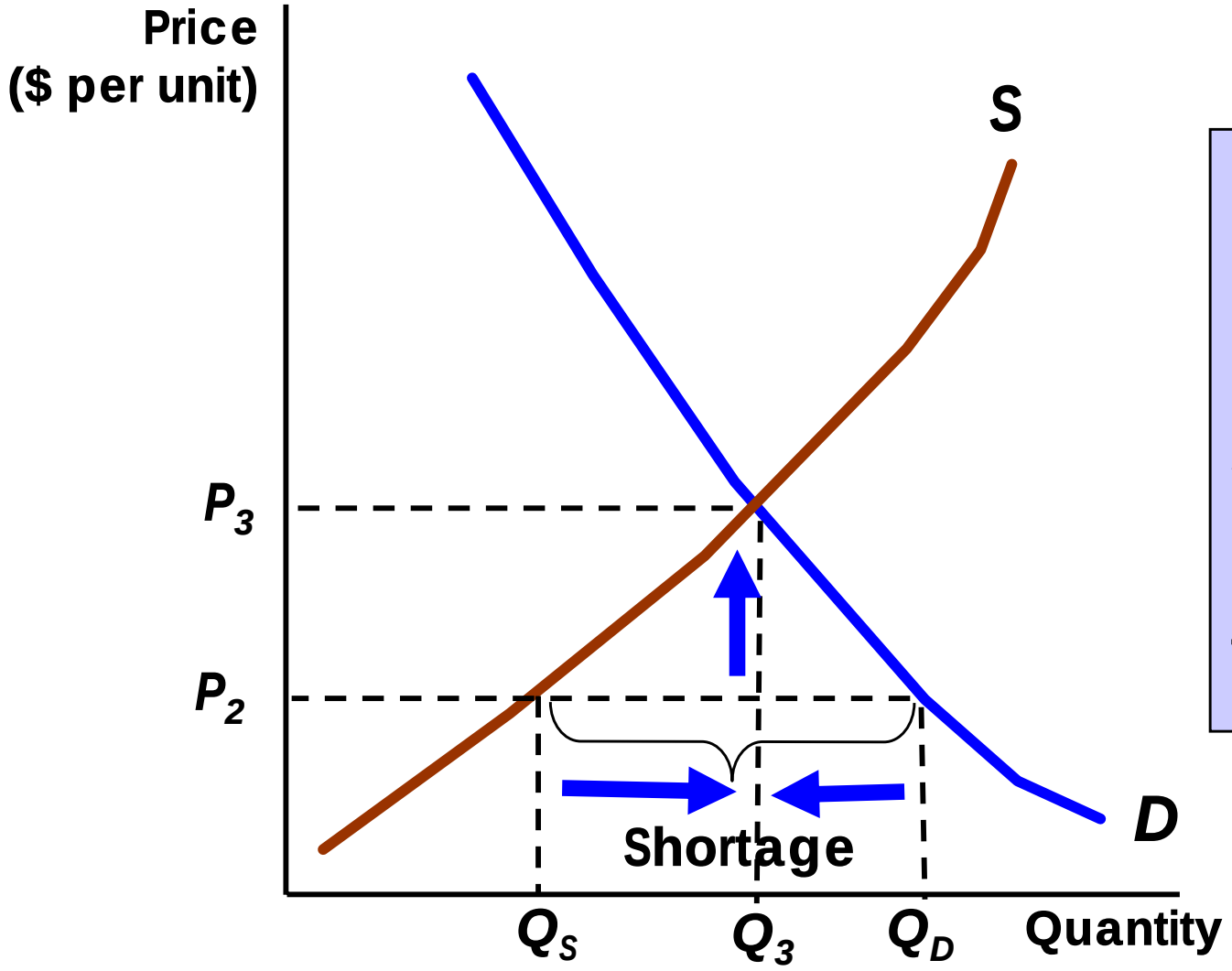


The Market Mechanism, surplus [M, p. 23]



Surplus = Q_s - Q_d

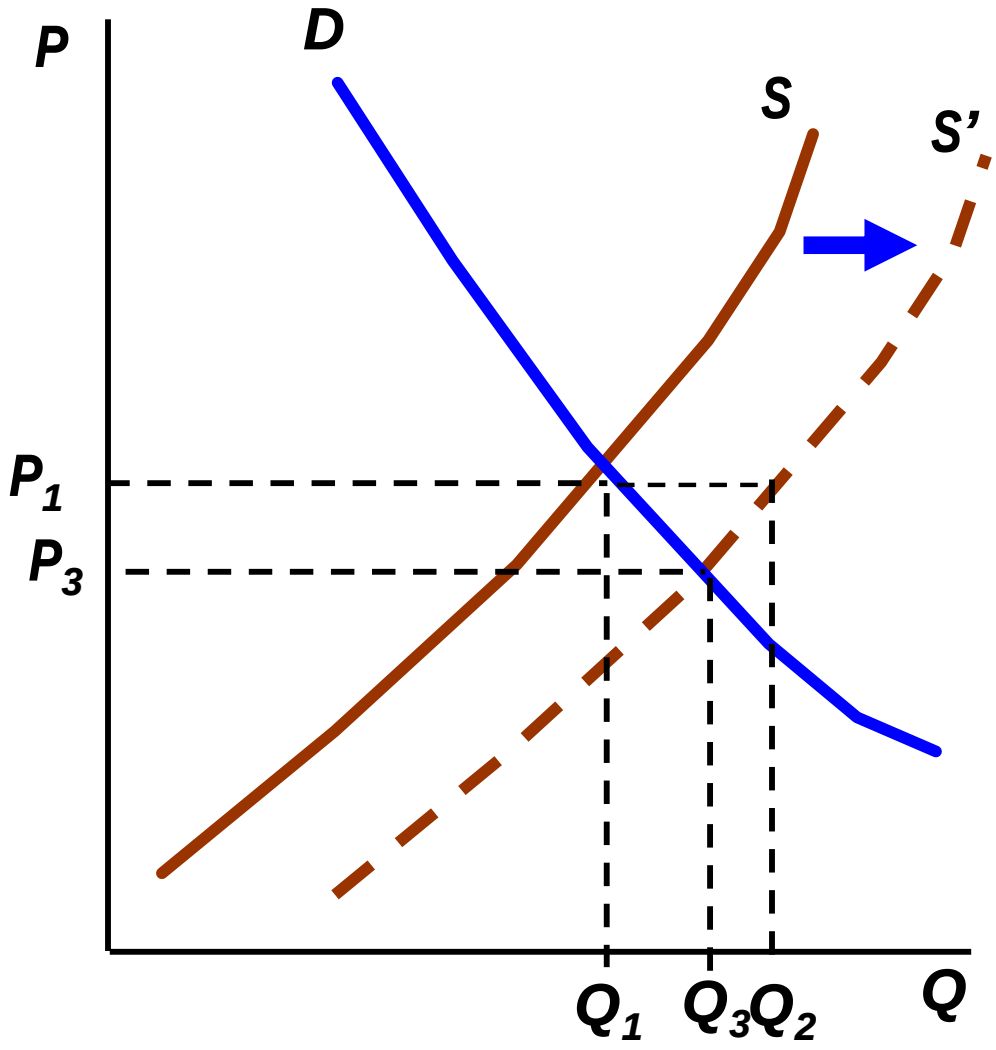
The Market Mechanism (Shortage) [M, p. 23]



1. At P_2, price is below the market clearing price
2. $Q_D > Q_S$
3. Price rises to the *market-clearing* price
4. Market adjusts to equilibrium

Changes in Market Equilibrium

- Raw material prices fall ➔
  - S shifts to S'
  - Surplus at P_1 (between Q_1 and Q_2)
  - Price adjusts to a new equilibrium at P_3, Q_3

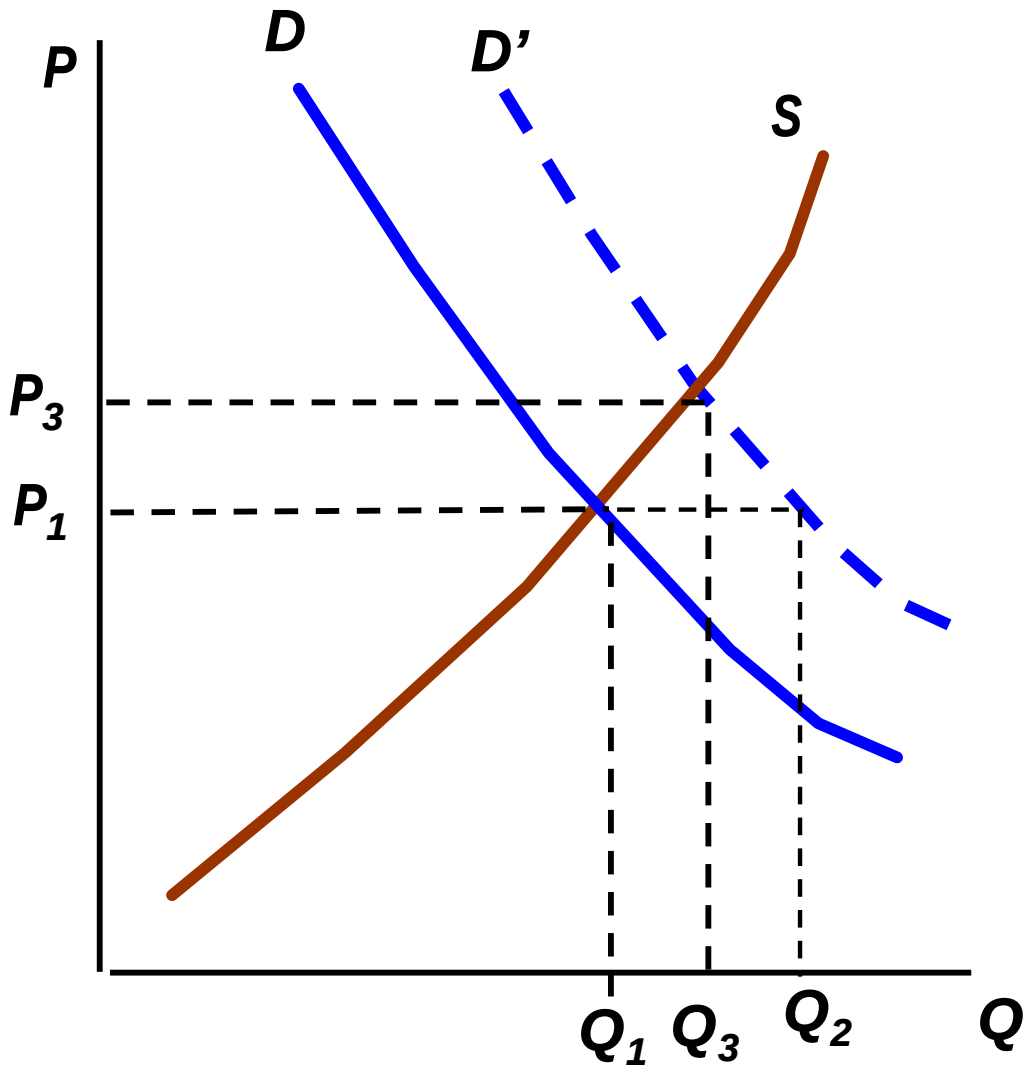


Changes in Market Equilibrium

Income Increases

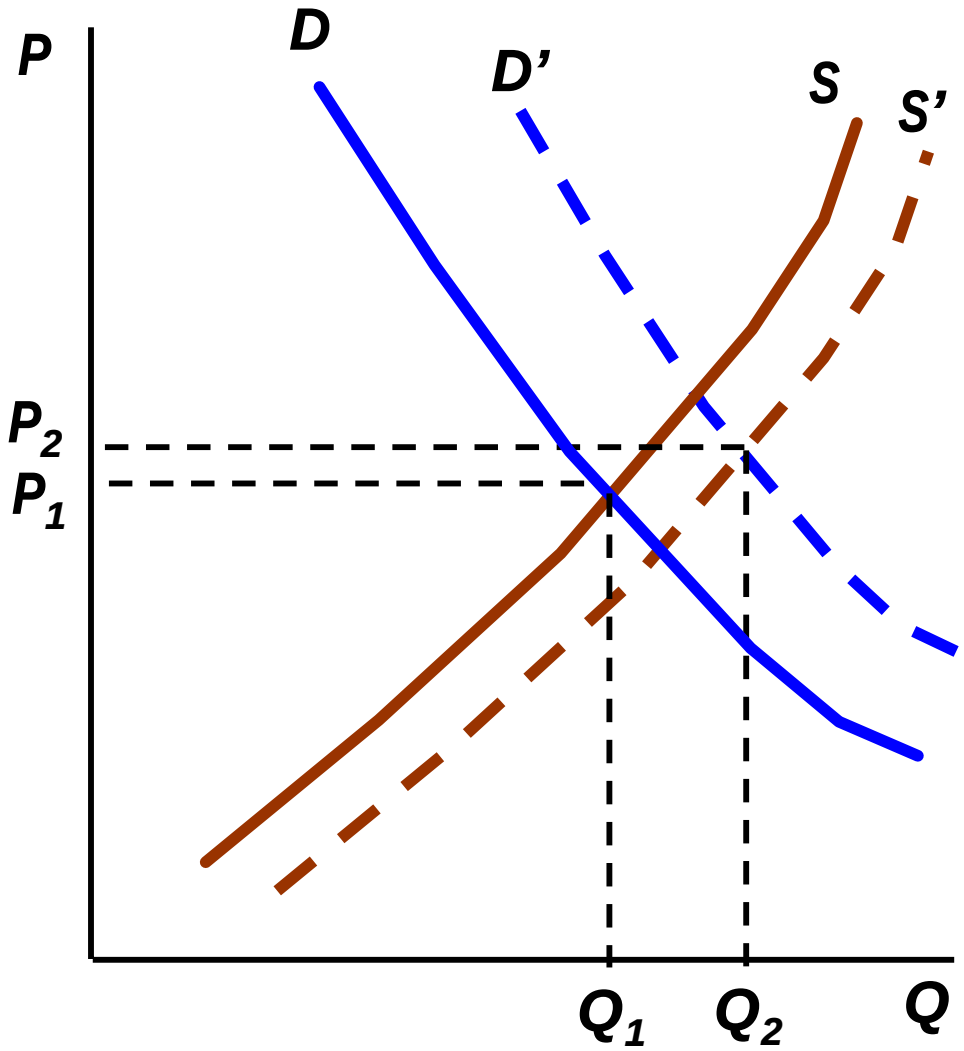
➔

- Demand increases to D’
- Shortage at P_1 of Q_1 to Q_2
- Equilibrium at P_3 and Q_3



Changes in Market Equilibrium [M, Fig. 2.6, p. 26]

- Income increases and raw material prices fall
  - Quantity increases
  - If the increase in D is greater than the increase in S price also increases



Elasticities of Supply and Demand

- Elasticity is a measure by how much a variable will change with the change in another variable
- Elasticity gives the percentage change in one variable resulting from a one percent change in another
- Elasticity of Supply & Elasticity of Demand:

$$E_P^S = \frac{\%\Delta Q_S}{\%\Delta P}$$

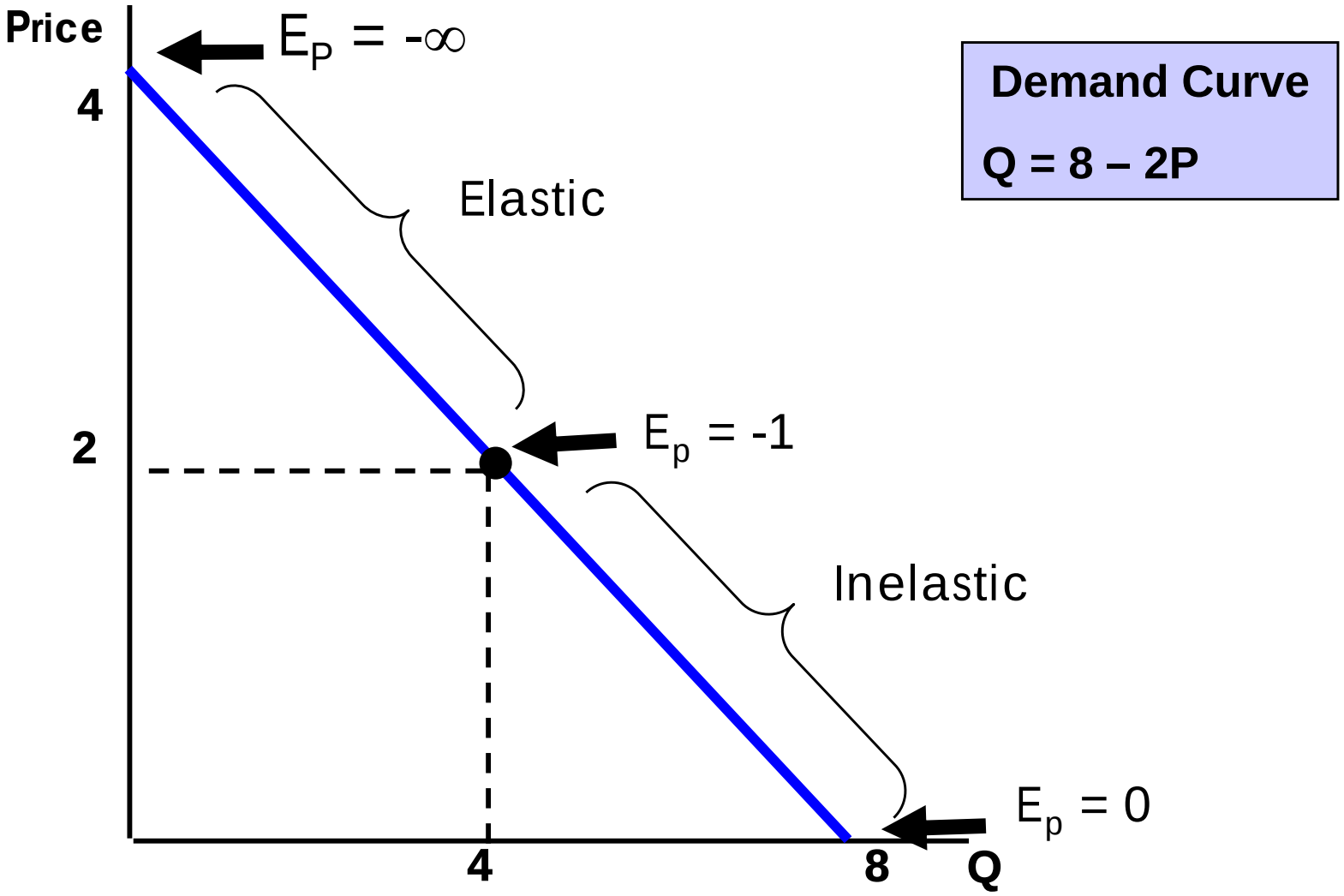
$$E_P^D = \frac{\%\Delta Q_D}{\%\Delta P}$$

Price Elasticity of Demand

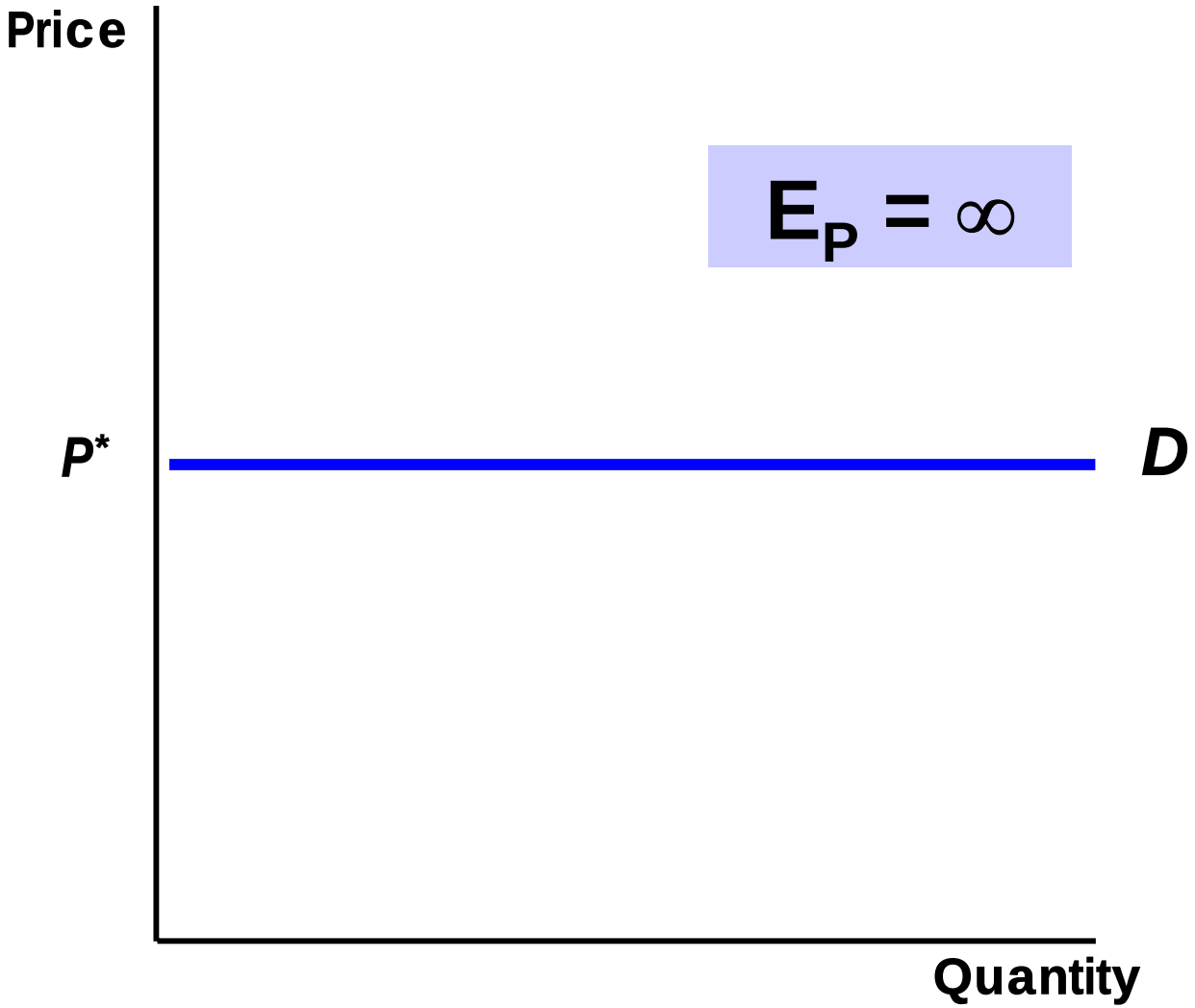
- Usually a negative number
  - As price ↑, quantity ↓
  - As price ↓, quantity ↑
- When $|E_P| > 1$, the good is price elastic: $|\%\Delta Q| > |\%\Delta P|$
- When $|E_P| < 1$, the good is price inelastic: $|\%\Delta Q| < |\% \Delta P|$
- Elasticity can also be written as:

$$E_P^D = \frac{\Delta Q/Q}{\Delta P/P} = \frac{P}{Q}\frac{\Delta Q}{\Delta P}$$

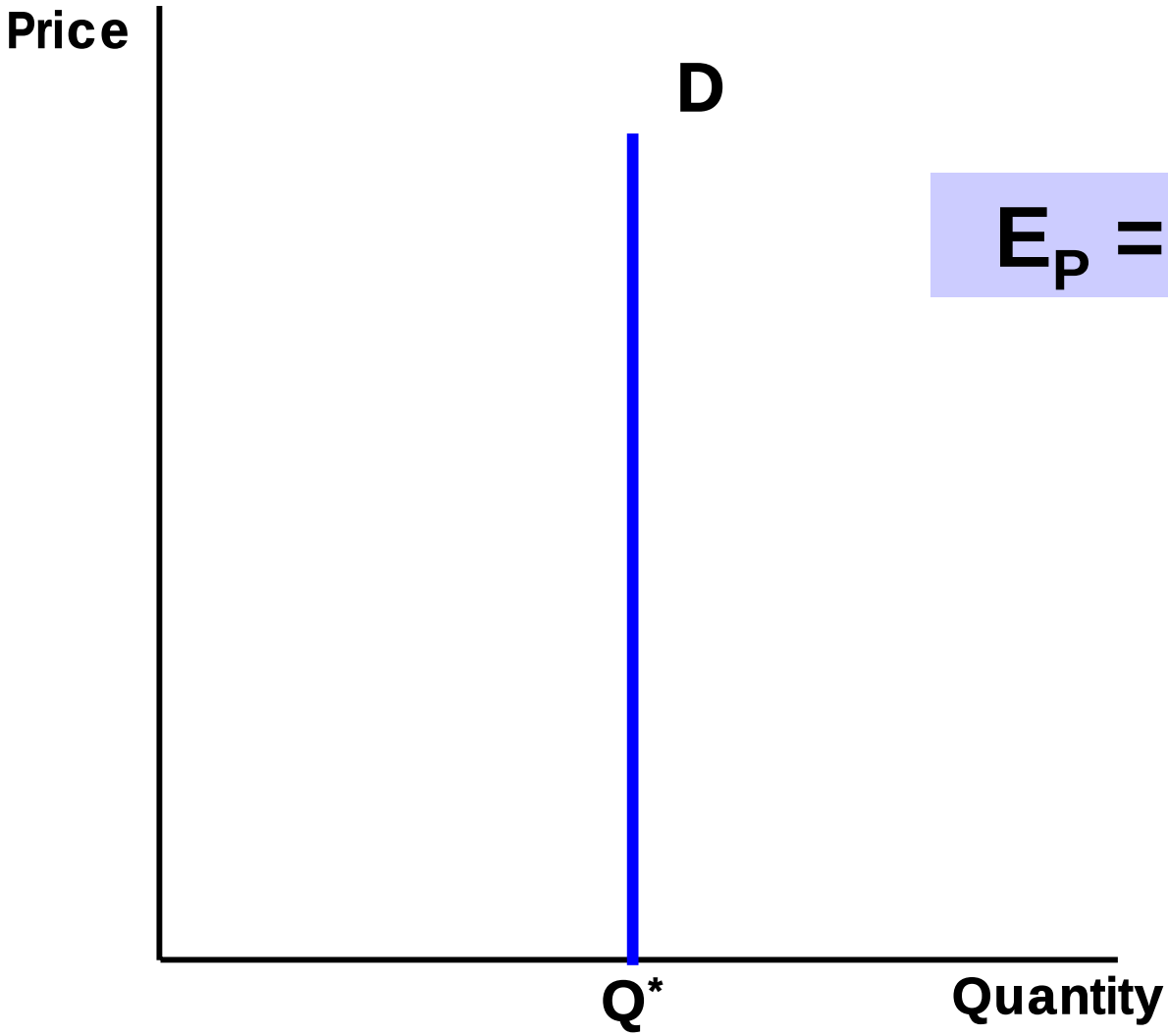
Price Elasticity of Demand



Infinitely Elastic Demand



Completely Inelastic Demand



Other Demand Elasticities: Income Elasticity of Demand

- Income Elasticity of Demand
  - Measures how much quantity demanded changes with a change in income

$$E_I = \frac{\Delta Q/Q}{\Delta I/I} = \frac{I}{Q}\frac{\Delta Q}{\Delta I}$$

Other Demand Elasticities: Cross-Price Elasticity of Demand

- Cross-Price Elasticity of Demand
  - Measures the percentage change in the quantity demanded of one good that results from a one percent change in the price of another good

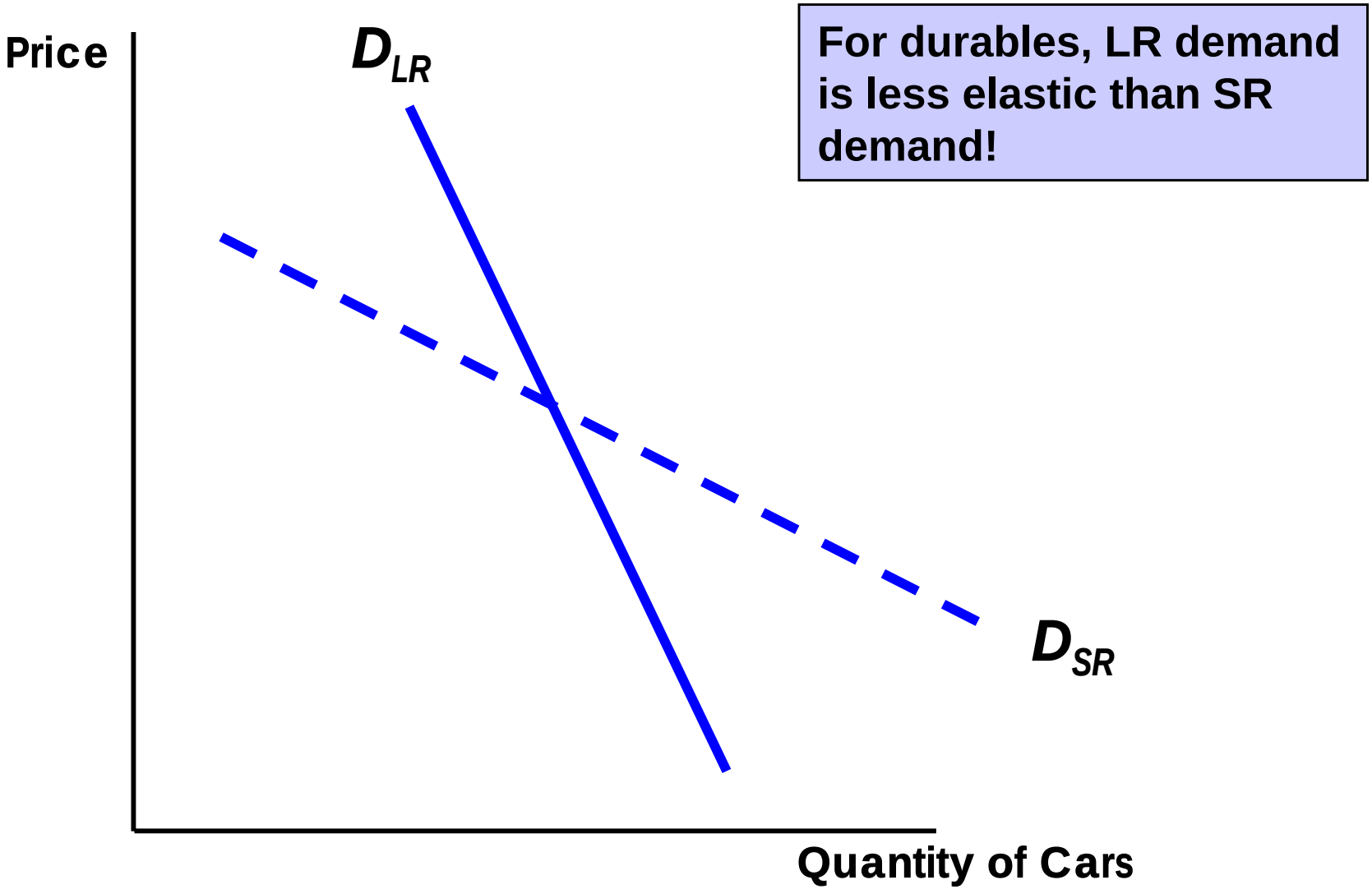
$$E_{Q_b P_m} = \frac{\Delta Q_b / Q_b}{\Delta P_m / P_m} = \frac{P_m}{Q_b} \frac{\Delta Q_b}{\Delta P_m}$$

(the subscript “b” stands for butter, and “m” for margarine)

Short-Run Versus Long-Run: SR vs LR Elasticity

- Price elasticity varies with the amount of time consumers have to respond to a price
- Short-run demand and supply curves often look very different from their long-run counterparts
- Demand
  - In general, demand is much more price elastic in LR
    - Consumers take time to adjust consumption habits
    - Demand might be linked to another good that changes slowly
    - More substitutes are usually available in LR

SR & LR demand for durables: Cars: SR and LR



For durables, LR demand is less elastic than SR demand!

SR Versus LR: Elasticity

- Income elasticity also varies with the amount of time consumers have to respond to an income change
  - For most goods and services, income elasticity is larger in LR (because when income changes, it takes time to adjust spending)

Summary of Today & Plan for the Next Lecture

- Organizational Matters:
  - Home Assignment 1 will be posted on the web on Saturday, due date: Tuesday lecture, 19.09.2006
  - Course web will be connected to the econ. department web page
- Summary of today's lecture: Concepts
  - Nominal and real prices, CPI
  - Surplus and Shortage
  - Elasticity of: Demand, Supply, …
  - Short run [SR] and Long run [LR]
  - SR and LR elasticities
    - demand elasticity
    - Income elasticity
- Your preparation: read ch. 2 (and 3)
- Next week / lecture
  - Price controls
  - Consumer preferences
  - Budget constraint
- Have a Nice Day and a Great Labor Day Weekend