

Principles of Economics

Discussion Session 1

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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

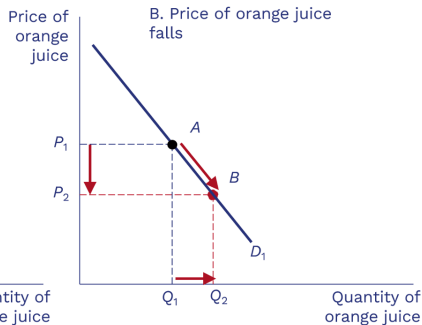
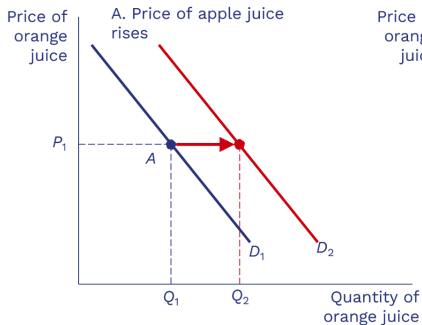


Figure: Solution for Q1

Exercise 1: Demand & Supply Curves

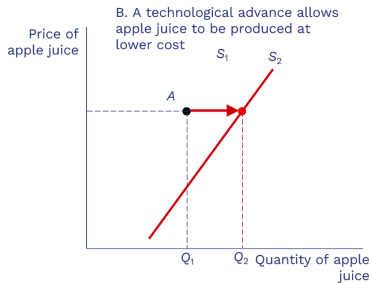
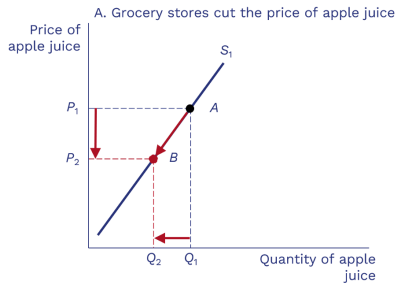


Figure: Solution for Q2

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
- The price of oranges declines because of an abundant orange crop
- Both events occur simultaneously

Exercise 2: Shifts in Supply and Demand

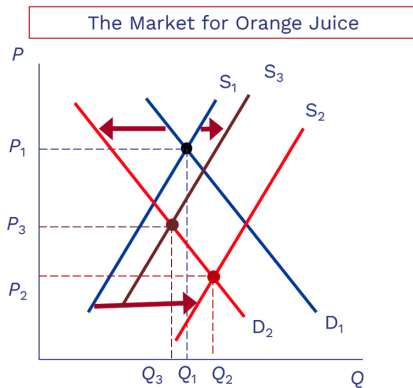


Figure: Solution for Q3

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 $Q^D = 6, Q^S = 24$