HSS-01: Economics

Lesson: 01

Introduction

Preliminaries, Basics of Demand & Supply

1. PRELIMINARIES

Why (Micro)economics?

- Understand how individuals make decisions
- Understand how corporations and businesses make decisions
- Understand how markets (consumers, producers, quantities, prices) function
- Better insight into public policy decisions
- A gateway to better understand the underlying processes of macroeconomic phenomena
- We are a part of the financial economy. B. Tech students also! Being aware about some basics always helps.

Themes of Microeconomics

- Consumers
- Workers
- Investments & Savings
- Firms
- Prices
- Assumptions; Positive vs. Normative Analysis

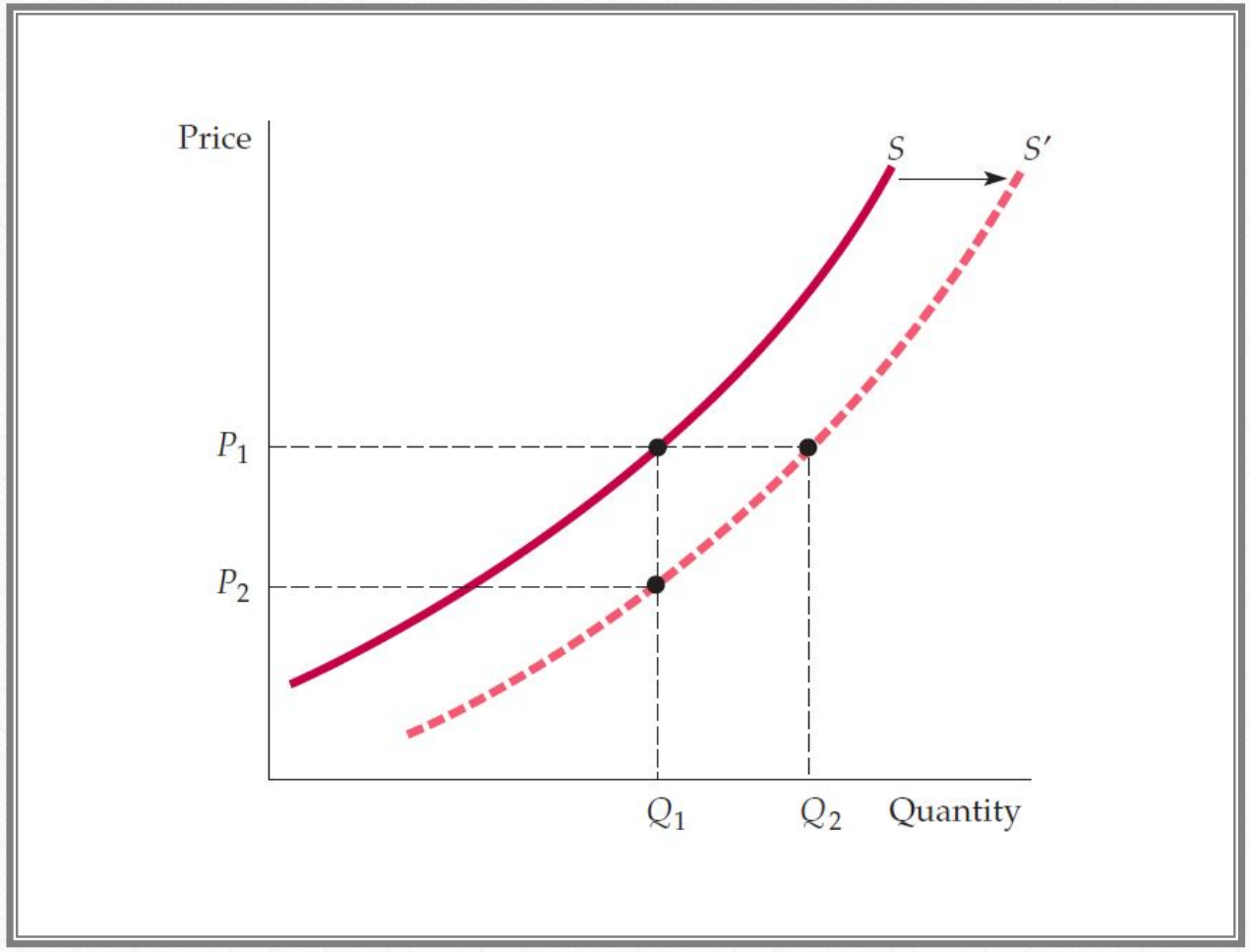
A Market

- A **market** is a collection of buyers and sellers that, through their actual or potential interactions, determine the price of a product or set of products
- **Arbitrage** is the practice of buying at a low price at one location and selling at a higher price in another
- Market with many buyers and sellers, so that no single buyer or seller has a significant impact on price is called a **perfectly competitive market**

Prices – Real vs. Nominal

- **Nominal price** is the absolute price of a good, unadjusted for inflation
- **Real price** of a good is its price relative to an aggregate measure of prices. Hence real price has been adjusted for inflation
- Consumer Price Index (**CPI**) is a measure of the aggregate price level
- Producer Price Index (**PPI**) is a measure of the aggregate price level for intermediate products and wholesale goods

2. BASICS OF SUPPLY & DEMAND

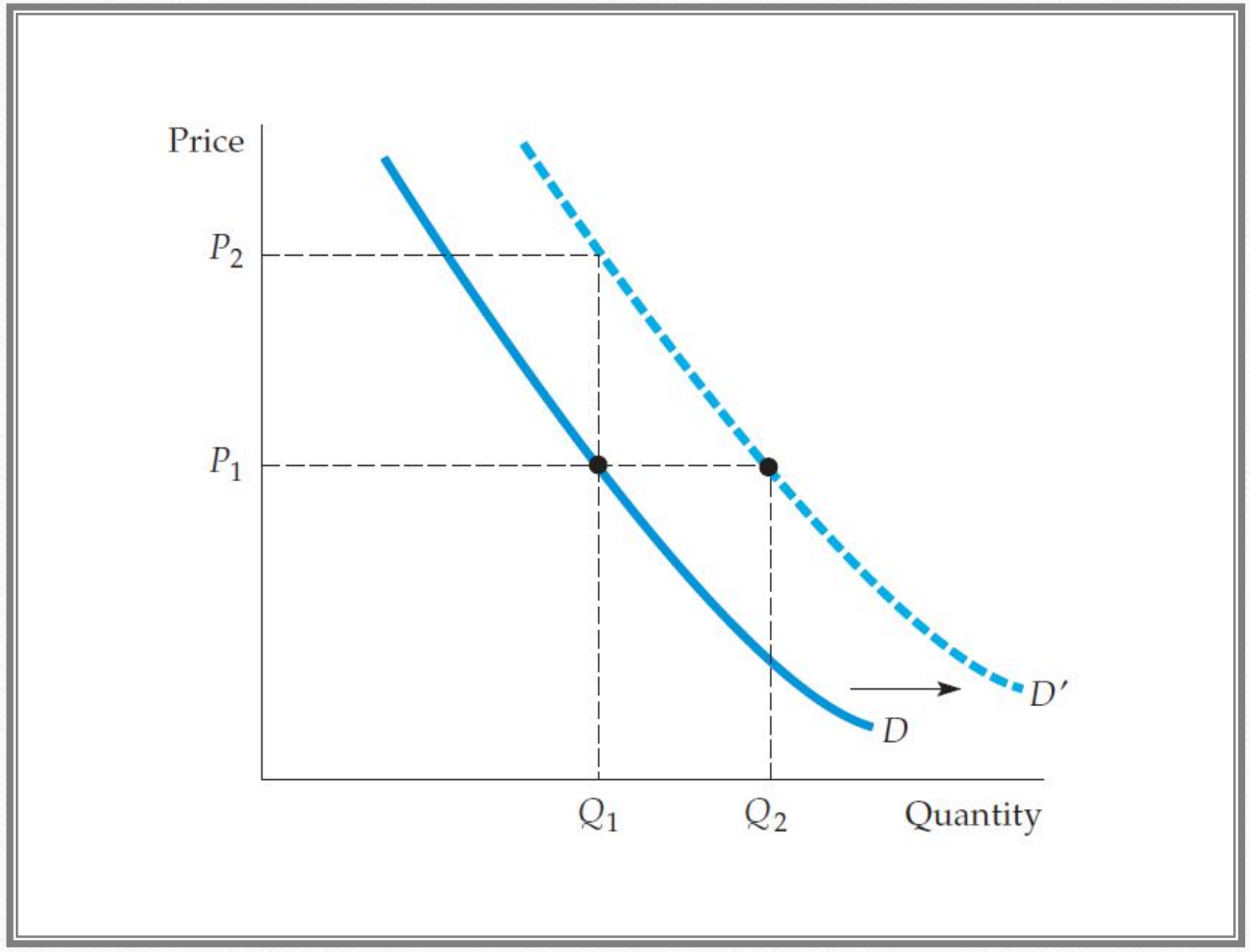


Supply Curve

Relationship between the quantity of a good that producers are willing to sell and the price of the good.

The supply curve, labeled *S* in the figure, shows how the quantity of a good offered for sale changes as the price of the good changes. The supply curve is upward sloping: The higher the price, the more firms are able and willing to produce and sell.

If production costs fall, firms can produce the same quantity at a lower price or a larger quantity at the same price. The supply curve then shifts to the right (from *S* to *S*).



Demand Curve

Relationship between the quantity of a good that consumers are willing to buy and the price of the good.

The demand curve, labelled *D*, is downward sloping; holding other things equal, consumers will want to purchase more of a good as its price goes down.

The quantity demanded may also depend on other variables, such as income, the weather, and the prices of other goods. For most products, the quantity demanded increases when income rises. A higher income level shifts the demand curve to the right (from *D* to *D*).

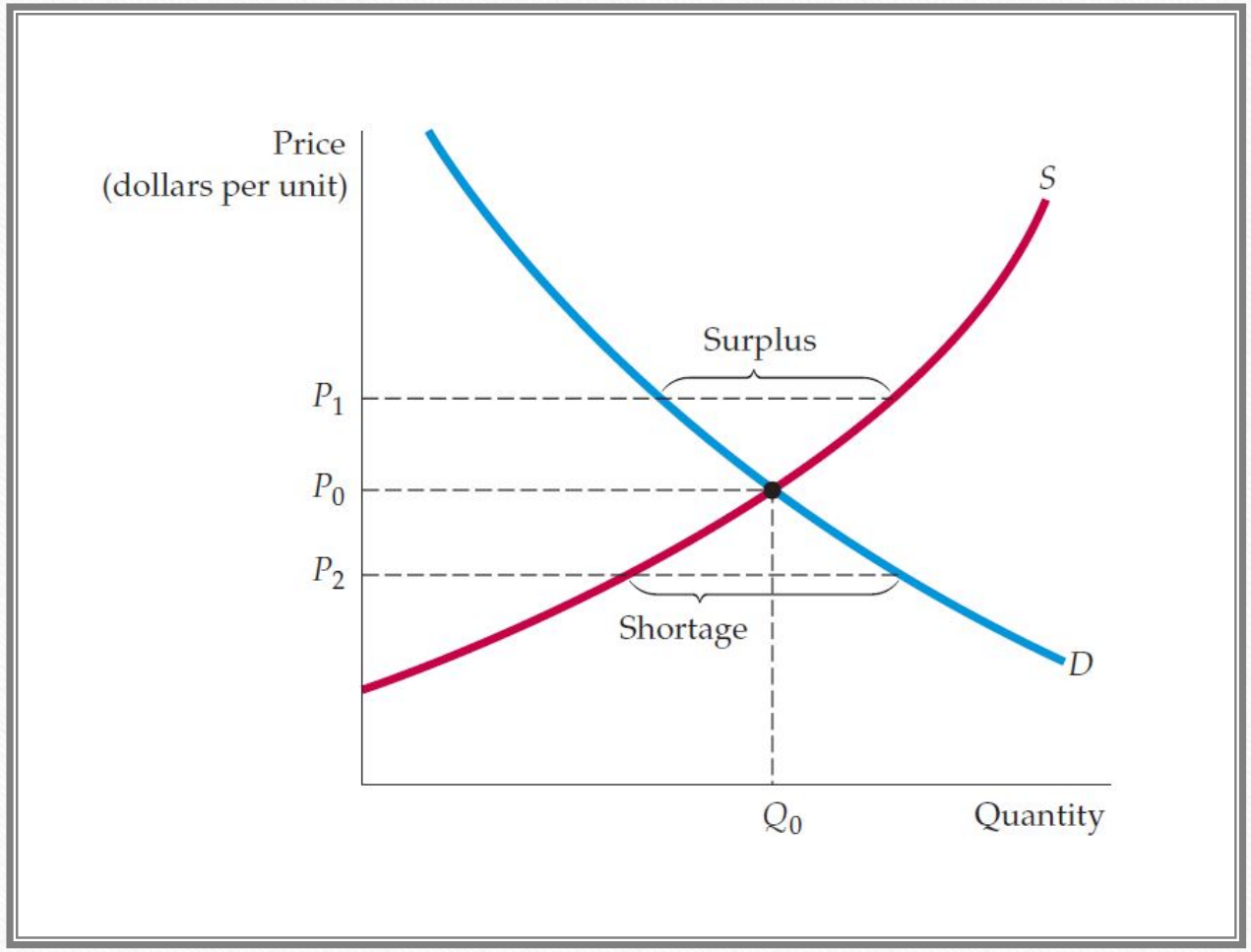
Types of Goods

SUBSTITUTES

- Two goods for which an increase in the price of one leads to an increase in the quantity demanded of the other.
- e.g. – chicken and mutton

COMPLIMENTS

- Two goods for which an increase in the price of one leads to a decrease in the quantity demanded of the other.
- e.g. – hardware and software



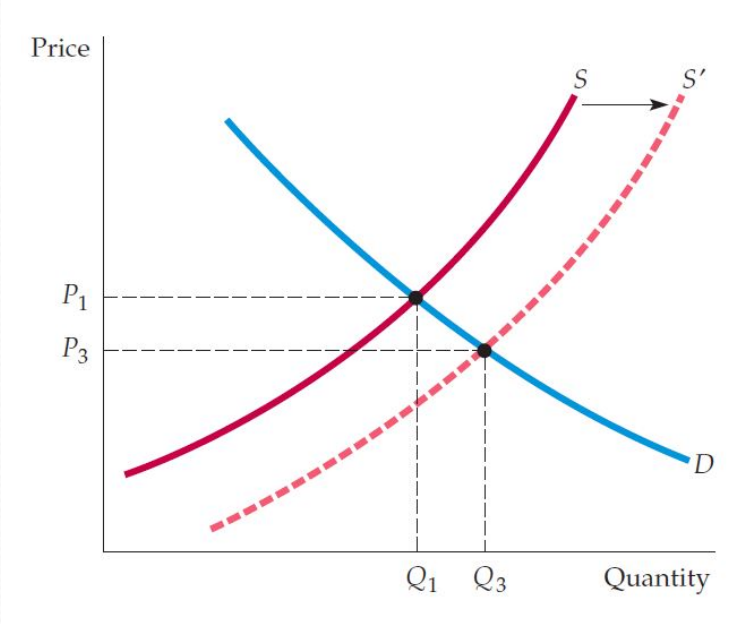
Market Equilibrium

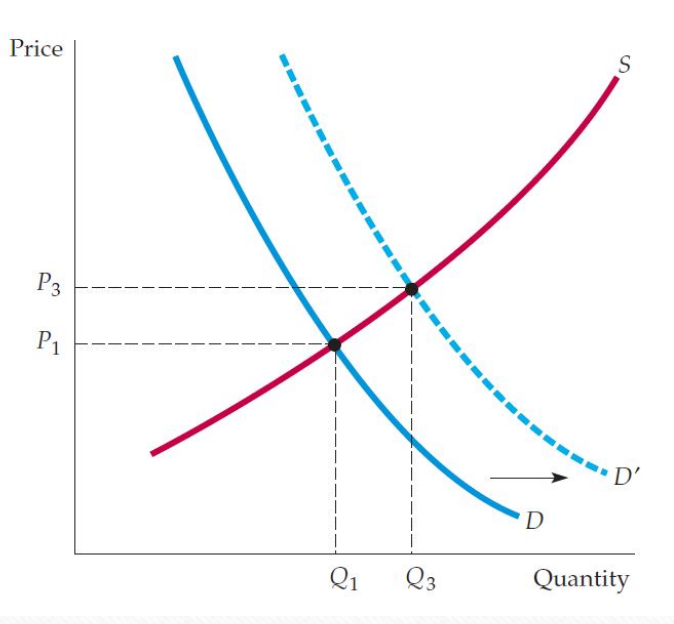
The **market clears** at price *P*_0 and quantity *Q*_0.

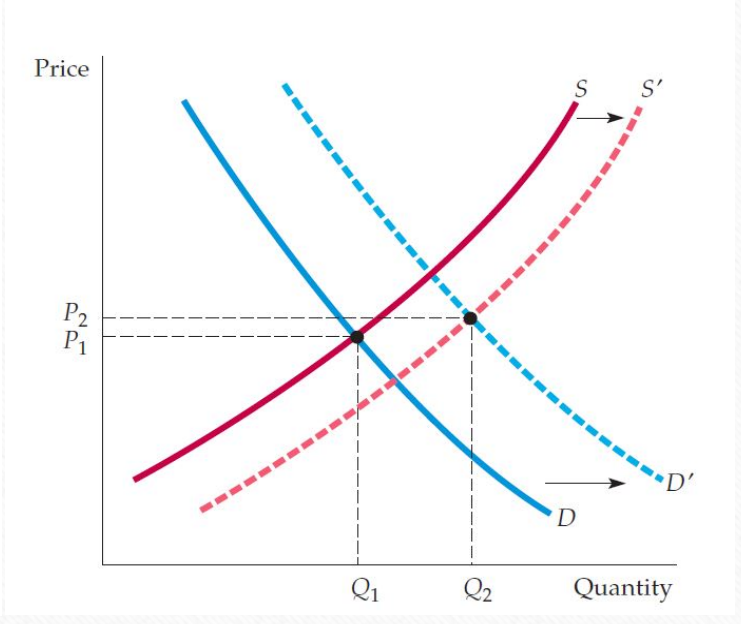
Tendency in a free market for price to change until the market clears.

At the higher price *P*_1, a **surplus** develops, so price falls. At the lower price *P*_2, there is a **shortage**, so price is bid up.

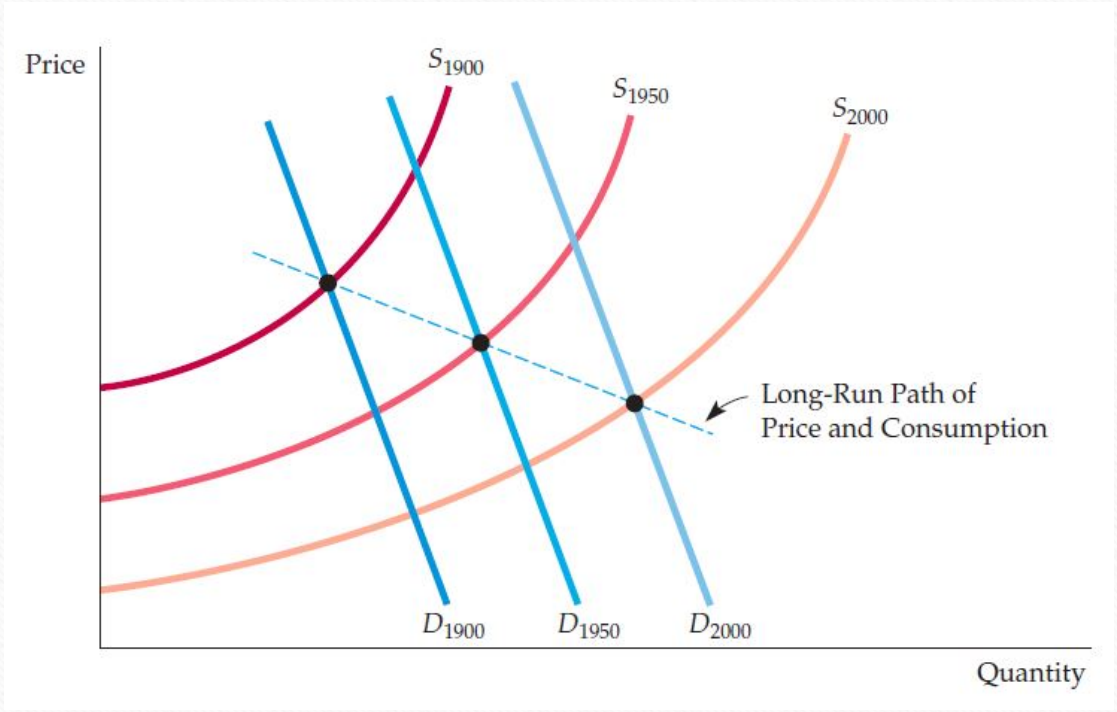
Changes in Market Equilibrium

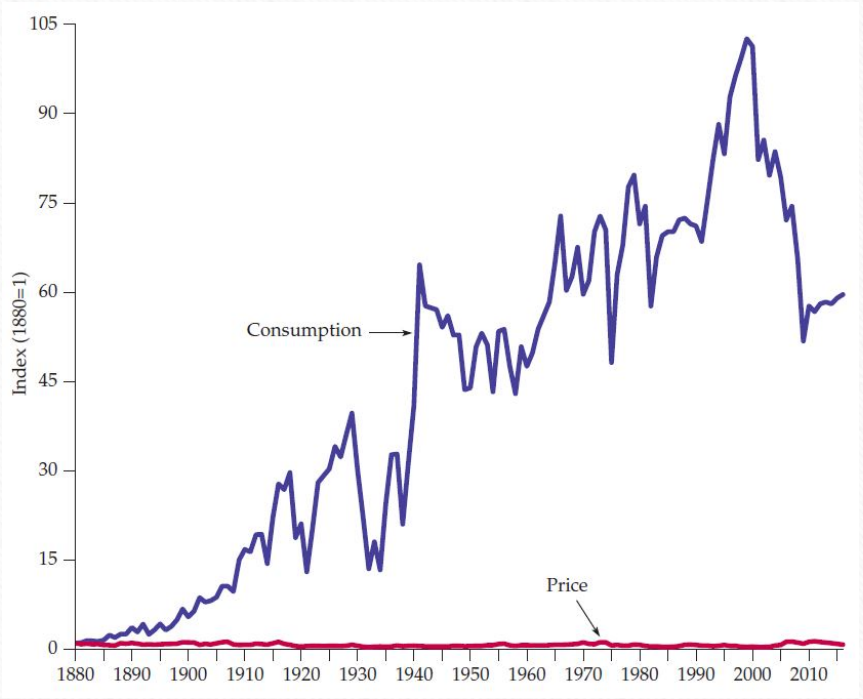






Long Run Market Conditions for Copper

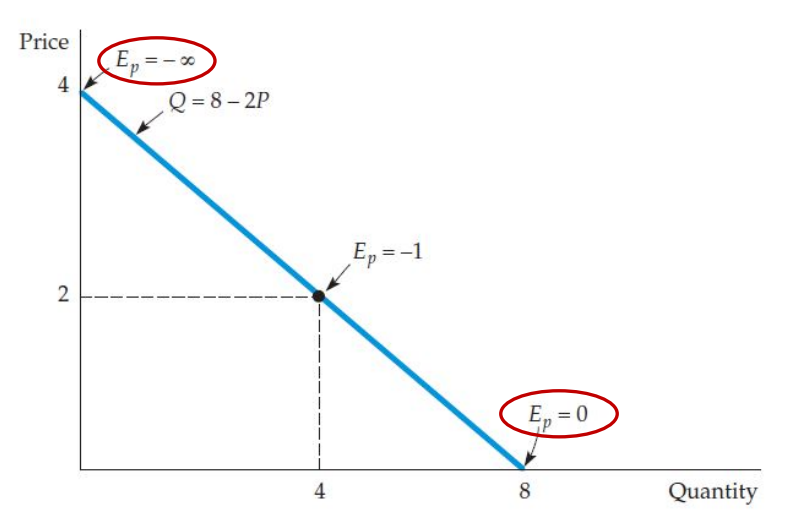




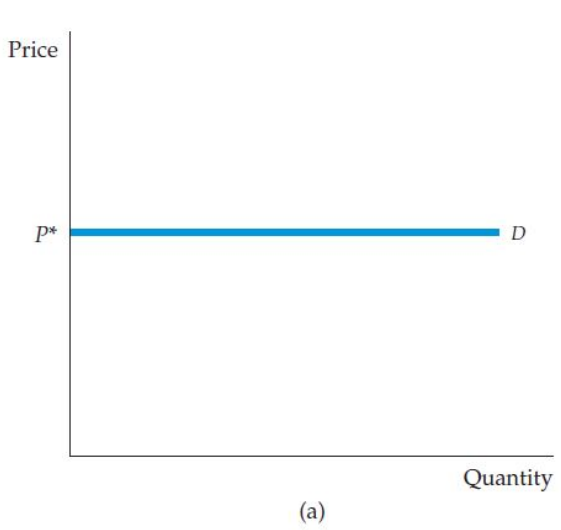
Price Elasticity

$$E_p = \frac{\Delta Q/Q}{\Delta P/P}$$

Price Elasticity of Demand



Linear Demand Curve



Infinitely Elastic Demand

Inelastic Demand

Other Elasticities

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

Income Elasticity of Demand

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

Cross-price Elasticity of Demand

The Market for Wheat

The price of wheat fluctuates in response to the weather and changes in export demand.

- Year 1981
- Supply curve of wheat: $Q_S = 1800 + 240P$
- Demand curve: $Q_D = 3550 - 266P$
- P and Q represent price and quantity respectively

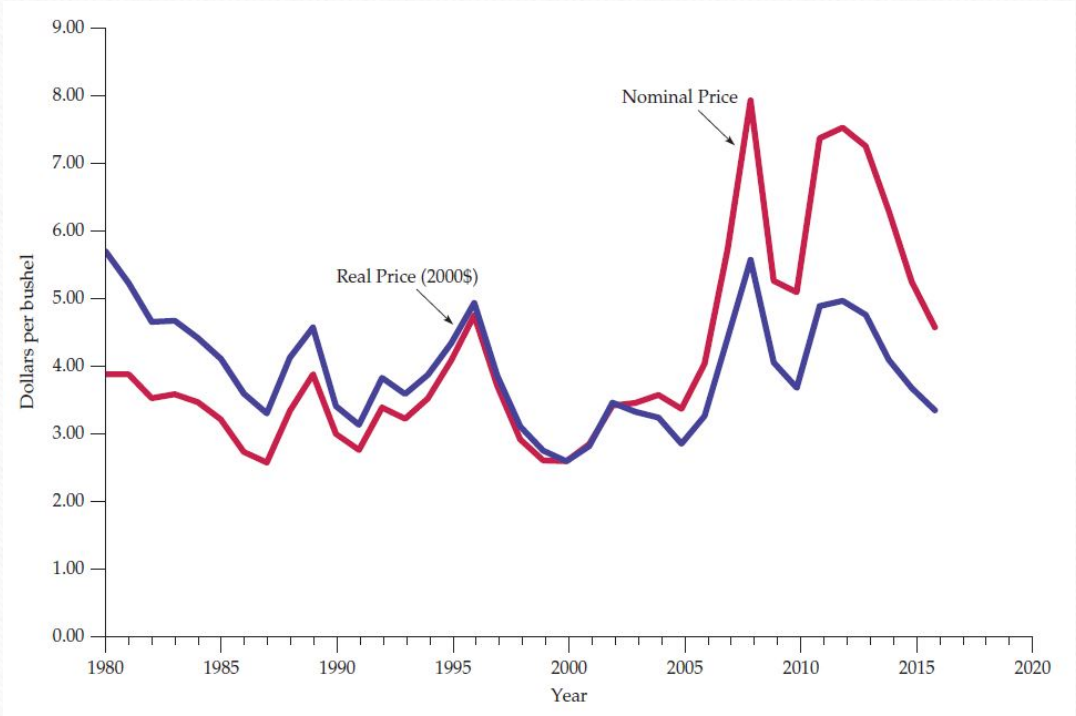
- Find the market equilibrium of wheat, i.e., the market-clearing price and quantity of wheat.
- Find the price elasticity of demand at equilibrium.

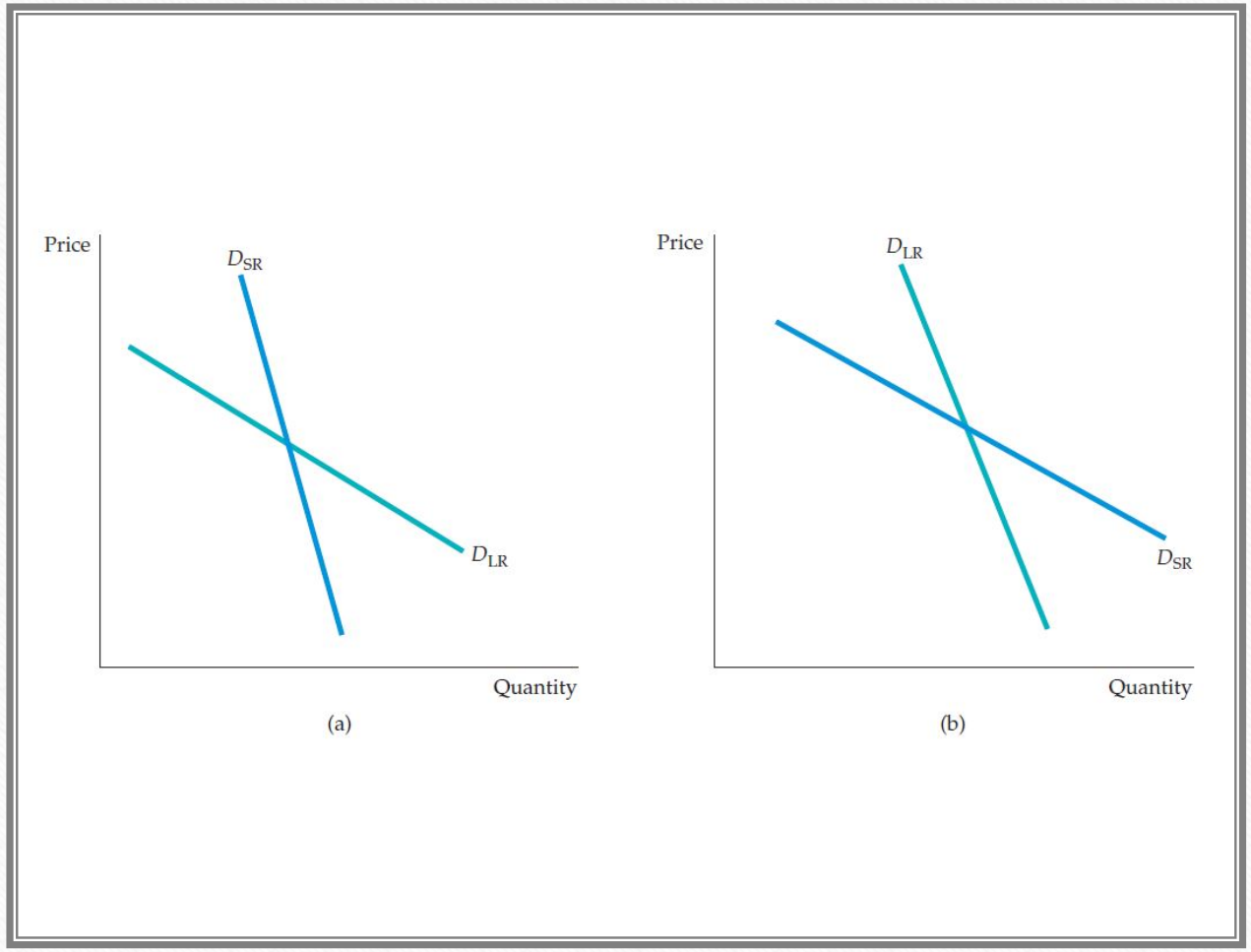
- Ans: $P = 3.46$, $Q = 2630$; $E^D_P = -0.35$

The Market for Wheat

The price of wheat fluctuates in response to the weather and changes in export demand.

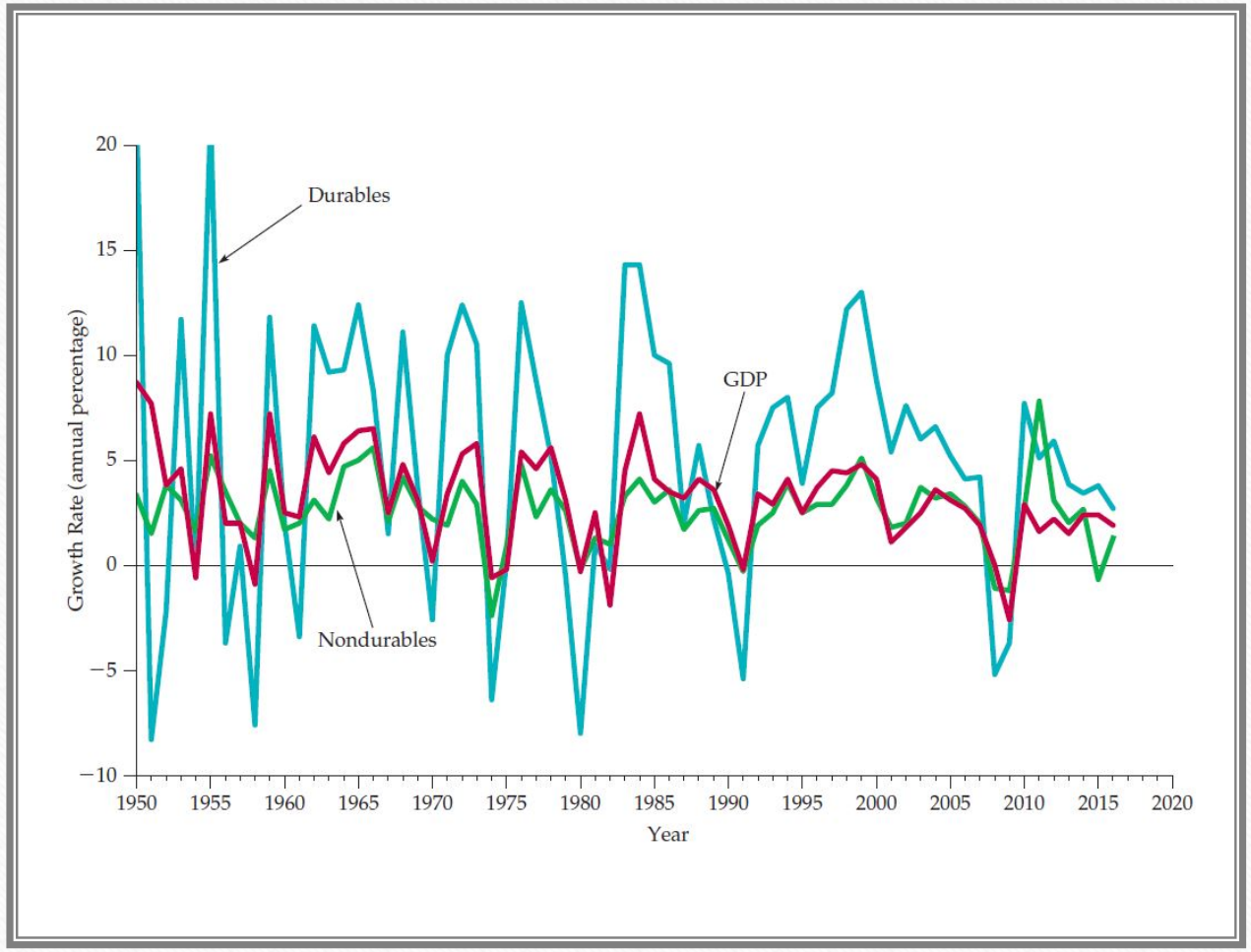
See Example 2.5 for the calculations of market equilibrium (price, quantity) and elasticities..





Price elasticities of Demand

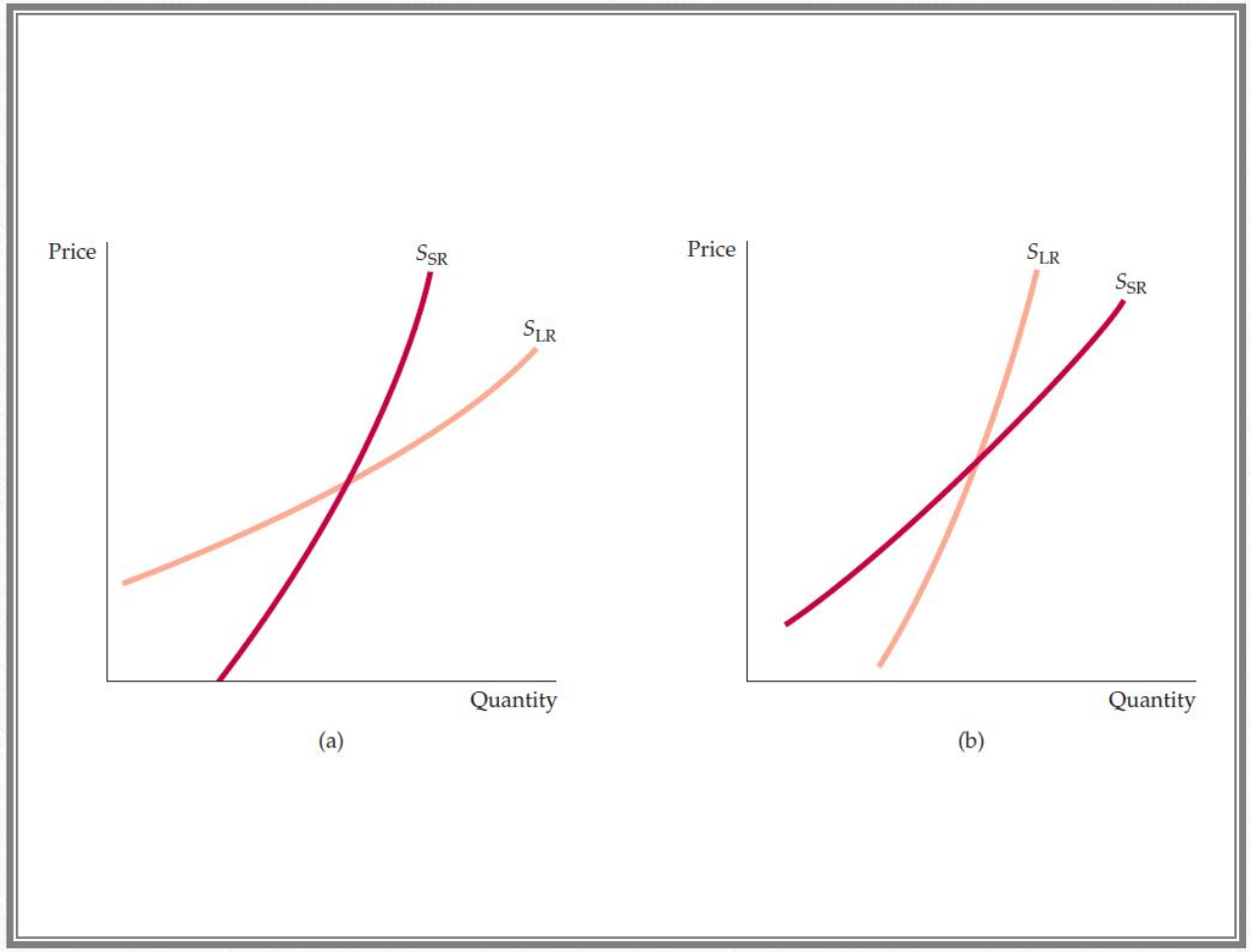
(a) In the short run, an increase in price has only a small effect on the quantity of **gasoline** demanded. In the longer run, however, because they will shift to smaller and more fuel-efficient cars, the effect of the price increase will be larger. Demand, therefore, is more elastic in the long run. (b) The opposite is true for **automobile (durable)** demand. If price increases, consumers initially defer buying new cars; thus annual quantity demanded falls sharply. In the longer run, however, old cars wear out and must be replaced; thus annual quantity demanded picks up. Demand, therefore, is less elastic in the long run than in the short run.



Cyclical Industries

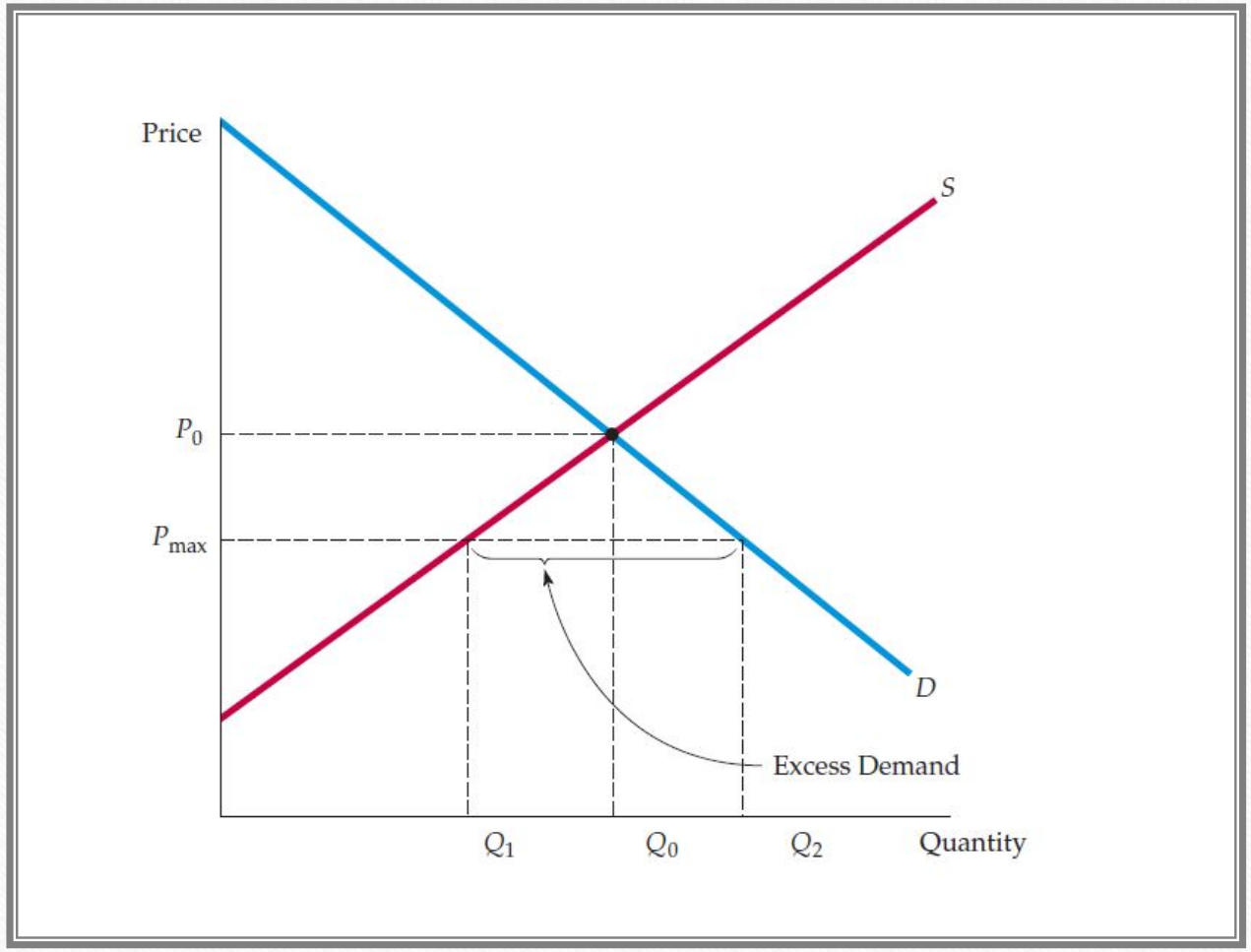
Because the demands for **durable goods** fluctuate so sharply in response to short-run changes in income, the industries that produce these goods are quite vulnerable to changing **macroeconomic conditions**, and in particular to the business cycle—recessions and booms.

Thus, these industries are often called **cyclical industries**—their sales patterns tend to magnify cyclical changes in gross domestic product (GDP) and national income.



Price elasticities of Supply

Like that of most goods, the supply of **primary copper**, shown in part (a), is more elastic in the long run. If price increases, firms would like to produce more but are limited by capacity constraints in the short run. In the longer run, they can add to capacity and produce more. Part (b) shows supply curves for **secondary copper**. If the price increases, there is a greater incentive to convert scrap copper into new supply. Initially, therefore, secondary supply (i.e., supply from scrap) increases sharply. But later, as the stock of scrap falls, secondary supply contracts. Secondary supply is therefore less elastic in the long run than in the short run.



Government Interventions

Without price controls, the market clears at the equilibrium price and quantity *P*_0 and *Q*_0.

If **price is regulated** (by government for e.g.) to be no higher than *Pmax*, the quantity supplied falls to *Q*_1, the quantity demanded increases to *Q*_2, and a shortage develops.