UN1105 Principles of Economics

Recitation 2: Supply and Demand, continued

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Columbia University

Fall 2020

Outline

- Introduction
- Review of Concepts
- Analytical Questions
  - Q1: The Market for Denim
  - Q2: K&W Problem 3.02
- Short-answer Questions
  - Q3: K&W Problem 3.19

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Introduction

Recitation structure:

- Will not review previous problem set.
- Retrospective focus on prior week's material:
  - This week: supply and demand (again),
  - Next week: elasticity and consumer theory.

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Review of Concepts

1. Demand and Supply Model
   (i) What type of market are we focusing on?
   (ii) Demand-side
      - Law of demand.
      - Distinguish between movements along, and shifts of, the curve.
      - What factors shift the demand curve?
      - Normal v inferior goods.
      - Market demand v individual demand.
   (iii) Supply-side
      - No law of supply, but usually upward sloping.
      - Distinguish between movements along, and shifts of, the curve.
      - What factors shift the demand curve?
      - Market supply v individual supply.
   (iv) Equilibrium
      - Why does a competitive market move towards this point; surpluses and shortages.
      - Comparative statics following an increase in demand/supply.

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To find the equilibrium price, we set quantity demanded equal to quantity supplied, and then solve for the implied price.

$$Q_D(P^*) = 60 - 10P^* = 10P^* = Q_S(P^*)$$
$$\Rightarrow 60 = 20P^*$$
$$\Rightarrow P^* = 3$$

To find the equilibrium quantity, we substitute the equilibrium price into either the demand or supply function. (It doesn't matter which one, why?)

$$Q^* = Q_S(P^*) = 10 \times 3 = 30$$

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(b) Draw the demand and supply curves on a diagram. Label the equilibrium price and quantity.

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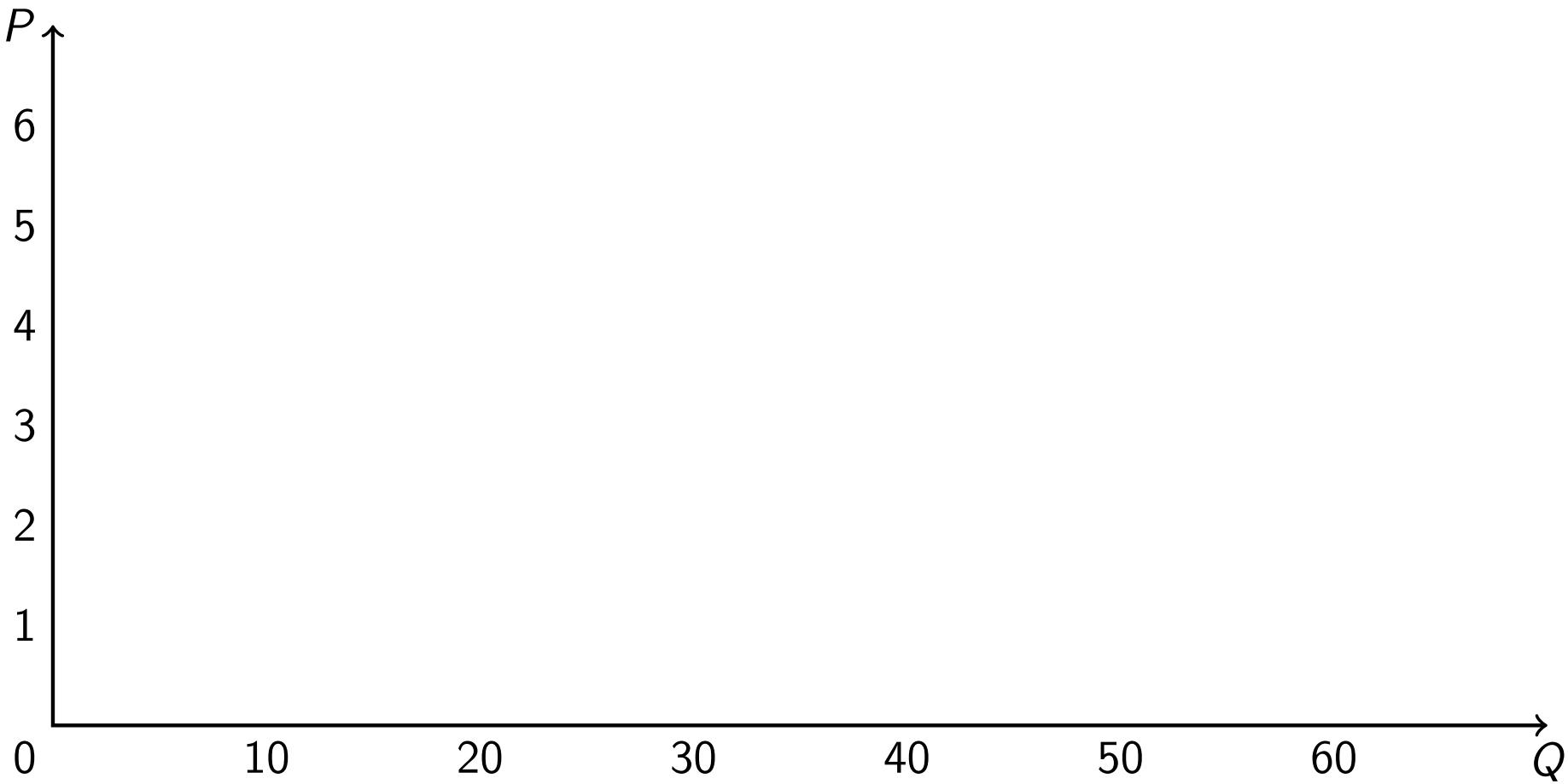
Because price is on the y-axis of a D-S graph, we need to find and then plot the *inverse* demand and supply functions.

$$Q_D = 60 - 10P \Rightarrow 10P_D = 60 - Q \Rightarrow P_D = 6 - 0.1Q$$
$$Q_S = 10P \Rightarrow P_S = 0.1Q$$

Analytical Questions, Q1: The Market for Denim, (ii)

Figure 1: Market for Denim



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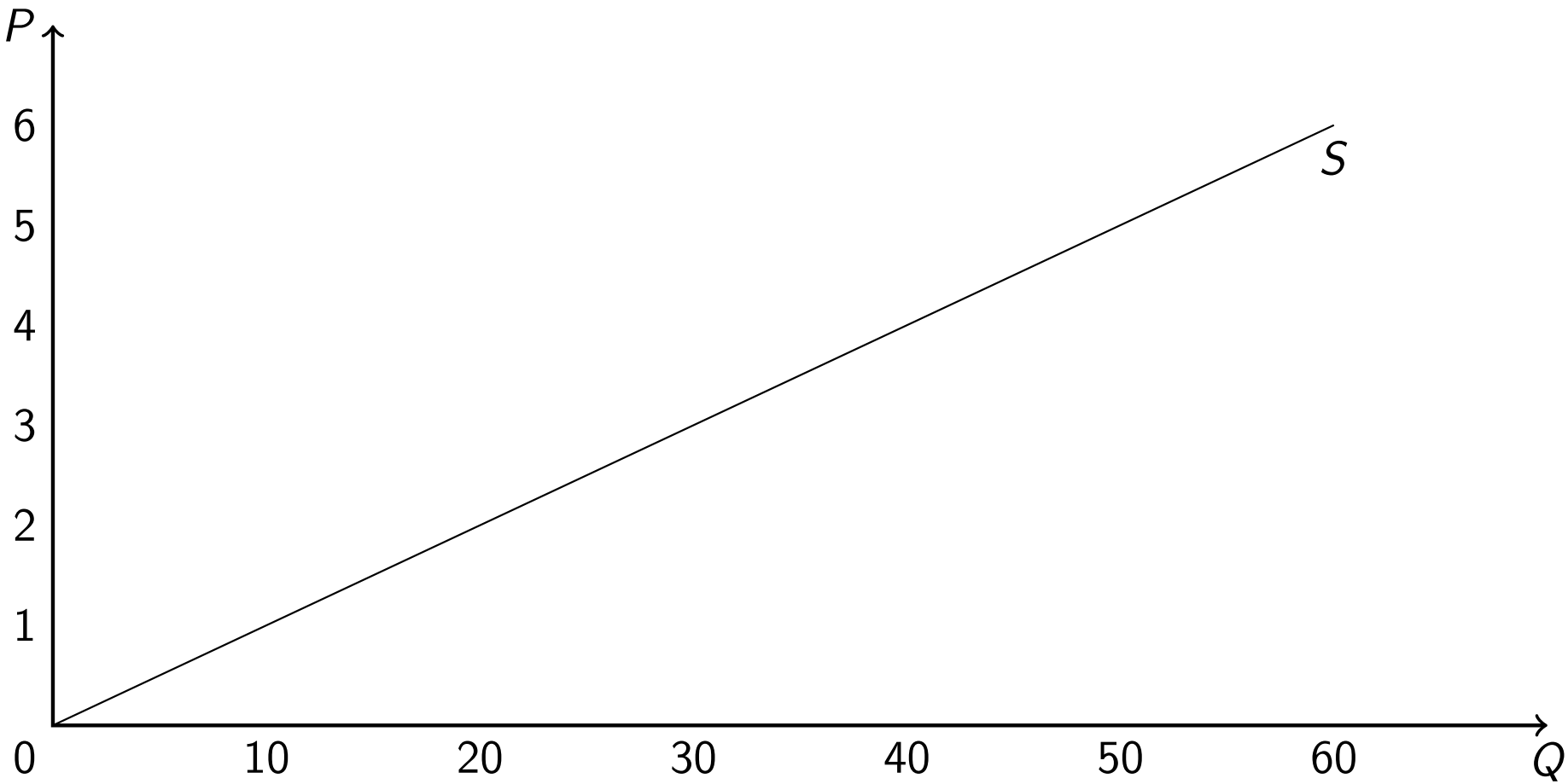

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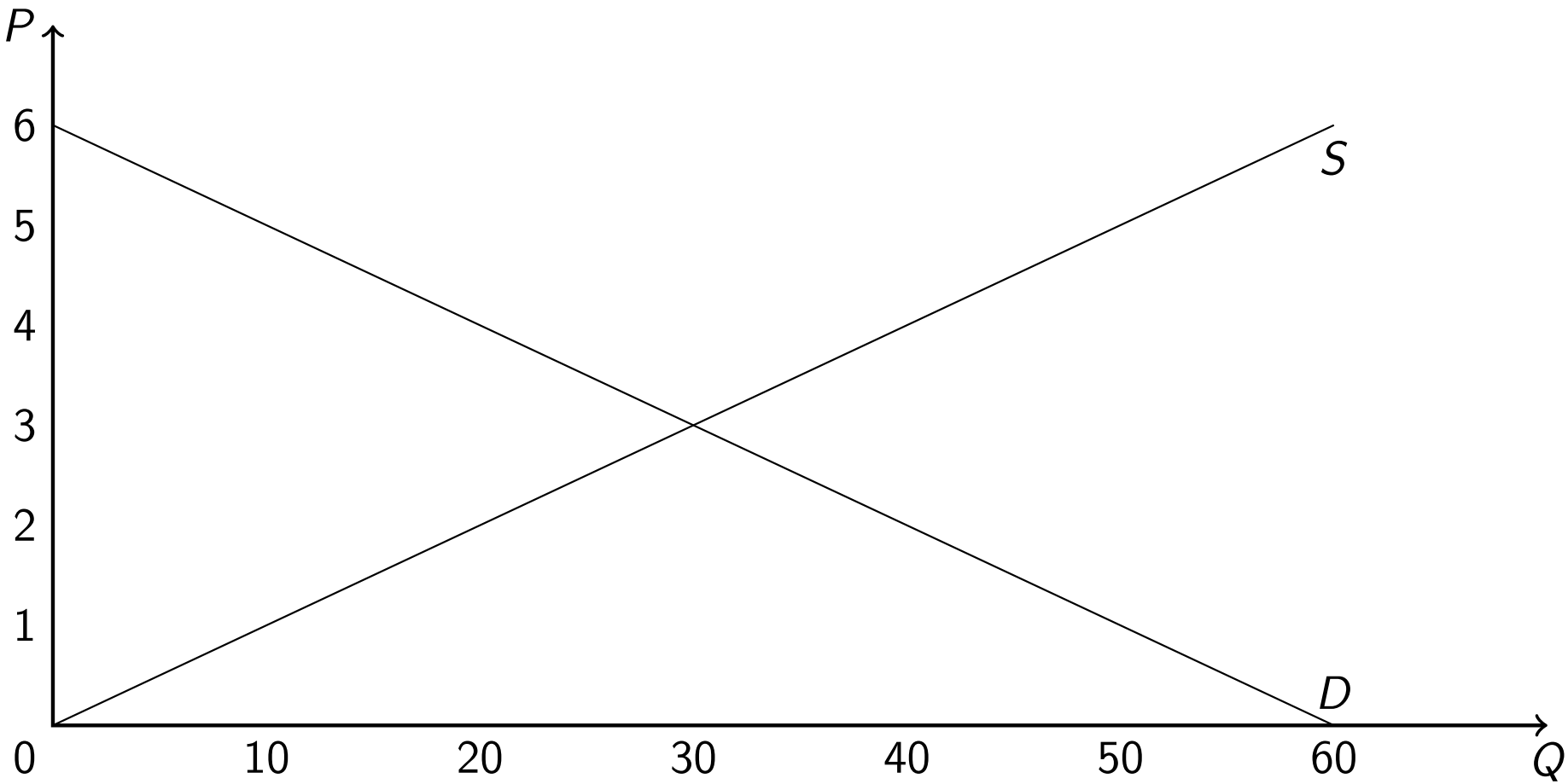

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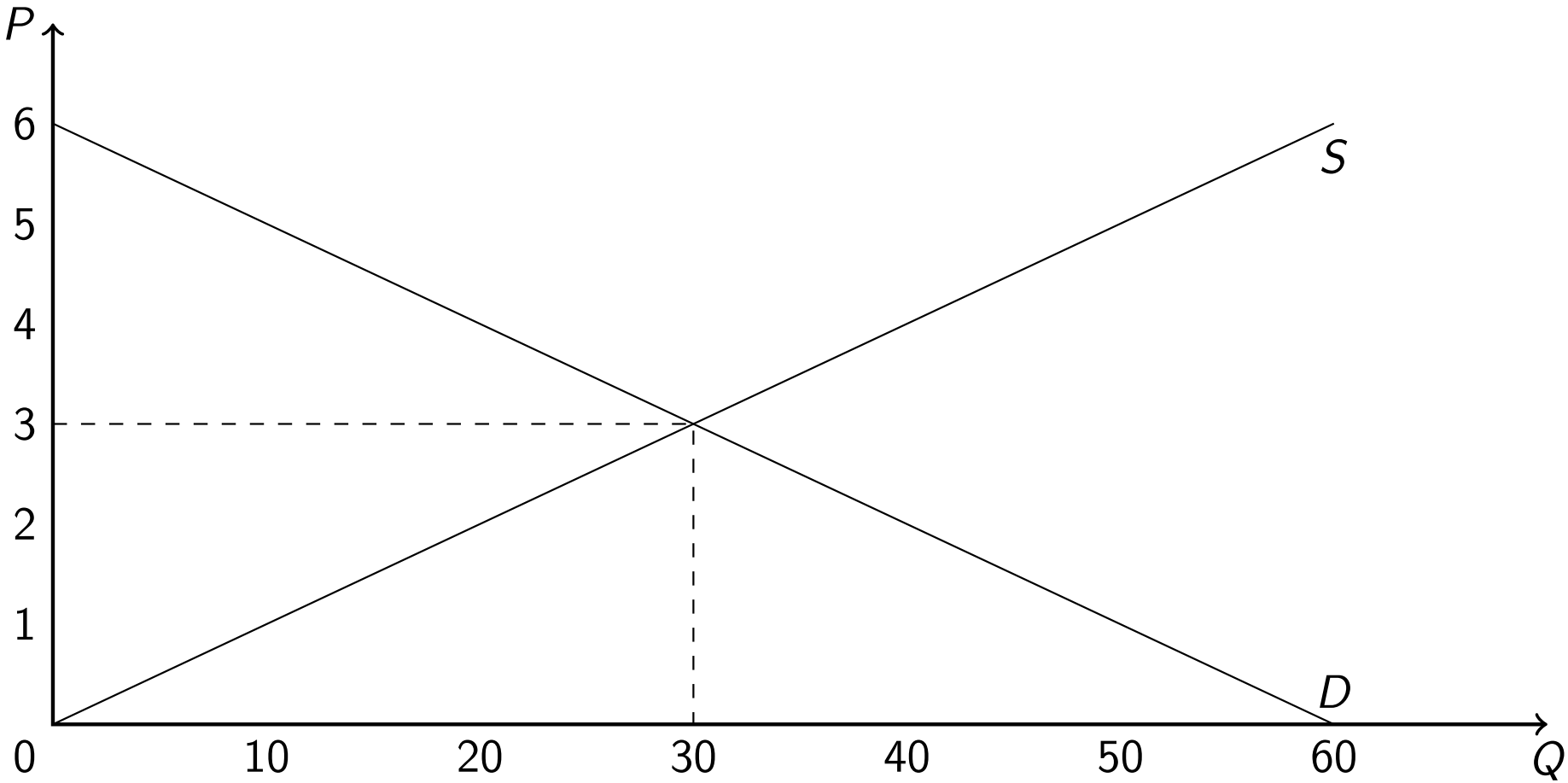

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(c) The price of cotton falls. What happens to the equilibrium price and quantity?

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- Cotton is a input to denim manufacturing, and as the price of an input falls we expect supply to shift to the right.
- However, cotton is also an input in the manufacturing of substitute clothing, and as the price of a substitute falls the demand for denim shifts to the left.
- The overall effect is an unambiguously lower equilibrium price, but the change in quantity is dependent on whether the supply or demand effect is greater.

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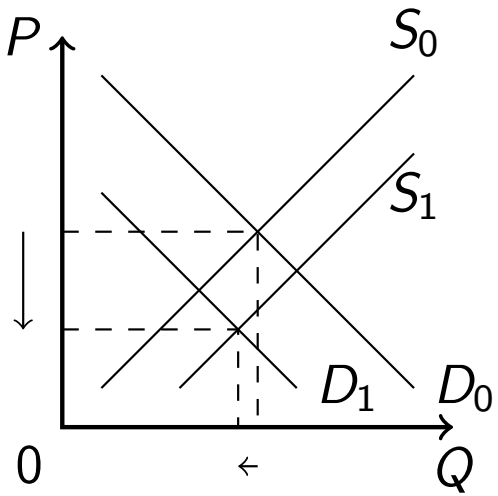
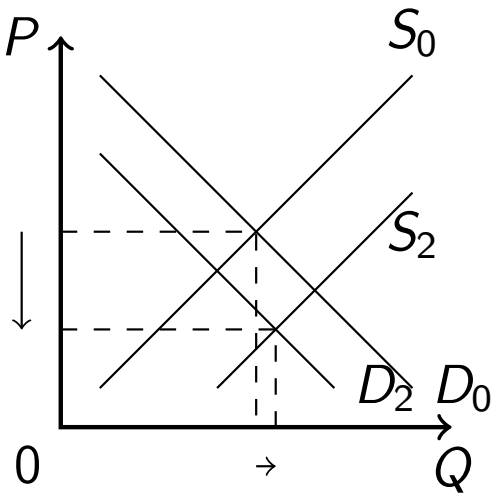
(a) Larger decrease in demand



(b) Larger increase in supply



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   This statement ignores the possibility that consumers are buying more Starbucks beverages despite higher prices because (i) their incomes went up; or ii) the price of a substitute good has gone up.

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   This statement is based on the erroneous assumption that an iPhone 5 is a perfect substitute for an iPhone 7. Consumers are willing to spend more for an iPhone 7 because it has increased capabilities over an iPhone 5.