Principles of Economics

Discussion Session 1

Joe Wilske and Yuzhi Yao

Boston College

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Shift 'of' a curve *vs* shift 'along' a curve

- A demand curve is a function $Q^D(P)$.
  - Input a price and it returns the quantity demanded.
- Changing the input from P_1 to P_2 implies shifting between two points on the *same curve*:
  $(P_1, Q^D(P_1)) \longrightarrow (P_2, Q^D(P_2))$.
- Changing other parameters of the function besides P implies shifting the *curve itself*:
  $Q_1^D \longrightarrow Q_2^D$

What might those other parameters be for a demand curve? A supply curve?

Exercise 1: Demand & Supply Curves

Q1: Draw a demand curve for orange juice, D_1, and choose a point $A(Q_1, P_1)$ on the demand curve. What happens in the following scenarios? Why?

- Price of apple juice rises
- Price of orange juice falls

Q2: Draw a supply curve for apple juice, S_1, and choose a point $B(Q_1, P_1)$ on the supply curve. What happens to it in each of the following scenarios? Why?

- Grocery stores cut the price of apple juice
- A technological advance allows apple juice to be produced at a lower cost

Exercise 1: Demand & Supply Curves

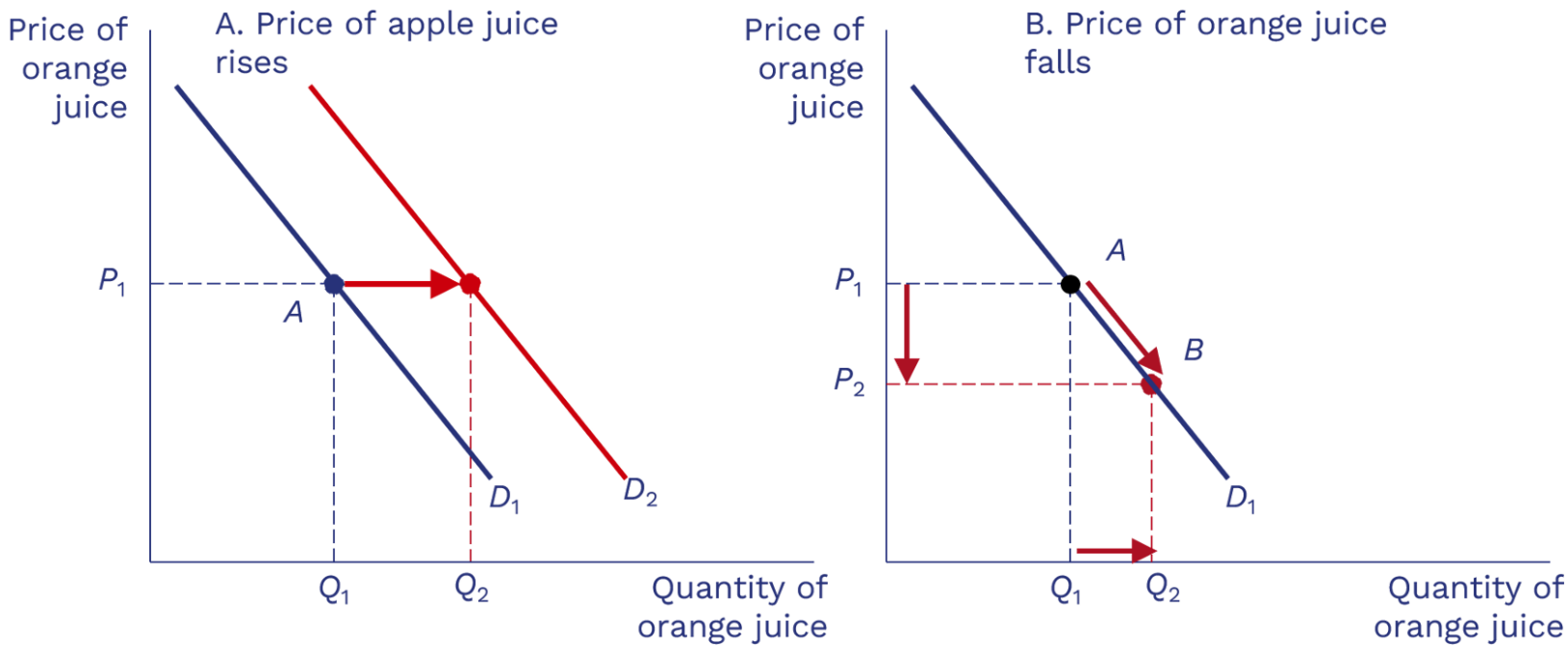

Figure: Solution for Q1

Exercise 1: Demand & Supply Curves

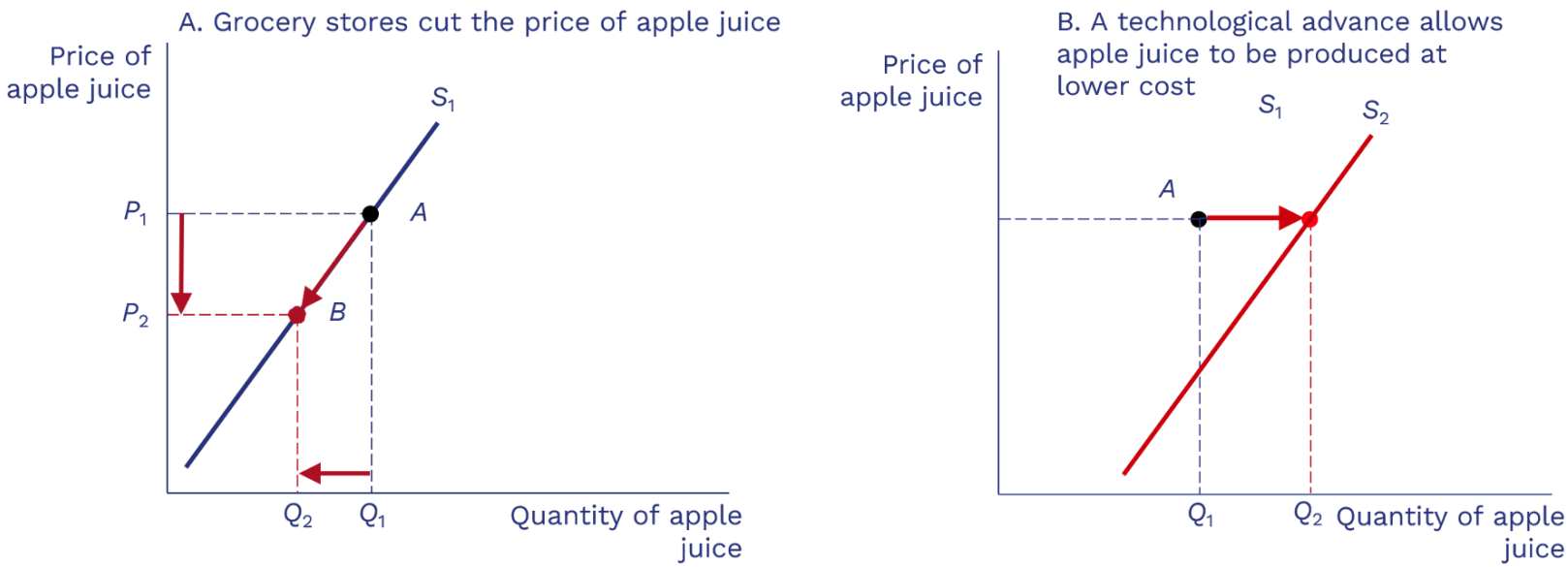

Figure: Solution for Q2

Exercise 2: Shifts in Supply and Demand

The **three-step method**: an "econ 101" technique for market analysis

1. Identify which curve is effected (D or S)
2. Decide which direction it shifts (and shift it)
3. Find new equilibrium price and quantity

Use the three-step method to analyze the effects of these events on the equilibrium price and quantity of orange juice

- There is a fall in the price of apple juice
- Good weather creates an abundant orange crop
- Both events occur simultaneously

Exercise 2: Shifts in Supply and Demand

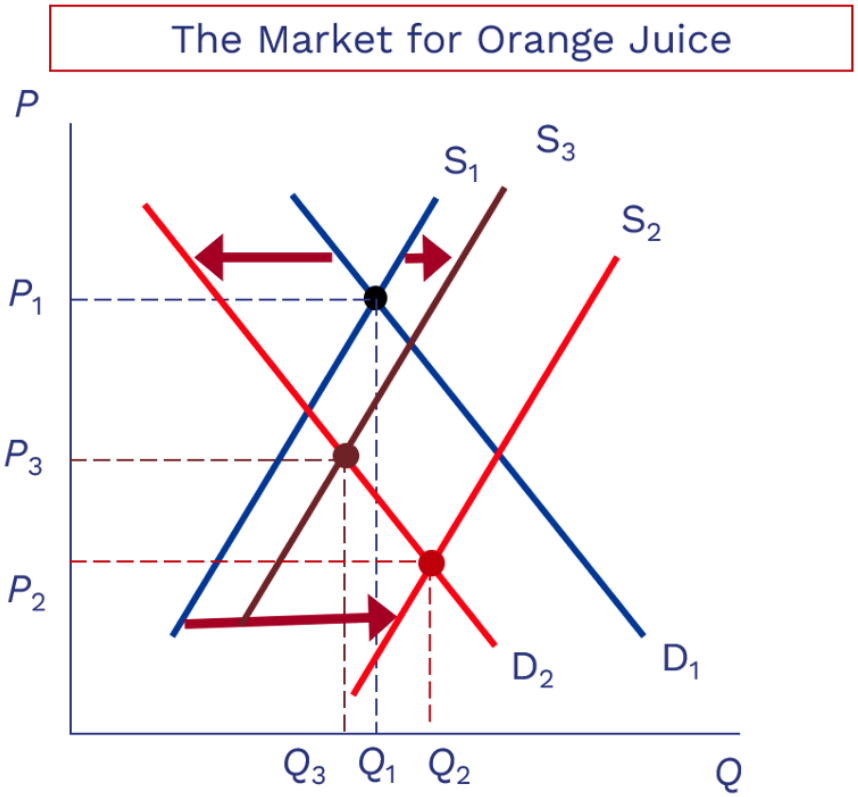

Figure: Solution for Q3

Exercise 3: Solve Equilibrium Numerically

Suppose the demand and supply of coffee are given by:

- $Q^D = 20 - 2P$
- $Q^S = 4P - 4$

Q1: Draw the demand and supply curves;
Q2: Solve for the equilibrium price and quantity;
Q3: Suppose the market price changes to \$7. Solve for Q^D and Q^S.

Exercise 3: Solve Equilibrium Numerically

Solution:

1. (draw)
2. $P^* = 4,\ Q^* = 12$
3. $Q^D = 6,\ Q^S = 24$