I. **INTRODUCTION TO MARKETS**

II. **SUPPLY AND DEMAND**
   A. Why demand curves slope down
   B. Why supply curves slope up

III. **MARKET EQUILIBRIUM**
   A. Role of prices
   B. Equilibrium price and quantity
   C. How the market gets to equilibrium
   D. Implications for how markets deal with some key issues

IV. **SHIFTS IN THE CURVES**
   A. Ceteris paribus
   B. Shifts in the supply curve
      1. A more costly technology
      2. A fall in the price of an input
      3. A movement along the curve versus a shift of the curve
   C. Shifts in the demand curve
      1. Adverse change in tastes due to bad news about a product
      2. Good news about a product or successful advertising

V. **EFFECTS OF A PRICE CONTROL**
   A. Definition of a price control and examples of different types
   B. Modeling a price ceiling on bottled water after a natural disaster
   C. Effects of a price ceiling
LECTURE 4
Supply and Demand Framework

January 28, 2016
Announcements

• **Reminder:** We have a strict no electronics policy.

• Completed slides (sometimes with corrections or additions) are posted after class.
Announcements (continued)

• **Problem Set 1** is due next Tuesday (February 2).

• **Problem Set Work Sessions** this Friday (January 29)
  • 4:40–6:30 in 639 and 648 Evans Hall

• **Ground Rules:**
  • Answers must be in your own words, handwritten, and with acknowledgements to the people you worked with.

• **Graded** on a scale of 1 to 10.
1. It is possible to divide everything the U.S. economy produces into two categories: military goods and civilian goods. Both goods are produced using capital (machines) and labor.

e. Suppose there is a natural disaster that destroys some of the machines used in the production of both military goods and civilian goods. How, if at all, would this development affect the PPC?

e. A natural disaster that destroys capital will lower the resources available to produce goods in the economy. All of the combinations of military goods and civilian goods that the economy can produce will now be less good than before. This corresponds to a shift in of the PPC (from PPC₁ to PPC₂). By assumption, the disaster destroyed some of the capital in both the military goods sector and in the civilian goods sector. Therefore, the PPC will shift in roughly symmetrically.
Collecting the Problem Sets

- Due at the *beginning* of lecture.
- Hand it directly to *your* GSI (who will be in the middle of the lecture hall).
I. INTRODUCTION TO MARKETS
Two Building Blocks

• **Scarcity**: A situation in which a person, firm, or country faces a constraint.

• **Gains from Specialization**: A group of people can produce and consume more if they specialize and trade than if each is self-sufficient.
Market

- An arrangement by which economic exchanges between people take place.
II. **Supply and Demand**
Demand

- The buying side of the market.
Demand Curve for Blueberries

Price (P) vs Quantity (Q)
Supply

• The selling side of the market.
Supply Curve of Blueberries
III. Market Equilibrium
Equilibrium in the Market for Blueberries

The graph shows the market for blueberries with the supply curve $S_1$ and the demand curve $D_1$. The equilibrium point is at $P_1$ and $Q_1$. The balance between supply and demand is achieved at this point.
What happens if the price is below $P_1$?

Excess Demand (Shortage)

$Q_S$, $Q_D$
What happens if the price is above $P_1$?

Excess Supply (Surplus)
Implications for How Markets Deal with Scarcity and the Gains from Specialization

• The existence of markets allows people to trade, so they can specialize along the lines of comparative advantage.

• Markets deal with scarcity by balancing the optimizing behavior of consumers and producers. Prices adjust to equilibrate the two sides of the market.

• The consumers who actually get the good are those who are willing and able to pay the equilibrium price.

• The firms that actually produce the good are those that find it profit-maximizing to produce at the equilibrium price.
IV. SHIFTS IN THE CURVES
Ceteris Paribus

• “other things being equal”

• All variables other than those being studied are assumed to be constant.
A More Costly Technology
Movements Along vs. Shifts

- A change in the quantity supplied or quantity demanded because the price changed: Movement along the curve.

- A change in the quantity supplied or quantity demanded at the same price: Shift of the curve.
Fall in the Price of an Input

The diagram illustrates the effect of a fall in the price of an input on the market. Initially, the supply and demand curves are $S_1$ and $D_1$, with market equilibrium at $P_1$ and $Q_1$. After the fall in the price of the input, the supply curve shifts to $S_2$, leading to a new equilibrium at $P_2$ and $Q_2$. The price decreases from $P_1$ to $P_2$, and the quantity demanded increases from $Q_1$ to $Q_2$. This shows that a decrease in the price of an input leads to a decrease in the price of the final product and an increase in the quantity demanded.
Adverse Change in Tastes

The diagram illustrates the impact of an adverse change in tastes on the market for a good. Initially, the market is in equilibrium at point $Q_1$ with price $P_1$. After the adverse change, the demand curve shifts to $D_2$, and the market equilibrium shifts to point $Q_2$ with a new price $P_2$. The supply curve is denoted by $S_1$. The diagram highlights the decrease in demand from $Q_1$ to $Q_2$, indicating a reduction in the quantity demanded due to the change in consumer preferences.
V. Effects of a Price Control
Price Control

• Government sets the price of a good; it is not allowed to go to its equilibrium level.
  
  • **Price Ceiling**: Maximum price; price is held below its equilibrium level.
  
  • **Price Floor**: Minimum price; price is held above its equilibrium level.
Bottled Water after a Disaster

Graph showing demand and supply curves for bottled water after a disaster. The demand curves are labeled \( D_1 \) and \( D_2 \), and the supply curve is labeled \( S_1 \). The equilibrium price is \( P_1 \) before the disaster, and \( P_2 \) after the disaster. The equilibrium quantity is \( Q_1 \) before the disaster, and \( Q_2 \) after the disaster.
Bottled Water after a Disaster with a Price Ceiling

Diagram showing supply and demand curves for bottled water after a disaster, with a price ceiling indicated by the horizontal line $\bar{P}$ ($P_1$). The shortage is represented by $Q_{SD}$.
Effects of a Price Ceiling

• Will lead to a shortage.

• Good will have to be allocated in some way other than by price.

• Discourages the decrease in quantity demanded and increase in quantity supplied that automatically occur as the price rises.