Economics 1002
Chapter 2: *The Economic Problem*

**Topic Questions:**
- What are production possibilities?
- How are production decisions made?
- How do these decisions affect the future?
- How can specialization and trade affect our decisions?

**Production Possibilities Frontier**
- PPF: boundary between G&S combinations that can and can’t be produced (given present resources)
- Model: focus on 2 goods; hold quantities of all other G & S constant (*ceteris paribus*).

**The PPF**
- Points inside & on the frontier are attainable
- Points outside the frontier are not

**The PPF**
- Production Efficiency
  - the economy cannot produce more of one good without having to produce less of another.
The PPF and Tradeoffs

- To move between efficient decisions, one must give up some good in order to make more of another.
- This illustrates opportunity costs.

The PPF

- The PPF between goods is usually 'bowed' shaped.
- This represents that OCs are marginally increasing. – Why?

Efficiency & Optimal Decisions

- All production decisions on the PPF are efficient.
- Which production decision is best? – We must compare marginal costs with marginal benefits.

Marginal Costs

- Increasing OCs imply that the economy must give up more guns for each additional unit increase in butter.

Marginal Benefit

- How much of a good is desired comes from the preferences of the population.
- We measure marginal benefit as the amount that a person is willing to pay for the additional unit.
Chapter 2

Efficient Decision?

Where Marginal Cost equals Marginal Benefit!!

Chapter 2

Economic Growth

• An increase in an economy’s standard of living
  – An increase in the PPF
  
  How?
  – Technological change
  – Capital Accumulation

Chapter 2

Gains from Trade

• Gains from trade occur when there exists a comparative advantage.
  
  • comparative advantages exist when an activity can be done at a lower opportunity cost than anyone else

Chapter 2

Example

• Tom and Nancy produce CDs and cases.
  • Tom produces 1,000 CDs and 1,000 cases at point A.
    – his OC of a disc is 1/3 of a case and his OC of a case is 3 discs.

Chapter 2

Example

• Nancy can also produce 1,000 CDs and 1,000 cases at point A.
  – Her OC of a disc is 3 cases and her OC of a case is 1/3 of a disc.

  • Note: NO increasing marginal costs!!!
Tom and Nancy can gain from specializing and trading
- Tom can produce 4000 CDs
- Nancy can produce 4000 cases
- Total production is DOUBLE what they were able to produce if they didn’t trade.

Example
- If Tom and Nancy exchange (one disc per case), they exchange along the Trade line.

Gains from Trade
- Nations can specialize and gain from trade.
  - Brazil: Coffee
- Gains from trade occur even if a nation has an absolute advantage
  - it can produce both goods cheaper than another.
  - This will affect the trade price.

Summary
- Production possibilities illustrate gains from specializing and trading
- Economic efficiency is only half of a story…
  - The productive half
  - The other half is the demand of the product

Topic Questions:
- What are markets?
- What influences supply and demand?
- How does supply and demand interact to determine prices and quantities?
Markets & Prices
• market
  – Any arrangement that enables buyers & sellers to gain information and do business
• A competitive market consists of a large number of buyers & sellers
  – no individual has any influence over the market (market power).

Markets & Prices
• The money price of a good is the amount of money needed to buy it.
  – Book costs $16

Markets & Prices
• The relative price of a good is the ratio of its money price to the money price of the next best alternative good.
  – its opportunity cost (trade price)
  – Book costs 2 ($8) movies

Demand
• You Demand something if you…
  – Want it & can afford it
  – Have made definite plans to buy it
• The quantity demanded of a good is the amount that consumers plan to buy at a particular price.
• Demand Schedule: list of quantity demanded at different prices.

The Law of Demand
• Other things remaining the same, the higher the price of a good, the smaller is the quantity demanded.
• Due to…
  – A substitution effect
    • People go toward cheaper goods
  – An income effect
    • People can’t afford as much (under constant income)

The Law of Demand
• The demand for a good refers to the entire relationship between price and quantity demanded.
• A demand curve illustrates this relationship when all other influences on consumers’ planned purchases remain the same (ceteris paribus)
Chapter 2

A Change in Demand

- A change in any factor (a shock) which affects buying plans other than price, results in a change in demand for the good.

- A change in the good price only results in a change in quantity demanded.
  - Move to a different row in the demand schedule

A Crucial Distinction!!!!

- Endogenous variables are inside the model
  - variables that you can see
  - A change results in a movement along the curve

- Exogenous variables are outside the model
  - Everything you cannot see (but still matters)
  - The variables we assumed were constant when we drew the curve (under ceteris paribus)
  - Results in a shift of the curve

A Change in Quantity Demanded vs. A Change in Demand

What Influences Buying Plans?

- Good price
- Price of other goods
- Expected future prices
- Income
- Population
- Preferences

A Change in Demand

- Prices of other goods
  - An increase in the price of a substitute good will result in a...
    - increase in demand.

  - An increase in the price of a compliment good will result in a...
    - decrease in demand.
A Change in Demand

- Income
  - If it’s a normal good
    - an increase in income will result in an increase in demand
  - If it’s an inferior good
    - an increase in income will result in a decrease in demand

A Change in Demand

- Expected future prices
  - An expected increase in the good price results in a...
    - Increase in present demand
- Population
  - A population increase results in a...
    - Increase in demand
- Preferences
  - A change in how population views the good affects the demand for the good.

Supply

- A producer Supplies a good if...
  - Can produce it & can profit from production
  - plans to produce and sell it
- The quantity supplied of a good or service is the amount that producers plan to sell at a given price.

The Law of Supply

- Other things remaining the same, the higher the price of a good, the greater is the quantity supplied.
- Producers are willing to supply only if they at least cover their marginal cost of production.
A Change in Quantity Supplied vs A Change in Supply

What Influences Selling Plans?
- Good price
- Price of productive resources
- Prices of related goods produced
- Expected future prices
- Number of suppliers
- Available technology

Chapter 2 43

Chapter 2 44

A Change in Supply
- The Price of Productive Resources
  - As resource costs rise, the minimum price a supplier is willing to accept for producing each quantity of that good rises.
  - decreases supply - shifts the supply curve leftward

Chapter 2 45

Chapter 2 46

A Change in Supply
- Prices of Related Goods Produced
  - The supply of a good increases if the price of a substitute in production falls.
  - The supply of a good increases if the price of a complement in production rises.

Chapter 2 47

Chapter 2 48

Market Equilibrium
- Equilibrium: situation in which opposing forces balance each other.
- Equilibrium in a market occurs when the good price coordinates the plans of buyers and sellers.
Market Equilibrium

- The equilibrium price is the price at which the quantity demanded equals the quantity supplied.

- The equilibrium quantity is the quantity bought and sold at the equilibrium price.

A Change in Demand

- An increase in demand results in a shortage at present prices.
  - Prices gradually rise and quantity supplied increases.

A Change in Supply

- An increase in supply results in a surplus at present prices.
  - Prices gradually fall and quantity demanded increases.

Recall our Model...

- Forces of supply & demand interact to determine an equilibrium price and equilibrium quantity.

Models are used to make economic predictions

- Assuming all else constant, our model will remain at equilibrium (Q*, P*) forever.
- How will our market change given a shock to supply or demand?
- To make these predictions, there are several necessary steps.
Modeling Steps

1. ALWAYS establish the model
   - Usually in an initial equilibrium \((Q^*, P^*)\)
   - Label everything
2. Identify the shock
   - Supply or Demand?
   - Positive or Negative?
3. Draw the new (Supply or Demand) curve

4. Compare the interaction with relevant curves
   - At ‘present’ prices, there will be either a surplus or shortage
5. Prices will adjust to reach a new equilibrium \((Q^{**}, P^{**})\)
6. Prediction: “Due to shock, economy moves from \((Q^*, P^*)\) to \((Q^{**}, P^{**})\)”

Examples: Coffee Market

- Creamer goes on sale
- New technological innovation in coffee bean production
- Surgeon General announces that coffee causes cancer
- Everybody believes that the price of coffee will increase in the future