ECONOMICS
EMERGENCY CRAM KIT™

Dean Schaffer
to the Rescue!

2008-2009 Edition
FUNDAMENTAL ECONOMIC CONCEPTS
Scarcity and Factors of Production

INTRODUCING ECONOMICS AND COSTS

WHAT IS ECONOMICS?
A social science which attempts to determine the optimal way to satisfy unlimited wants with scarce resources

THE BASIC ECONOMIC PROBLEM

- To decide which wants to satisfy with scarce resources, individuals ultimately try to maximize utility, or satisfaction

COSTS OF ECONOMIC DECISIONS
Any decision that we make entails a sacrifice. These sacrifices can come in the form of time, money, or both; in economics, they are known as costs.

TYPES OF COSTS

<table>
<thead>
<tr>
<th>Name</th>
<th>Explanation</th>
<th>A.K.A.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting Cost</td>
<td>Monetary cost incurred</td>
<td>Explicit</td>
</tr>
<tr>
<td>Opportunity Cost</td>
<td>Value of the next-best alternative to the chosen decision</td>
<td>Implicit</td>
</tr>
<tr>
<td>Total Economic Cost</td>
<td>Accounting Cost + Opportunity Cost</td>
<td>N/A</td>
</tr>
</tbody>
</table>

SUMMARY
Factors of production are used to produce goods and services to satisfy wants. They are also called productive resources.

THE FOUR FACTORS
1. Land: land and natural resources extracted from the land
2. Labor: the human effort required to produce a good or service
3. Capital: final goods used to produce other goods
4. Entrepreneurship: the combination of the other three factors of production to produce a good or service

MISCELLANEOUS NOTES
- The productivity of labor can be increased by investing in human capital through education or training
- Entrepreneurship involves risk-taking, since businesses may fail

TYPES OF FACTORS OF PRODUCTION

<table>
<thead>
<tr>
<th>Factor</th>
<th>Payment</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td>Rent</td>
<td>Coal, oil, trees</td>
</tr>
<tr>
<td>Labor</td>
<td>Wages</td>
<td>Writing this Cram Kit</td>
</tr>
<tr>
<td>Capital</td>
<td>Interest</td>
<td>Industrial machinery</td>
</tr>
<tr>
<td>Entrepreneurship</td>
<td>Profit</td>
<td>DemiDec Dan</td>
</tr>
</tbody>
</table>

POP QUIZ

QUESTIONS
1. The value of the next-best alternative to a given course of action is called its ______________.
2. What is the most fundamental problem of economics?
3. The $20,000 Steve paid for his new car is an example of a(n) ________________.
4. The factor payment for capital is known as ________.

ANSWERS
1. opportunity cost
2. scarcity
3. accounting cost
4. interest
EXPLAINING THE PPF

SCARCITY AND PRODUCTION
Because resources are scarce, producers face trade-offs in deciding what to produce. The production possibilities frontier helps us visualize these trade-offs graphically.

THE PRODUCTION POSSIBILITIES FRONTIER

♦ The basic concept: when an agent chooses to produce more of Good A, he must produce less of Good B

Purpose
• Illustrates opportunity costs
• Graphs different quantities of two goods that an agent can produce with fixed resources

Shape
• Usually bowed outward
• Can also be linear (see below)

Common Names
• PPF (Production Possibilities Frontier)
• PPC (Production Possibilities Curve)

What’s in a Shape?
Curved PPFs are bowed outward due to the law of increasing opportunity costs. Some resources are better suited to producing one good than another. So when a producer begins to focus extensively on guns, he starts to use resources which typically make butter (like cows). As a result, the producer must expend increasing quantities of resources to produce ever smaller amounts of output.

PPFs, however, are occasionally linear (straight lines). A linear PPF shows that the two goods use identical resources in production, so the law of increasing opportunity costs doesn’t apply.

APPLICATION: A NATION’S PPF

♦ Points A, B, and C all represent outputs that are 100% productively efficient: they are on the PPF itself
♦ Point D is unattainable through production because it is outside the production possibilities frontier; Alpacracy can attain this combination through trade
♦ Production at Point E (inside the PPF) indicates a recession in Alpacracy: productive resources are not being utilized as efficiently as possible
♦ PPFs can also shift inward or outward

THE GRAPHS

Curved PPF

Linear PPF

Good A

Apples

Good B

Oranges

Direction | Meaning | Possible Reasons
--- | --- | ---
Outward | Economic growth | Discovery of resources; new technology
Inward | Reduction in productive capacity | Devastating war; natural disaster

READING REVIEW

QUESTIONS
1. The production possibilities frontier illustrates the concept of ____________.
2. An economic agent producing at a point on its production possibilities frontier is experiencing ____________.
3. In terms of its production possibilities frontier, a nation experiencing high unemployment is ________.

ANSWERS
1. opportunity cost
2. 100% productive efficiency
3. producing at a point inside its PPF
DECISIONS ON THE MARGIN

ASSUMPTIONS
A central assumption of economics is that economic agents are rational. Rational actors make decisions through cost-benefit analysis, and will choose to produce or consume a good when the benefits of doing so exceed the costs.

WHAT IS MARGINAL ANALYSIS?
The cost-benefit analysis associated with producing or consuming ONE MORE UNIT of a good

KEY TERMS

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marginal</td>
<td>One more</td>
</tr>
<tr>
<td>Marginal cost</td>
<td>Cost incurred by producing or consuming one more unit of a good</td>
</tr>
<tr>
<td>Marginal benefit</td>
<td>Benefit derived from producing or consuming one more unit of a good</td>
</tr>
<tr>
<td>Utility</td>
<td>Satisfaction (measured in “utils”)</td>
</tr>
</tbody>
</table>

LAW OF DIMINISHING MARGINAL UTILITY
The Law: As an individual consumes more units of a good, the marginal utility derived from consuming that good declines.

♦ When Hungry Harry eats pizza, for example, eating the tenth slice will give him less satisfaction (utility) than eating the ninth

The Lesson: An individual will continue to produce or consume as long as marginal benefit > marginal cost. To maximize utility, an individual will stop producing or consuming once marginal benefit = marginal cost.

OPTIMIZATION GRAPH

POSITIVE VS. NORMATIVE ECONOMICS

<table>
<thead>
<tr>
<th>POSITIVE</th>
<th>NORMATIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concerned with “what is”</td>
<td>Concerned with “what should be”</td>
</tr>
<tr>
<td>Does not involve opinions</td>
<td>Involves value judgments</td>
</tr>
<tr>
<td>Can be true or false, but must be verifiable</td>
<td>Not testable (neither true nor false)</td>
</tr>
<tr>
<td>Example: “Unemployment is at 5%”</td>
<td>Example: “We should use expansionary fiscal policy to fight unemployment”</td>
</tr>
</tbody>
</table>

EXTERNALITIES

Externalities are costs or benefits that affect a third party not involved in the activity

Because externalities do not affect the agents involved in the economic transaction, such agents do not factor externalities into decision making. Externalities can be positive or negative (most are negative). Two examples:

<table>
<thead>
<tr>
<th>Positive</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education also fosters social stability</td>
<td>Cigarettes also create second-smoke</td>
</tr>
</tbody>
</table>

SUNK COST

Definition: An irrecoverable cost that plays no role in rational decision-making

♦ For example, Thirsty Tom buys a bottle of milk for $2 but then spills it; the $2 are a sunk cost that should play no role in whether Tom decides to purchase more milk

TESTING! ONE, TWO, TESTING...

QUESTIONS
1. At what point does optimization occur?
2. A cost or benefit that affects a party not directly involved in an economic transaction is a(n) _________.
3. “The United States runs a trade surplus with China” is an example of a ________ statement.

ANSWERS
1. Where marginal cost equals marginal benefit
2. externality
3. positive
FUNDAMENTAL ECONOMIC CONCEPTS
Economic Systems

TRADITIONAL AND MARKET ECONOMIES

INTRODUCING ECONOMIC SYSTEMS
An economic system addresses the allocation of scarce resources for a given economy. Economic systems are classified based on who answers the three fundamental economic questions.

THE THREE BASIC ECONOMIC QUESTIONS
1. What to produce?
2. How to produce?
3. Who receives the benefits of production?

A Fourth Question?
Some economists believe there are actually four questions. The most common fourth question is “How much to produce,” but we will ignore this debate in favor of the three-question model.

TRADITIONAL ECONOMIES
The Bottom Line
Traditions answer the basic economic questions.

Main Characteristics
These economies are primitive and subsistence-based. Individuals do what the generation before did.

Examples
African and Native American tribes.

MARKET ECONOMIES
The Bottom Line
Individual actors answer the basic economic questions.

Main Characteristics
Individuals own the means of production. Supply and demand guide resource allocation and prices.

Other Details
Also known as “laissez-faire” capitalism. Based on the ideas of Adam Smith; in his book *The Wealth of Nations*, Smith writes of an “invisible hand” that guides the seemingly chaotic actions of individual producers and consumers to an efficient equilibrium.

Examples
No pure market economies exist, but Hong Kong and Singapore come the closest to the pure market ideal.

PLANNED/COMMAND AND MIXED ECONOMIES

PLANNED/COMMAND ECONOMIES
The Bottom Line
Central planners answer the basic economic questions.

Main Characteristics
The state owns the means of production. The government determines resource allocation and prices.

Other Details
The elimination of economic incentives creates market inefficiencies and results in shortages and rationing.

Types
If the political system is authoritarian, it is referred to as a command economy; if the political system is democratic, it is referred to as a planned economy.

Examples
Most famously, the Soviet Union.

MIXED ECONOMIES
The Bottom Line
The state and market answer the basic questions.

Main Characteristics
A mixed economy tries to preserve the market economy’s efficiency while correcting the inequality it creates.

Examples
Almost all modern economies.

COMPARING ECONOMIC SYSTEMS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional</td>
<td>Traditional authorities</td>
<td>Traditional authorities</td>
<td>Traditional allocations</td>
</tr>
<tr>
<td>Planned/Command</td>
<td>The state</td>
<td>The state</td>
<td>Determined by the state</td>
</tr>
<tr>
<td>Market</td>
<td>Individuals</td>
<td>Individuals</td>
<td>Determined by market forces</td>
</tr>
<tr>
<td>Mixed</td>
<td>The state and individuals</td>
<td>The state and individuals</td>
<td>Determined by the state and by market forces</td>
</tr>
</tbody>
</table>
FUNDAMENTAL ECONOMIC CONCEPTS
Markets and Trade

MARKETS

VOLUNTARY EXCHANGE
Markets are based on voluntary exchange, in which both parties believe they will be better off as a result of the transaction. Voluntary exchanges allow individuals to specialize in the activity they do best and trade, increasing total societal welfare.

When Do Markets Exist?
Whenever and wherever two or more parties wish to make an exchange

Why Do Markets Exist?
To allow specialization and the division of labor, both of which increase productivity

FEATURES OF MARKETS
♦ Formal (established) or informal (underground)
♦ Require a means of exchange, such as barter or money

TEST YOUR MARKET MEMORY

QUESTIONS
1. Voluntary exchange takes place in __________.
2. If an economic agent can produce more of a good with fewer inputs than other economic agents, it possesses a(n) _________ in producing that good.
3. An economic agent should specialize in the production of a good if it possesses a(n) _________ in producing that good.
4. When a market includes two producers and two products, a producer cannot have a(n) _________ in both products.

ANSWERS
1. markets
2. absolute advantage
3. comparative advantage
4. comparative advantage

TRADE: ABSOLUTE AND COMPARATIVE ADVANTAGE

ABSOLUTE ADVANTAGE
An economic agent has an absolute advantage in a good when it can produce more of that good with fewer or the same amount of inputs than other economic agents.

COMPARATIVE ADVANTAGE
An economic agent has a comparative advantage in a good when it can produce that good at a lower opportunity cost than other economic agents.
♦ The theory of comparative advantage was formulated by David Ricardo
♦ This theory states that an economic agent should specialize in the good in which it has a comparative advantage and trade for the other goods

COMPARING THE TWO
♦ Even if an agent possesses no absolute advantage in any good, it must possess a comparative advantage in some good (but not in all goods)
♦ Absolute advantage has NO bearing on whether or not two agents should trade

AN EXAMPLE

Production Efficiencies
Steve can produce either 40 T-shirts or 80 paper clips
Sally can produce either 20 T-shirts or 60 paper clips

Relative Costs
To produce one shirt, Steve must give up two paper clips
To produce one shirt, Sally must give up three paper clips

Absolute Advantage
He has an absolute advantage in both: he can make more of each
Sally does not have any absolute advantages

Comparative Advantage
Steve has a comparative advantage in shirts
Sally has a comparative advantage in paper clips

Trade
He should specialize in shirts and trade for paper clips
She should specialize in paper clips and trade for shirts
### Supply

#### Supply Done Simple

**What is Supply?**

The quantity of a good or service that producers are willing and able to produce at any given price.

#### Key Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Law of Supply</td>
<td>As the price of a good increases, quantity supplied increases (direct relationship)</td>
</tr>
<tr>
<td>Quantity supplied</td>
<td>The amount of a good supplied at a specific price; NOT equivalent to supply</td>
</tr>
<tr>
<td>Supply schedule</td>
<td>A table listing the amount of a good producers are willing to supply at every possible price</td>
</tr>
<tr>
<td>Supply curve</td>
<td>Graphic representation of a supply schedule; graphed with price on the vertical axis and quantity supplied on the horizontal axis</td>
</tr>
</tbody>
</table>

#### Supply Curve

Caution! Don’t confuse a shift in the curve with movement along the curve.

#### Shift

- The entire supply curve moves left or right
- Quantity supplied changes relative to every price
- Left shift = decrease in supply
- Right shift = increase in supply

#### Movement

- The curve itself does not move
- Quantity supplied changes due to a change in price
- Movement left = decrease in quantity supplied
- Movement right = increase in quantity supplied

### Factors Which Shift Supply

- **Cost of the factors of production**
  - ↓ input prices → ↓ production costs → ↑ supply (inverse relationship)

- **Technological progress**
  - ↑ technological progress → ↓ production cost → ↑ supply (direct relationship)

- **Number of producers**
  - ↑ number of producers → ↑ supply (direct)

- **Government regulations**
  - ↑ taxes → ↓ supply (inverse)
  - ↑ subsidies → ↑ supply (direct)

- **Producer expectations**
  - If producers expect prices to rise, they will reduce current supply so they can sell at a higher future price (direct)
  - Remember! A change in a good’s price does NOT affect its supply, only quantity supplied.

### Supply Elasticity

\[
E = \frac{\% \text{ change in } QS}{\% \text{ change in } P} = \frac{(QS_1 - QS_0)}{(P_1 - P_0)} \cdot \frac{QS_0}{P_0}
\]

- **Elastic**
  - Change in price produces a proportionally larger change in quantity supplied (QS)
  - \(|E| > 1\)

- **Inelastic**
  - Change in price produces a proportionally smaller change in quantity supplied
  - \(|E| < 1\)

Supply is more elastic in the long run, since firms will be able to plan all their production decisions.

### Test Yourself

#### Questions

1. How are price and quantity supplied related?
2. A decrease in the cost of flour will have what effect on the supply of cookies?

#### Answers

1. directly
2. Shift supply of cookies to the right (increase supply)
### Microeconomics

#### Defining Demand

**What is Demand?**

The willingness and ability to purchase a good at any given price

### Key Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Law of demand</td>
<td>As the price of a good increases, quantity demanded decreases (inverse relationship)</td>
</tr>
<tr>
<td>Quantity demanded</td>
<td>The amount of a good demanded at a specific price; NOT equivalent to demand</td>
</tr>
<tr>
<td>Demand schedule</td>
<td>A table listing the amount of a good consumers demand at each possible price</td>
</tr>
<tr>
<td>Demand curve</td>
<td>Graphic representation of a demand schedule; graphed with price on the vertical axis and quantity supplied on the horizontal axis</td>
</tr>
</tbody>
</table>

#### Demand Curve

**Caution!** Don’t confuse a **shift** in the curve with **movement along** the curve.

### Factors which Shift Demand

**Consumer income**

- Normal goods: ↑ consumer income → ↑ demand (direct)
- Inferior goods: ↑ consumer income → ↓ demand (inverse)

**Substitute goods**

Definition: two goods that can be consumed in place of one another (Coke and Pepsi)

↑ price of a good → ↑ demand for substitute (direct)

**Complementary goods**

Definition: two goods that are consumed together (French fries and ketchup)

↑ price of a good → ↓ demand for complement (inverse)

**Number of consumers**

↑ number of consumers → ↑ demand

**Consumer expectations**

If consumers expect prices to rise, they will purchase more at the current lower price, increasing demand (direct)

**Consumer preferences and tastes**

As a good comes “into fashion,” its demand increases

*Remember!* A change in a good’s price does NOT affect its demand, only quantity demanded.

### Demand Elasticity

\[ E = \frac{\% \text{ change in } QD}{\% \text{ change in } P} = \frac{(QD_1 - QD_0)}{(QD_0)} \frac{QD_0}{(P_1 - P_0)} \]

- **Elastic**
  - Change in price produces a proportionally larger change in quantity demanded (QD)
  - \(|E| > 1\)
  - Luxury goods and goods with many close substitutes (Ferraris)

- **Unit Elastic**
  - Change in price produces a proportionally equivalent change in quantity demanded
  - \(|E| = 1\)

- **Inelastic**
  - Change in price produces a proportionally smaller change in quantity demanded
  - \(|E| < 1\)
  - Necessities and goods with no close substitutes (salt, insulin)

Like supply, demand is more elastic in the long run: consumers have more time to adjust their habits.
**MICROECONOMICS**

## Market Equilibrium

### EXPLORING EQUILIBRIUM

**BALANCING ACT**

The “invisible hand” guides the interactions of buyers and sellers to market equilibrium. At this point, all goods that are produced (supplied) are consumed (demanded).

### MARKET EQUILIBRIUM

**Where?** Market equilibrium occurs where the supply and demand curves intersect.

**How much?** The equilibrium price (market clearing price) is the price for which goods are exchanged at equilibrium.

**How many?** The equilibrium quantity is the quantity of goods exchanged at market equilibrium.

### CHANGES IN MARKET EQUILIBRIUM

<table>
<thead>
<tr>
<th>Shift in...</th>
<th>Direction</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply</td>
<td>Left</td>
<td>↑ price, ↓ quantity</td>
</tr>
<tr>
<td></td>
<td>Right</td>
<td>↓ price, ↑ quantity</td>
</tr>
<tr>
<td>Demand</td>
<td>Left</td>
<td>↓ price, ↓ quantity</td>
</tr>
<tr>
<td></td>
<td>Right</td>
<td>↑ price, ↑ quantity</td>
</tr>
<tr>
<td>Supply and</td>
<td>Either</td>
<td>Ambiguous change in one but not both</td>
</tr>
<tr>
<td>Demand</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SURPLEUSES AND SHORTAGES

### KEY TERMS

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
<th>Other Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surplus</td>
<td>QS &gt; QD</td>
<td>Seller response: ↓ price until QS = QD</td>
</tr>
<tr>
<td>Shortage</td>
<td>QD &gt; QS</td>
<td>Seller response: ↑ price until QS = QD</td>
</tr>
<tr>
<td>Price ceiling</td>
<td>Legal maximum price</td>
<td>Must be below equilibrium price to impact the market; creates shortage; example: rent control</td>
</tr>
<tr>
<td>Price floor</td>
<td>Legal minimum price</td>
<td>Must be above equilibrium price to impact the market; creates surplus; example: minimum wage</td>
</tr>
</tbody>
</table>

### APPLYING ELASTICITY

### ELASTICITY AND TOTAL REVENUE

- **If demand is elastic...**
  - ↑ price → ↓ producers’ total revenue
  - ↓ price → ↑ producers’ total revenue

- **If demand is unit elastic...**
  - Changes in price → no effect on producer’s total revenue

- **If demand is inelastic...**
  - ↑ price → ↑ producers’ total revenue
  - ↓ price → ↓ producers’ total revenue

### SUPPLY AND DEMAND IN ACTION

In this graph, demand increases (shifts to the right from D₁ to D₂). As a result, both price and quantity increase (from P₁ to P₂ and Q₁ to Q₂, respectively).

### I DEMAND ANSWERS!

### QUESTIONS

1. The equilibrium price is also known as the ________.
2. The government begins subsidizing the production of laptop computers. What happens to the market price and quantity of laptops?
3. How does the minimum wage law impact the unemployment rate?
4. The demand for insulin is very inelastic. How would a restriction of the supply impact producers’ total revenue?
5. If hot dogs and hamburgers are substitutes, a decrease in the price of hamburgers will ________.

### ANSWERS

1. market clearing price
2. Price decreases; quantity increases (supply shifts right)
3. It increases unemployment (in labor surplus)
4. It would increase their revenue.
5. decrease the demand for hot dogs (shift the curve left)
### Microeconomics

#### The Production Decisions of the Firm

### Revenues, Costs, and Profit

**How Firms Make Decisions**

Firms produce with the goal of maximizing profit. A firm’s production decision is based on cost-benefit analysis.

#### Types of Profit

- **Profit** = total revenue – total cost
- **Accounting profit** = total revenue – accounting cost
- **Normal profit** = total revenue – firm’s opportunity cost = 0

- Normal profit (“zero economic profit”) is the minimum profit a firm needs to stay in business in the long-run
- Remember that a firm can make normal profit while still taking in accounting profit
- Economic profit is any profit above normal profit

#### Revenue and Costs

**Total revenue** = price x quantity

**Types of Costs**

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition and Other Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed cost</td>
<td>Independent of a firm’s output; incurred even if a firm produces nothing (rent)</td>
</tr>
<tr>
<td>Variable cost</td>
<td>Varies with a firm’s level of output (raw materials and labor costs)</td>
</tr>
<tr>
<td>Total cost</td>
<td>Fixed costs + variable costs</td>
</tr>
</tbody>
</table>

**Marginal Terms**

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition and Other Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marginal cost</td>
<td>Increase in total cost a firm incurs by producing one more unit; U-shaped curve</td>
</tr>
<tr>
<td>Marginal revenue</td>
<td>Increase in total revenue a firm receives by producing one more unit</td>
</tr>
</tbody>
</table>

Profit is maximized at marginal revenue = marginal cost.

**Average Costs**

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition and Other Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average fixed cost (AFC)</td>
<td>Fixed cost ÷ output; always decreasing as output increases</td>
</tr>
<tr>
<td>Average variable cost (AVC)</td>
<td>Variable cost ÷ output; increase in total revenue received by producing one more unit; U-shaped curve</td>
</tr>
<tr>
<td>Average total cost (ATC)</td>
<td>AFC + AVC; U-shaped curve</td>
</tr>
</tbody>
</table>

### Shutting Down

- A firm will shut down when its revenues cannot cover its variable costs (marginal revenue < AVC)
- In this situation, a firm is better off not producing at all and incurring only the fixed costs

#### Law of Averages and Marginals

1. When marginal cost is below average total cost (ATC), average total cost is decreasing
2. When marginal cost is above ATC, ATC is increasing
3. The marginal cost curve intersects the AVC and ATC curves at their minimums

#### Cost Curves

![Cost Curves Diagram](image)

**Think Fast!**

**Questions**

1. When is profit maximized?
2. A lease on a factory is an example of a ________.
3. A firm will shut down when its marginal revenue is less than ________. This point is called the _____.
4. What is the break-even point?

**Answers**

1. When marginal revenue equals marginal cost
2. fixed cost (it must be paid, even if output is zero)
3. average variable cost; shut-down point
4. Where marginal revenue = ATC; at this point, the firm is making normal profit.
WHAT IS MARKET POWER?

Sellers’ ability to influence the price of the product they sell

What? A firm’s market power depends on its market share.

How? Barriers to entry, such as high startup costs and patents, create market power by preventing the entry of new firms.

Results? Market power creates inefficiency and results in a loss of welfare for society.

TERMINEOLOGY

<table>
<thead>
<tr>
<th>Price Taker</th>
<th>A firm with no market power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price Maker</td>
<td>A firm with ultimate market power</td>
</tr>
</tbody>
</table>

PRICE DISCRIMINATION

What? Price discrimination occurs when a firm charges different prices to different consumers for the same good.

How? A firm must meet three requirements to do it:

1. Market power
2. The ability to divide consumers into groups with different elasticities of demand
3. The ability to prevent the resale of its goods

PERFECT VS. MONOPOLISTIC COMPETITION

The main difference between perfect and monopolistic competition is identical vs. slightly differentiated products. Although McDonalds’ does not have a monopoly over hamburgers, it does have a monopoly over Big Macs. Differentiating Big Macs from other types of hamburgers gives McDonalds’ a slight degree of power over the price it charges.

TEST YOUR MARKET MEMORY

QUESTIONS

1. The ability to influence price is called __________.
2. Which market structure is the most efficient?

ANSWERS

1. market power
2. Perfect competition

COMPARING MARKET TYPES

<table>
<thead>
<tr>
<th>Type of Market</th>
<th># of Producers</th>
<th>Goods</th>
<th>Kind of Competition</th>
<th>Barriers to Entry</th>
<th>Market Power?</th>
<th>Demand Curve Shape</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monopoly</td>
<td>One</td>
<td>Unique</td>
<td>None</td>
<td>No entry possible</td>
<td>Yes: price-maker</td>
<td>Downward-sloping</td>
</tr>
<tr>
<td>Oligopoly</td>
<td>A few</td>
<td>Homogenous or differentiated</td>
<td>Primarily non-price competition</td>
<td>Medium barriers (difficult entry)</td>
<td>Firms can collude and form cartels to increase power (but high incentive to cheat)</td>
<td>Kinked</td>
</tr>
<tr>
<td>Monopolistic Competition</td>
<td>Many</td>
<td>Product differentiation: ads, brand names</td>
<td>Non-price competition; price competition</td>
<td>Low barriers (easy entry)</td>
<td>Firms attempt to increase power through product differentiation</td>
<td>Downward-sloping</td>
</tr>
<tr>
<td>Perfect Competition</td>
<td>A great many</td>
<td>Identical</td>
<td>Price competition</td>
<td>No barriers (free entry)</td>
<td>No: price-taker</td>
<td>Horizontal</td>
</tr>
</tbody>
</table>
MICROECONOMICS
Institutions

FINANCIAL INTERMEDIARIES AND LABOR UNIONS

PURPOSE
In a market economy, institutions evolve to help individuals and groups accomplish their goals.

FINANCIAL INTERMEDIARIES
Institutions that indirectly link savers and borrowers, such as banks and mutual funds

Federal Deposit Insurance Corporation (FDIC): Insures deposits at member banks up to $100,000

Mutual fund: Pools money from many investors and invests it in stocks, bonds, and other assets

LABOR UNIONS
Groups of workers that bargain collectively with employers

KEY TERMS

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective bargaining</td>
<td>Negotiations between a union and the employer to determine wages and working conditions for all union members</td>
</tr>
<tr>
<td>Craft (trade) union</td>
<td>Organizes workers along the lines of a specific trade</td>
</tr>
<tr>
<td>Industrial union</td>
<td>Organizes all workers in an industry into a single union, regardless of trade</td>
</tr>
</tbody>
</table>

HOW DO THEY WORK?
- Unions artificially restrict the labor supply and increase labor costs, increasing the final price of goods and services.
- Unions restrict labor flexibility and impose a cost on laborers not in the union

FAST STATS
1. Union membership in the United States in recent decades has declined
2. The most prominent union in the United States today is the American Federation of Labor and Congress of Industrial Organizations (AFL-CIO)

PROPERTY RIGHTS

PURPOSE
Property rights ensure that property ownership is secure so individuals are free to use or dispense of it as they see fit.
- Property rights are essential to functioning markets
- The Constitution states that a person cannot be deprived of his property without due process of law

Copyright
Legal right granted to an author, artist, musician, or publisher to exclusive publication and distribution of a creative or intellectual work

Patent
Set of exclusive rights granted by a government in exchange for the disclosure of an invention

Eminent domain
Allows the government to take private property for public use, with just compensation

LABOR LAWS

Norris-LaGuardia Act (1932): Outlawed yellow dog contracts
National Labor Relations Act (1935): Recognized right of workers to form unions and bargain collectively
Taft Hartley Act (1947): Outlawed closed shops

Yellow dog contracts: employees pledged not to join a union as a condition of employment
Closed shops: all employees had to join the union

TEST YOURSELF

QUESTIONS
1. Financial intermediaries link _________ with _________.
2. What is the most prominent union in the U.S. today?
3. A union which organizes workers along the lines of a specific trade is called a(n) _________.

ANSWERS
1. savers; borrowers
2. AFL-CIO
3. craft union
Microeconomics

The Essentials

Money

What is Money?

Anything accepted as payment for goods and debts

Traits of Money

Characteristics of (Good) Money

- Durability: withstands the wear and tear of everyday use
- Portability: easy to transport
- Divisibility: easily divided into smaller units
- Acceptability: acceptable to all parties of a transaction
- Scarcity: scarce enough that it isn’t worthless

Functions of Money

- Medium of exchange: traded for goods
- Unit of account: establishes the value of goods, which can be easily compared
- Store of value: retains its value and can be used to purchase goods in the future

Money’s Source of Value

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commodity money</td>
<td>Money with intrinsic value</td>
<td>Gold, silver, conch shells</td>
</tr>
<tr>
<td>Fiat money</td>
<td>No intrinsic value; backed only by legal decree</td>
<td>U.S. Dollar, Euro</td>
</tr>
</tbody>
</table>

Types of Money

<table>
<thead>
<tr>
<th>Form</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Currency</td>
<td>Paper bills and coins</td>
</tr>
<tr>
<td>Demand deposits</td>
<td>Stored in banks; can be withdrawn at any time; usually checking accounts</td>
</tr>
<tr>
<td>Money market accounts</td>
<td>Savings accounts that offer a high rate of return in exchange for a large initial deposit; limited access to deposit</td>
</tr>
<tr>
<td>Savings deposits</td>
<td>Stored in banks; cannot be withdrawn as easily as demand deposits</td>
</tr>
<tr>
<td>Time deposits</td>
<td>Stored in banks; cannot be withdrawn for a predetermined period of time</td>
</tr>
</tbody>
</table>

Gresham’s Law

Named after Sir Thomas Gresham, Gresham’s Law states that bad money drives good money out of circulation. In Gresham’s time, bad money was coin that had been debased.

Debasement is the reduction of a coin’s precious metal content. Because non-debased coins, or “good money,” were more valuable, people hoarded these coins and spent the debased “bad money.”

Barter

Definition: The direct exchange of goods for other goods

Advantage: No inflation

Disadvantage: Inefficient because it requires a double coincidence of wants

Double coincidence of wants: You have to want what I have, and I have to want what you have

Barter was eventually replaced by money, which made trade much easier and much more convenient.

Most Likely Questions

Questions

1. The direct exchange of goods for other goods is called ____________.
2. Define Gresham’s Law.
3. Which function of money most directly applies to money stored in a safe?
4. Which function of money applies to prices on a menu?
5. Gold coins are an example of ________ money.
6. Accounts against which checks can be drawn are called ____________.

Answers

1. barter
2. Bad money drives good money out of circulation.
3. Store of value
4. Unit of account
5. commodity
6. demand deposits
## MICROECONOMICS

### The Labor Market

<table>
<thead>
<tr>
<th>LABOR</th>
<th>REAL VS. NOMINAL WAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DERIVED DEMAND</strong>&lt;br&gt;Definition: A firm’s demand for the factors of production&lt;br&gt;Example: The demand for labor&lt;br&gt;<strong>What’s in a name?</strong> A firm’s demand for a factor of production is derived from consumers’ demand for the final product</td>
<td>♦ Nominal wages: payment received for work at the current price level; not adjusted for inflation&lt;br&gt;♦ Real wages: wages that are independent of inflation <em>(See the next section for a discussion of inflation)</em></td>
</tr>
</tbody>
</table>

---

### THE PRODUCTIVITY OF LABOR

The wage rate paid to laborers depends on labor productivity.

**KEY TERMS**

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marginal product of labor</td>
<td>The extra output produced by hiring one additional worker</td>
</tr>
<tr>
<td>Marginal revenue product (MRP) of labor</td>
<td>The increase in total revenue a firm earns by hiring one additional worker; equals marginal product of labor times marginal revenue</td>
</tr>
</tbody>
</table>

---

### COST-BENEFIT ANALYSIS

Marginal benefit = marginal revenue product of labor<br>Marginal cost = wage rate (cost of hiring one more worker)<br>♦ Cost-benefit analysis states that a firm will hire workers up to the point where the marginal revenue product of labor equals the wage rate (MR = MC)

### MARGINAL REVENUE PRODUCT AND WAGES

♦ ↑ labor productivity → ↑ marginal product of labor and ↑ MRP of labor<br>♦ ↑ price of final good → ↑ MRP of labor<br>♦ ↑ MRP → ↑ wages

### HOW TO INCREASE LABOR PRODUCTIVITY

1. **Physical capital**: Productivity increases when workers have access to more industrial equipment<br>2. **Human capital**: Productivity increases with investments in education and job training<br>3. **Technological progress**: Productivity increases with access to more sophisticated technology

---

### LABOR QUIZ

**QUESTIONS**

1. The extra physical output generated by hiring another worker is called _______________.
2. At what point will a firm stop hiring workers?
3. An increase in labor productivity will (increase/decrease) wages.
4. What is human capital?

**ANSWERS**

1. the marginal product of labor<br>2. Where the MRP of labor equals the wage rate<br>3. increase<br>4. Investments in education and job training

---

### MICROECONOMICS REVIEW

**QUESTIONS**

1. An insecticide-resistant pest decimates lettuce crops; *Time* magazine runs a feature article on the health benefits of salad. What happens to the equilibrium price and quantity of lettuce?
2. Hamburgers and ketchup are complementary goods; the price of ketchup decreases due to the introduction of genetically engineered tomatoes. What happens to the equilibrium price and quantity of hamburgers?
3. What is the “golden rule” of marginal analysis?
4. Which market structure imposes the largest welfare loss on society? What is this loss called?

**ANSWERS**

1. Price increases; change in quantity is ambiguous *(shifts: supply decreases, demand increases)*
2. Price increases; quantity increases *(shift: demand decreases)*
3. Keep doing something until MR = MC
4. Monopoly; deadweight loss
### MACROECONOMICS

#### Aggregate Demand

#### THE BASICS

<table>
<thead>
<tr>
<th>MICRO VS. MACRO</th>
</tr>
</thead>
<tbody>
<tr>
<td>While microeconomics studies individual consumers and firms, macroeconomics focuses on the entire economy.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INTRODUCING AGGREGATE MODELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>The aggregate demand (AD) and aggregate supply (AS) model of the economy provides a mechanism for analyzing short-run economic fluctuations.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WHAT IS AGGREGATE DEMAND?</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>The sum of all expenditures in an economy</em></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>THE AGGREGATE DEMAND CURVE...</th>
</tr>
</thead>
<tbody>
<tr>
<td>...Shows the quantity of goods and services demanded by households, firms, and the government at each price level</td>
</tr>
</tbody>
</table>

| ...Is downward sloping: as price level increases, the quantity of output demanded decreases |

<table>
<thead>
<tr>
<th>THE FOUR COMPONENTS OF AGGREGATE DEMAND</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Consumption: consumer spending on goods and services</td>
</tr>
<tr>
<td>2. Investment: spending on capital equipment</td>
</tr>
<tr>
<td>3. Government spending and purchases</td>
</tr>
<tr>
<td>4. Net exports = value of exports – value of imports</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WHY THE AD CURVE SLOPES DOWNWARD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wealth Effect</strong></td>
</tr>
<tr>
<td>↓ price level → ↑ consumption</td>
</tr>
<tr>
<td><em>(Why? A decrease in price level corresponds to an increase in consumers’ real income.)</em></td>
</tr>
</tbody>
</table>

| **Interest Effect** |
|↓ price level → ↑ investment spending |
| *(Why? A decrease in price level corresponds to a decrease in interest rates.)* |

| **Trade Effect** |
|↓ price level → ↑ net exports |
| *(Why? A decrease in price level makes domestically produced goods cheaper internationally.)* |

<table>
<thead>
<tr>
<th>FACTORS THAT SHIFT AGGREGATE DEMAND</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Events that increase/decrease consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examples: tax cuts/hikes, stock market booms/busts</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Events that increase/decrease investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examples: a fall/rise in interest rates, optimism/pessimism about the future</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Increase/decrease in government spending</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Events that increase/decrease net exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examples: A boom/recession overseas, exchange rate depreciation/appreciation</td>
</tr>
</tbody>
</table>

| *Remember!* As with regular demand, a change in price level does NOT shift aggregate demand. |

<table>
<thead>
<tr>
<th>THE GRAPH</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Graph" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ASKING ABOUT AGGREGATE</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>QUESTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What is aggregate demand?</td>
</tr>
<tr>
<td>2. Explain the wealth effect.</td>
</tr>
<tr>
<td>3. What are the four components of aggregate demand?</td>
</tr>
<tr>
<td>4. An increase in the tax rate will <em>(increase/decrease)</em> aggregate demand.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ANSWERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The total amount of goods and services demanded in an economy</td>
</tr>
<tr>
<td>2. As price levels decrease, consumers’ real incomes increase, which enables them to consume more output.</td>
</tr>
<tr>
<td>3. consumption, investment, government purchases, net exports</td>
</tr>
<tr>
<td>4. decrease</td>
</tr>
</tbody>
</table>
# MACROECONOMICS

## Aggregate Supply

### LONG-RUN AGGREGATE SUPPLY

**WHAT IS AGGREGATE SUPPLY?**

*The potential supply of all goods and services in an economy at any given price level*

Aggregate supply is divided into short-run aggregate supply (SRAS) and long-run aggregate supply (LRAS).

### Long Run vs. Short Run

<table>
<thead>
<tr>
<th>Shape</th>
<th>A vertical line</th>
</tr>
</thead>
<tbody>
<tr>
<td>Why?</td>
<td>Independent of price level</td>
</tr>
<tr>
<td>Where?</td>
<td>Intersects the horizontal axis at the natural level of output</td>
</tr>
<tr>
<td>Factors that Shift It</td>
<td>Labor, capital, natural resources, technology</td>
</tr>
</tbody>
</table>

* Natural level of output: the highest level of output that an economy can sustain in the long run

### FACTORS THAT SHIFT LRAS

**Labor**

Changes in the supply, cost, or productivity of labor

**Capital**

Increasing an economy’s capital stock increases productivity and shifts LRAS to the right

**Natural resources**

A change in the availability of natural resources

**Technology**

Technological advances increase productivity and shift LRAS to the right

### SHORT-RUN AGGREGATE SUPPLY

<table>
<thead>
<tr>
<th>Shape</th>
<th>Upward sloping, with three regions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Why</td>
<td>Misperceptions Theory; Sticky Wage Theory</td>
</tr>
<tr>
<td>Factors that Shift It</td>
<td>All the variables that shift LRAS; expectations of changes in the price level</td>
</tr>
</tbody>
</table>

* The Misperceptions Theory: If the price level rises, suppliers mistakenly believe that demand for *their* specific product is rising, so they supply more

* The Sticky Wages Theory: Since firms usually agree to pay their workers a fixed nominal wage for a period of time, wages are slow to adjust (“sticky”) in the short run; a decrease in the price level increases real wages and the costs of labor, decreasing supply

* The three regions of the SRAS curve:
  1) Keynesian: ↑ output → stable price level
  2) Intermediate: ↑ output → ↑ price level (inflation)
  3) Classical: trying to increase output → ↑ price level

### THE GRAPH

![Graph of Aggregate Supply](image)

**Price Level**

**LRAS**

**SRAS**

**Classical**

**Intermediate**

**Keynesian**

**Natural Level of Output**

**Level of Output**

### ASKING ABOUT AGGREGATE (AGAIN!)

**QUESTIONS**

1. Long run aggregate supply is NOT affected by _______.
2. Congress allows offshore drilling, and an oil deposit is discovered. What happens to LRAS and SRAS?

**ANSWERS**

1. price level
2. Both shift to the right
**MACROECONOMICS**

**Short-Run Economic Fluctuations**

### THE CAUSES AND TYPES OF FLUCTUATIONS

#### UNDERSTANDING FLUCTUATIONS

Short-run economic fluctuations can be analyzed as shifts in aggregate demand and aggregate supply.

#### EQUILIBRIUM

- **Short-Run Equilibrium**
  - At intersection of AD and SRAS
  - Represents the economy's current level of output

- **Long-Run Equilibrium**
  - At intersection of AD and LRAS
  - At equilibrium, SRAS, LRAS, and AD all intersect at the same point

#### OUTPUT GAPS

- **Inflationary Gap**
  - Occurs when short-run equilibrium output exceeds long-run equilibrium output
  - The economy is "overheated": it can't sustain this level of output for long

- **Deflationary Gap (Recessionary Gap)**
  - Occurs when long-run equilibrium output exceeds short-run equilibrium output
  - The economy is using its productive capacity inefficiently
  - The economy is in a recession if the gap persists

#### TEST YOURSELF

**QUESTIONS**

1. When short-run equilibrium exceeds long-run equilibrium, the economy is experiencing a(n) _________.
2. What is the long-run effect of an increase in aggregate demand?
3. When an economy reaches long-run equilibrium, which three curves intersect at the same point?
4. What is the other name of a deflationary gap?
5. In the long-run, the economy functions at what level of output?
6. Due to a war, the price of oil increases drastically. What happens to equilibrium price level and output? What is this phenomenon called?

**ANSWERS**

1. inflationary gap
2. An increase in the price level only
3. Short-run aggregate supply, long-run aggregate supply, and aggregate demand
4. Recessionary gap
5. The natural level of output
6. SRAS shifts to the left, so price level increases and output level decreases. This is called a supply shock.

### SHIFTs IN AGGREGATE DEMAND

#### IN THE SHORT RUN...

- ↑ aggregate demand → ↑ price level, ↑ output
- ↓ aggregate demand → ↓ price level, ↓ output

#### IN THE LONG RUN...

- Expectations and perceptions balance out, so short-run aggregate supply shifts to bring the economy back to its long-run equilibrium and natural level of output
- Shifts in aggregate demand change the price level only

#### SHIFTs IN SHORT-RUN AGGREGATE SUPPLY

- ↑ SRAS → ↓ price level, ↑ output
- ↓ SRAS → ↑ price level, ↓ output
MACROECONOMICS
Gross Domestic Product and the Business Cycle

**GROSS DOMESTIC PRODUCT**

**WHAT IS GROSS DOMESTIC PRODUCT?**
The value of all final goods and services produced within an economy in a year

**KEY CONCEPTS**

<table>
<thead>
<tr>
<th><strong>Economic Growth</strong></th>
<th>An increase in real gross domestic product (GDP)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Business Cycle</strong></td>
<td>Shows patterns of growth and recession</td>
</tr>
</tbody>
</table>

**NOMINAL GDP VS. REAL GDP**

<table>
<thead>
<tr>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal GDP</td>
<td>GDP expressed in current prices</td>
</tr>
<tr>
<td></td>
<td>2008 GDP expressed in 2008 dollars</td>
</tr>
<tr>
<td>Real GDP</td>
<td>GDP adjusted for inflation</td>
</tr>
<tr>
<td></td>
<td>2008 GDP expressed in 1990 dollars</td>
</tr>
</tbody>
</table>

*Growth is measured in real GDP, not nominal GDP*

**GDP VS. GNP (GROSS NATIONAL PRODUCT)**

<table>
<thead>
<tr>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>The value of goods and services produced within a country’s borders</td>
</tr>
<tr>
<td></td>
<td>A Toyota Corolla made in Indiana: U.S.’s GDP</td>
</tr>
<tr>
<td>GNP</td>
<td>The value of goods and services produced by a country’s nationals</td>
</tr>
<tr>
<td></td>
<td>A Toyota Corolla made in Indiana: Japan’s GNP</td>
</tr>
</tbody>
</table>

**COMPONENTS OF GDP: C + I + G + X**

**Consumption (C)**
Consumer spending on final goods and services (the largest portion of GDP)

**Investment (I)**
Spending on capital equipment, real estate, and inventories

**Government purchases (G)**
Government spending on defense, infrastructure, and so on

**Net exports (X)**
Value of exports minus value of imports (negative for U.S.)

**WHAT’S EXCLUDED FROM GDP?**

- **Used goods**: the consumption of a used good was already counted in the GDP of another year (sale of a used car)
- **Intermediate goods**: the value of such goods is included in the value of the final good (McDonalds’ purchase of beef)
- **Illicit sales**: not documented (purchase of illegal drugs)
- **Personal goods**: goods and services produced and consumed personally (vegetables grown in a garden)
- **Transfer of assets**: represent the sale of ownership or debt and do not involve the production of goods and services (purchase of securities)
- **Transfer payments**: money is simply moved around and is not used to pay for goods and services (welfare payments, Social Security payments)

**THE BUSINESS CYCLE**
The business cycle represents the cyclical fluctuations in total output. In the long-term, it shows an upward trend.

**KEY TERMS**

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expansion</td>
<td>Increase in real GDP; continues until the economy reaches a peak</td>
</tr>
<tr>
<td>Downturn</td>
<td>Increase in real GDP; continues until the economy reaches a trough</td>
</tr>
<tr>
<td>Recession</td>
<td>Downturn that has persisted for at least two quarters (six months)</td>
</tr>
<tr>
<td>Depression</td>
<td>Severe and prolonged recession that has persisted for at least three quarters (nine months)</td>
</tr>
</tbody>
</table>

**THE GRAPH**

Real Output vs. Time
MACROECONOMICS
The Circular Flow Model

INTRODUCING THE CIRCULAR FLOW MODEL

PURPOSE
The circular flow model shows the relationships between different sectors of the economy. In its most basic form, the circular flow model shows the interaction between households and firms.

THE TWO GROUPS

<table>
<thead>
<tr>
<th>Households</th>
<th>Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Own the factors of production; purchase goods and services from firms</td>
<td>Produce goods and services using the factors of production purchased from households</td>
</tr>
</tbody>
</table>

THE FACTOR AND PRODUCT MARKETS

♦ Factor market: Households sell the factors of production to firms and are paid income
♦ Product market: Firms sell goods and services to households and are paid revenue

Money flows in the opposite direction as factors, goods, and services.

COMPLICATING THE MODEL

LEAKAGES AND INJECTIONS

♦ Leakage: money exits the circular flow model
♦ Injection: money enters the circular flow model

THE FLOW, ILLUSTRATED

Remember! The arrows illustrate the flow of money (not goods and services). “Follow the money!”

CIRCULAR FLOW AND BUSINESS CYCLE QUIZ

QUESTIONS – CIRCULAR FLOW
1. The factors of production flow from _____ to ______.
2. Goods and services flow from ______ to ______.
3. Taxes represent a (leakage/injection) in the circular flow model.

QUESTIONS – BUSINESS CYCLE
4. What is economic growth?
5. The purchase of a new home is counted in what component of GDP?
6. The purchase of attack helicopters by the Defense Department is counted in what component of GDP?
7. Why are transfer payments not counted in GDP?
8. A recession is an economic downturn that has persisted for _________.

ANSWERS – CIRCULAR FLOW
1. Households; firms
2. Firms; households
3. Leakage

ANSWERS – BUSINESS CYCLE
4. An increase in real GDP
5. Investment (not consumption!)
6. Government purchases
7. Transfer payments merely move money around and do not purchase goods or services.
8. two quarters (six months)
# MACROECONOMICS

## Employment

<table>
<thead>
<tr>
<th>LABOR FORCE</th>
<th>UNEMPLOYMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WHO IS IN THE LABOR FORCE?</strong>&lt;br&gt;All members of the population who are employed or actively looking for work</td>
<td><strong>WHO IS UNEMPLOYED?</strong>&lt;br&gt;All members of the population without jobs who are actively looking for work</td>
</tr>
<tr>
<td><strong>INDIVIDUALS TO JOIN THE LABOR FORCE</strong>&lt;br&gt;Are you age 16 or over?&lt;br&gt;Are you actively seeking work?&lt;br&gt;Are you not in prison or jail?&lt;br&gt;If you answered yes to the above three questions, then you (yes you!) are eligible to join the prestigious Labor Force of the United States.&lt;br&gt;We currently boast an impressive participation rate of 66%. And we’d love to have you, too!&lt;br&gt;Unfortunately, we are unable to accept applicants who fall into any of the following categories:&lt;br&gt;♦ Those in prison&lt;br&gt;♦ Housewives&lt;br&gt;♦ Those in the armed forces&lt;br&gt;; Students&lt;br&gt;; Retired workers&lt;br&gt;; Discouraged workers&lt;br&gt;Join Today!</td>
<td><strong>Unemployment Rate</strong>&lt;br&gt;$\text{Unemployment Rate} = \frac{# \text{ of Unemployed Workers}}{\text{Labor Force}}$&lt;br&gt;♦ The current unemployment rate in the United States is 5.7% (Source: Bureau of Labor Statistics, Aug. 2008)</td>
</tr>
</tbody>
</table>

## Types of Unemployment

- **Frictional**: Results from the time-lag between jobs as a worker finds the right job for his skills
- **Seasonal**: Results when certain jobs are only relevant during certain seasons<br>Example: lifeguarding in the winter
- **Structural**: Results from a mismatch between the needs of an employer and the skills of the labor force
- **Cyclical**: Results from fluctuations in the business cycle<br>Indicates a problem with the economy

## What is Natural Unemployment?

*The normal rate of unemployment around which the unemployment rate fluctuates (~4%)*

- An economy at full employment operates at the natural level of output with natural unemployment
- Cyclical unemployment is the only type not compatible with full employment

## Reading Review

### Questions

1. What are unemployed workers?
2. Unemployment that results from the time-lag between jobs is known as _______ unemployment.
3. Unemployment that results from a recession is known as _______ unemployment.

### Answers

1. Workers in the labor force actively looking for work
2. frictional
3. cyclical

## Key Terms

- **Labor force participation rate**: percentage of the adult population (age 16+) in the labor force
- **Discouraged workers**: individuals who want to work but have given up looking for a job; also called marginally attached workers
- **Labor force**:<br>$\text{Labor Force} = \text{Employed} + \text{Unemployed (excluding discouraged workers)}$
### MACROECONOMICS

---

### Inflation and the Money Supply

#### Inflation

**What is Inflation?**

A rise in the price level that decreases the purchasing power of money

- Inflation hurts creditors and those on a fixed income but helps debtors

#### Types of Inflation

1. **Demand-pull inflation**: “too many dollars chasing too few goods”
   - Sustained rise in aggregate demand → Increase in the price level

2. **Cost-push inflation**
   - Increase in production costs → Decrease in SRAS → Increase in the price level

#### Measuring Inflation

The Consumer Price Index (CPI) compares the prices of a market basket of goods in the current year to their prices in a base year. The Index presents base year prices as 100. The CPI is compiled by the Bureau of Labor Statistics.

#### Other Key Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Deflation</strong></td>
<td>Decrease in the price level</td>
</tr>
<tr>
<td><strong>Disinflation</strong></td>
<td>Decrease in the rate of inflation (note that inflation is still taking place)</td>
</tr>
<tr>
<td><strong>Hyperinflation</strong></td>
<td>Extremely high levels of inflation</td>
</tr>
<tr>
<td><strong>Stagflation</strong></td>
<td>Inflation + Stagnation; increasing price levels without economic growth; occurred in the U.S. in the 1970s</td>
</tr>
</tbody>
</table>

#### Interest Rates

Interest rates represent the “price” of money.

- **Nominal interest rate**: the market rate that appears on a loan contract
- **Real interest rate**: the nominal interest rate adjusted for inflation
- **Prime rate**: the interest rate banks charge their best customers

---

### The Money Supply

**What is the Money Supply?**

The main stock of liquid assets in an economy that can be exchanged for goods

#### Monetary Aggregates

The monetary aggregates are classified in terms of liquidity, or the ease of their convertibility into currency.

- **M1**: currency, traveler’s checks, demand deposits
- **M2**: M1 + savings accounts, money market accounts, small time deposits (< $100,000)
- **M3**: M2 + institutional money funds, repurchase agreements, large time deposits (> $100,000)

#### The Quantity Theory of Money

\[ MV = PQ \]

- **M**: the money supply
- **P**: price level
- **V**: velocity of money
- **Q**: total output

**Velocity of money**: how often money circulates through the economy; in other words, how many times a dollar bill is spent in a given time period.

Since V and Q are usually held constant, \( \uparrow M \rightarrow \uparrow P \).

#### The Phillips Curve

The Phillips Curve illustrates that in the short run, as inflation decreases, unemployment increases. In the long run, unemployment is constant at the natural rate of unemployment and it is independent of inflation. Stagflation (high inflation, high unemployment) is represented by a shift in the short-run Phillips curve to the right.
MACROECONOMICS
The Role of Government: Externalities and Public Goods

MARKET FAILURE

GOVERNMENTS AND FREE MARKETS
The workings of the free market do not always result in a socially optimal outcome. The government can intervene in such cases of “market failure.”

WHAT IS AN EXTERNALITY?
A cost or benefit that affects a third party not involved in the activity

Market failure: Because economic agents do NOT consider externalities in their decision making, externalities lead to outcomes which diverge from the social optimum.

Solutions to externalities include...

Internalizing an externality
Altering incentives so that economic actors account for the external effect of their actions

Pigovian taxes
Monetary penalties to discourage activities with negative externalities

Subsidies
Government incentives to encourage activities with positive externalities

The Coase theorem
Without bargaining costs, private actors can solve the problem of externalities on their own

INTRODUCING PUBLIC GOODS

RIVALRY AND EXCLUDABILITY
♦ A good is excludable if individuals can be prevented from using the good
♦ A good is rival if one person’s use of a good diminishes another person’s use of it

OVERVIEW
Goods can be divided into two categories: public and private.

<table>
<thead>
<tr>
<th>Rival?</th>
<th>Excludable?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Goods</td>
<td>Yes</td>
</tr>
<tr>
<td>Public Goods</td>
<td>No</td>
</tr>
</tbody>
</table>

TYPES OF GOODS

PRIVATE GOODS
Excludable and rival
Private goods are protected by property rights. Markets allocate private goods efficiently because private actors have the right to attach a price to private goods and profit from their use. Examples include cars and ice cream cones.

PUBLIC GOODS
Non-excludable and non-rival
Public goods are held by society at large. Examples include national defense and public parks. Individuals can consume them at no marginal cost. Public goods often entail two economic problems: the free rider problem and the Tragedy of the Commons.

1. THE FREE RIDER PROBLEM
The problem: Because individuals cannot be prevented from using a public good, some will use it without paying for it.
♦ Free rider: a person who receives the benefit of a public good but avoids paying for it
The solution: Government can attempt to limit the non-paying population, but this goal may prove difficult.

2. THE TRAGEDY OF THE COMMONS
The problem: In the parable, a Town Commons is ruined by overgrazing; more generally, overuse or abuse can deplete or destroy public goods such as clean air and fishing areas.
Solutions: Privatizing the resource or regulating access to it.

DID YOU STUDY?

QUESTIONS
1. A good is ______ if people cannot be prevented from using the good.
2. What term describes the depletion of fishing areas by overfishing?

ANSWERS
1. non-excludable
2. Tragedy of the Commons
## MACROECONOMICS
### The Role of Government: Taxation

### YOU KNOW WHAT THEY SAY—DEATH AND TAXES...

**WHAT IS A TAX?**
*A compulsory charge or levy enacted by the government to raise revenue to fund government spending*

### TYPES OF TAXES

<table>
<thead>
<tr>
<th>Name</th>
<th>What Does It Tax?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital gains tax</td>
<td>The appreciation of investments (a stock is bought for a certain price and sold later for a higher price; the profit from the sale is taxed)</td>
</tr>
<tr>
<td>Corporate income tax</td>
<td>Corporate profits</td>
</tr>
<tr>
<td>Excise tax</td>
<td>Purchase of a specific good (at the time of sale)</td>
</tr>
<tr>
<td>Personal income tax</td>
<td>The earnings of individuals, including income from wages and dividends, interest from savings, and other sources of income</td>
</tr>
<tr>
<td>Sales tax</td>
<td>Market transactions at the time of purchase</td>
</tr>
<tr>
<td>Sin tax</td>
<td>Purchase of a specific good deemed harmful by society; in other words, an excise tax on an item like cigarettes</td>
</tr>
<tr>
<td>Value-added tax</td>
<td>The added value of a good at each level of production and distribution; differs from a sales tax, which is levied on the final and total value of a good</td>
</tr>
<tr>
<td>Wealth tax</td>
<td>The net wealth of an individual (such as the property tax)</td>
</tr>
</tbody>
</table>

### MORE ON TAXES

#### TAX SYSTEMS

**Progressive**
As income rises, the percentage of income paid as taxes rises (Ex: U.S. personal income tax)

**Proportional/Flat**
As income rises, the percentage of income paid as taxes remains constant (no current examples in the U.S.)

**Regressive**
As income rises, the percentage of income paid as taxes decreases (Ex: sales tax)

#### TAX REVENUE

<table>
<thead>
<tr>
<th>Government</th>
<th>Main source of revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal</td>
<td>Personal income tax</td>
</tr>
<tr>
<td>State and local</td>
<td>Property and sales taxes</td>
</tr>
</tbody>
</table>

### THE LAFFER CURVE

Once the tax rate passes a certain percentage (estimated at 15%), any further increase in the tax rate will decrease total tax revenue. As individuals keep less of their income, their incentive to work decreases.

### TAX TEST

**QUESTIONS**
1. Corporate profits are taxed through the _______.
2. The property tax is a type of _________.
3. What is the main source of revenue for the federal government?
4. The sin tax is a specific type of what kind of tax?

**ANSWERS**
1. corporate income tax and personal income tax
2. wealth tax
3. Personal income tax
4. Excise tax

---

**Did You Know?**

Economists describe corporate profits as being subject to “double taxation” because they are taxed on two separate occasions:
1. By the corporate income tax
2. By the personal income tax as income from dividends
MACROECONOMICS
The Role of Government: Promoting Competition, Income Security, and Redistribution

CONTROLLING CORPORATIONS

GOVERNMENT INTERVENTION
The government acts to promote competition and equality in the economy through anti-trust legislation and income redistribution.

PROMOTING COMPETITION

<table>
<thead>
<tr>
<th>Year(s)</th>
<th>Law/Organization</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1789</td>
<td>Commerce Clause (U.S. Constitution)</td>
<td>Allows Congress to regulate interstate and international commerce</td>
</tr>
<tr>
<td>1887-1995</td>
<td>Interstate Commerce Commission (ICC)</td>
<td>First regulatory agency in U.S. history</td>
</tr>
<tr>
<td>1890</td>
<td>Sherman Anti-Trust Act</td>
<td>First U.S. piece of antitrust legislation; outlawed collusive agreements that restricted competition</td>
</tr>
<tr>
<td>1914</td>
<td>Clayton Anti-Trust Act</td>
<td>Outlawed mergers that resulted in monopolies</td>
</tr>
<tr>
<td>1914-present</td>
<td>Federal Trade Commission (FTC)</td>
<td>Controls competition policy</td>
</tr>
<tr>
<td>1938</td>
<td>Wheeler-Lea Act</td>
<td>Allowed the FTC to investigate unfair and deceptive business practices, such as false advertising</td>
</tr>
</tbody>
</table>

INCOME REDISTRIBUTION (CONT’D)

MEDICARE AND MEDICAID
- **What?** Medicare established a health insurance program for the elderly; Medicaid established a health insurance program for those with low income
- **When?** Both established by the 1965 Social Security Act, which amended the original Social Security Act
- **How?** Funded by an expanded FICA tax

WELFARE
- **What?** Aid to Dependent Children was the first federal welfare program in the U.S.
- **When?** Established by the 1935 Social Security Act
- **What else?** Its name was later changed to Aid to Families with Dependent Children (AFDC)
- **And then?** The 1996 Welfare Reform Act replaced it with Temporary Assistance to Needy Families (TANF)

LORENZ CURVE

The Lorenz Curve is the graphical representation of the Gini coefficient and is used to show the income distribution of a country. A Gini coefficient of one means that one individual has 100% of the income (perfect inequality), while a Gini coefficient of zero indicates perfectly equal income distribution (perfect equality).

Rapid-Fire Review

**Questions**
1. What was the first antitrust law passed in U.S. history?
2. Medicare provides assistance to the (elderly/needy).

**Answers**
1. Sherman Antitrust Act
2. elderly
MACROECONOMICS
Fiscal Policy and the Government Budget

INTRODUCING FISCAL POLICY

WHAT IS FISCAL POLICY?
The use of government expenditures and taxation to influence aggregate demand

The Employment Act of 1946 set economic stability as an official goal of the federal government. Fiscal policy can correct inflation or recession but not both (stagflation).

CONTRACTIONARY VS. EXPANSIONARY

<table>
<thead>
<tr>
<th>Goal</th>
<th>Contractionary</th>
<th>Expansionary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decrease aggregate demand</td>
<td>Increase aggregate demand</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Methods</th>
<th>Contractionary</th>
<th>Expansionary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase taxes</td>
<td>Decrease taxes</td>
<td>Decrease taxes</td>
</tr>
<tr>
<td>Decrease government spending</td>
<td>Increase government spending</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Budget?</th>
<th>Contractionary</th>
<th>Expansionary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surplus</td>
<td>Deficit</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>When?</th>
<th>Contractionary</th>
<th>Expansionary</th>
</tr>
</thead>
<tbody>
<tr>
<td>During an economic expansion</td>
<td>During an economic downturn</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Why?</th>
<th>Contractionary</th>
<th>Expansionary</th>
</tr>
</thead>
<tbody>
<tr>
<td>To curb inflation</td>
<td>To curb unemployment</td>
<td></td>
</tr>
</tbody>
</table>

AUTOMATIC AND DISCRETIONARY POLICY

Automatic policy: changes in spending that do NOT require deliberate action from policymakers
- For example, if an economy experiences a recession, unemployment compensation programs will automatically pay out more money, increasing aggregate demand

Discretionary policy: changes in spending that require deliberate action from policymakers
- For example, the government passes legislation creating new housing projects to combat recession

THE TWO TOOLS OF DISCRETIONARY FISCAL POLICY
1. Changes in government spending
2. Changes in taxation

THE CROWDING OUT EFFECT
Government borrowing for expansionary fiscal policy increases demand for money and interest rates, so part of the increase in government spending is counteracted by a decrease in private investment.

HOW DISCRETIONARY POLICY WORKS

FISCAL POLICY MULTIPLIERS

Marginal propensity to consume (MPC): the proportion of an additional dollar of income that a consumer will spend

Marginal propensity to save (MPS): the proportion of an additional dollar of income that a consumer will save

\[ MPC + MPS = 1 \]

When the federal government increases government spending, this change has a ripple effect throughout the economy. This effect exceeds the amount of the initial change in spending, dictated by the spending multiplier:

\[ Spending\ Multiplier = \frac{1}{1 - MPC} = \frac{1}{MPS} \]

- If MPC is 0.8, an increase in government spending of $10 million increases GDP by $50 million

A similar ripple effect applies to changes in taxes, dictated by the tax multiplier:

\[ Tax\ Multiplier = \frac{-MPC}{MPS} = \frac{-MPC}{1 - MPC} \]

- If MPC is 0.8, a tax cut of $10 million increases GDP by $40 million

Classical vs. Keynesian Economics

Fiscal policy originated with the ideas of John Maynard Keynes. Prior to Keynes, economists believed that supply determined national income. Jean-Baptiste Say developed a theory called Say’s Law, which states that supply creates its own demand. Keynes attacked classical supply-side economics and argued that during times of recession, a government should intervene to stimulate demand.

SPENDING

Government spending has steadily increased since WW II and now accounts for roughly 20% of U.S. GDP. Social Security comprises the largest piece of the federal budget.

Debt vs. Deficit

<table>
<thead>
<tr>
<th>Deficit</th>
<th>Shortfall in the annual federal budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debt</td>
<td>The total amount of money owed by the federal government, accumulated over the years</td>
</tr>
</tbody>
</table>

- The current U.S. national debt is $9.5 trillion (Source: U.S. National Debt Clock, Aug. 2008)
MACROECONOMICS
The Federal Reserve and Monetary Policy

THE FED

WHAT IS THE FEDERAL RESERVE?

The central banking system of the United States, responsible for conducting monetary policy.

STRUCTURE OF THE FEDERAL RESERVE SYSTEM

The Federal Reserve (the Fed) was created by the 1913 Federal Reserve Act. It consists of 12 district banks:

1. Atlanta
2. Boston
3. Chicago
4. Cleveland
5. Dallas
6. Kansas City
7. Minneapolis
8. New York
9. Philadelphia
10. Richmond
11. San Francisco
12. St. Louis

THE ROLES OF THE FEDERAL RESERVE

1. Conducting monetary policy
2. Supervising and regulating banks
3. Serving as the lender of last resort to banks
4. Clearing checks

Federal Reserve Board of Governors

- Located in Washington, D.C.
- Seven members appointed by the President, confirmed by the Senate
- Members serve 14-year terms
- Chairman of the Board is the head of the Fed; he is appointed every four years (currently Ben Bernanke)

Federal Open Market Committee (FOMC)

- Conducts open market operations (see below)
- 12 members: the seven governors, the president of the New York District Bank, and the presidents of four other district banks

INTRODUCING MONETARY POLICY

Monetary policy is the process by which the Federal Reserve manages the money supply.

KEY TERMS

Expansionary monetary policy (“easy money”): increases the money supply and aggregate demand

Contractionary monetary policy (“tight money”): decreases the money supply and aggregate demand

Federal funds rate: interest rate charged on overnight loans between banks
  ♦ Not controlled directly by the Fed—influenced through open market operations

Discount rate: interest rate the Fed charges banks for loans
  ♦ Set directly by the Board of Governors

The reserve ratio (RR): the percentage of deposits banks must keep in reserves

THE FRACTIONAL RESERVE BANKING SYSTEM

In a fractional reserve banking system, a bank holds only a fraction of its deposits as reserves (the reserve ratio) and loans out the rest. This effectively increases the amount of money in an economy, dictated by the money multiplier:

\[
\text{Money Multiplier} = \frac{1}{RR}
\]

♦ Example: If the reserve ratio is 0.2 and the Fed purchases $10 million in government securities, the money supply increases by $50 million (money multiplier = 1 ÷ 0.2 = 5)

TOOLS OF MONETARY POLICY

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Open-Market Operations</td>
<td>FOMC</td>
<td>The Fed buys and sells U.S. securities</td>
<td>E: Buy securities</td>
<td>Injects or removes money from the economy</td>
<td>Daily</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C: Sell securities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discount Rate (DR)</td>
<td>Board of Governors</td>
<td>The Fed changes the interest rate for loans from the Fed to member banks</td>
<td>E: ↓DR</td>
<td>Changes the cost of borrowing from the Fed</td>
<td>Rarely</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C: ↑DR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal Funds Rate (FFR)</td>
<td>Board of Governors</td>
<td>The Fed changes bank-to-bank lending rates</td>
<td>E: ↓FFR</td>
<td>Changes the cost of loans between all banks</td>
<td>About once per quarter</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C: ↑FFR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reserve Requirements</td>
<td>Board of Governors</td>
<td>The Fed changes the reserve requirements for banks</td>
<td>E: ↓RR</td>
<td>Changes the amount of reserves banks must maintain</td>
<td>Very rarely</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C: ↑RR</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
INTRODUCING THE INTERNATIONAL

GLOBALIZATION
Global patterns of growth have shown increasing trade and international links, a phenomenon known as globalization. A number of international agencies exist to help promote economic development in less developed countries.

TWO GLOBAL DEVELOPMENT PATTERNS
1. Globalization: increasing trade and international links
2. Increasing income inequality: developed countries account for over 80% of world GDP

CLASSIFYING NATIONS

<table>
<thead>
<tr>
<th>Developed Countries</th>
<th>Per Capita GDP &gt; $10,000</th>
<th>Examples: U.S., Japan, U.K.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developing Countries</td>
<td>$3000 &lt; Per Capita GDP &lt; $10,000</td>
<td>Examples: China, India</td>
</tr>
<tr>
<td>Less Developed Countries (LDCs)</td>
<td>Per Capita GDP &lt; $3000</td>
<td>Examples: Haiti, Zimbabwe</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health</th>
<th>Education</th>
<th>GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed Countries</td>
<td>Long life expectancy, low infant mortality</td>
<td>Heavy investment</td>
</tr>
<tr>
<td>Developing Countries</td>
<td>Rising life expectancy, falling infant mortality rates</td>
<td>Increasing investment</td>
</tr>
<tr>
<td>LDCs</td>
<td>Low life expectancy, high infant mortality rates</td>
<td>Little investment</td>
</tr>
</tbody>
</table>

THE POLITICS OF POVERTY

CAUSES OF POVERTY IN LDCs
1. Explosive population growth
2. Dependence on agriculture makes economy susceptible to natural disasters
3. Political instability: few liberal institutions or property rights
4. Capital flight (“brain drain”): skilled workers leave their home country to search for economic opportunities elsewhere

THE WORLD BANK

When? The 1944 Bretton Woods Conference created the International Bank for Reconstruction and Development (IBRD).

♦ Eventually, the IBRD was connected to a number of agencies to form the World Bank Group:

1. International Development Association (IDA)
2. International Centre for Settlement of Investment Disputes (ICSID)
3. Multilateral Investment Guarantee Agency (MIGA)
4. International Finance Corporation (IFC)

What? The World Bank provides low-cost loans for development where private capital is unavailable. The IBRD directs World Bank loans while the IDA makes direct grants to countries to assist development projects.

THE INTERNATIONAL MONETARY FUND (IMF)

When? The IMF was originally created at the 1944 Bretton Woods Conference.

What? Originally, the IMF oversaw the Bretton Woods System of exchange rates.

♦ After the collapse of the Bretton Woods System, the IMF shifted its focus to providing loans to developing countries to cover commercial debts

Because the IMF requires countries to adopt certain macroeconomic policies as a condition for loans, the IMF is often criticized for being too controlling.
## INTERNATIONAL ECONOMICS

### Exchange Rates and Balance of Payments

<table>
<thead>
<tr>
<th>MONEY GOES INTERNATIONAL</th>
<th>BALANCE OF PAYMENTS (CONT’D)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WHAT IS THE EXCHANGE RATE?</strong></td>
<td><strong>COMPONENTS OF CURRENT ACCOUNT</strong></td>
</tr>
<tr>
<td>The rate at which one currency is traded for another</td>
<td>♦ Balance of trade:</td>
</tr>
<tr>
<td><strong>Appreciation</strong>: A currency increases in value</td>
<td>Merchandise Trade Account <em>(measures trade in goods)</em></td>
</tr>
<tr>
<td><strong>Depreciation</strong>: A currency decreases in value</td>
<td>+ Services Account <em>(measures trade in services)</em></td>
</tr>
<tr>
<td><strong>TYPES OF EXCHANGE RATES</strong></td>
<td><strong>Balance of Trade</strong> <em>(positive: trade surplus; negative: trade deficit)</em></td>
</tr>
<tr>
<td>Floating</td>
<td>♦ Income receipts: income derived from ownership of assets, such as dividends from stock</td>
</tr>
<tr>
<td>Governed only by the forces of supply and demand; can fluctuate wildly</td>
<td>♦ Unilateral transfers: one-way transfer of assets, such as direct foreign aid or worker remittances (money an immigrant laborer sends to his home country)</td>
</tr>
<tr>
<td>Fixed/Pegged</td>
<td><strong>COMPONENTS OF CAPITAL ACCOUNT</strong></td>
</tr>
<tr>
<td>Exchanged rates are fixed to a certain value, such as gold or the value of another currency</td>
<td>1. U.S.-owned assets abroad: gold, foreign currency, foreign securities, U.S. credits, etc.</td>
</tr>
<tr>
<td>The government intervenes to keep the exchange rate from fluctuating too wildly</td>
<td>As of 1999, the capital account is called the financial account.</td>
</tr>
</tbody>
</table>

### THE BRETTON WOODS SYSTEM (1944)

- Pegged the U.S. dollar to gold (gold standard), and pegged other currencies to the dollar
- Collapsed in 1971 after the U.S. dropped the gold standard under President Nixon

Almost all major economies now use a managed exchange rate.

### THE IMPACT OF EXCHANGE RATES ON TRADE

**Appreciation** → ↓ Net exports *(Why? That country’s exports become more expensive to foreigners, while imports become cheaper.)*

**Depreciation** → ↑ Net exports *(Why? That country’s exports becomes cheaper to foreigners while imports become more expensive.)*

### INTRODUCING BALANCE OF PAYMENTS

The balance of payments is the net total of all money and assets going in and out of a nation.

- **Current Account** *(Measures trade in goods and services)*
- **Capital Account** *(Measures trade in assets)*

**Balance of Payments** *(Should equal zero)*

The balance of payments should equal zero because the credits and debts from the current and capital accounts should cancel each other out, but statistical discrepancies prevent this from happening.

### EXCHANGE RATES AND GLOBAL DEVELOPMENT QUIZ

#### QUESTIONS

1. What is the primary economic sector in developed countries?
2. Which international institution provides low-cost loans for development?
3. Which international institution provides loans to developing countries to cover commercial debts?
4. How does the appreciation of a currency affect that nation’s net exports?
5. The sale of a government security to a foreign resident is recorded in ___________.

#### ANSWERS

1. Services
2. World Bank
3. International Monetary Fund
5. Capital account
INTERNATIONAL ECONOMICS
International Trade

TRADE AS A TOPIC OF DEBATE AND PROGRESS

TRENDS IN TRADE
International and regional organizations have brought about the gradual reduction of trade barriers, but supporters of free trade and protectionists still engage in vigorous debate.

INTERNATIONAL AND REGIONAL ORGANIZATIONS
1947 – General Agreement on Tariffs and Trade (GATT): established codes of conduct for trade relations with the primary goal of eliminating trade barriers, but was NOT a formal institutional body
1995 – World Trade Organization (WTO): founded to institutionalize GATT and arbitrate trade disputes
1993 – Maastricht Treaty (1993): formally established the European Union (EU) and the European Monetary Union (EMU)
  ♦ EMU: common market with the euro as a common currency; includes all members of the EU except the U.K., Denmark, and Sweden

FREE TRADE VS. PROTECTIONISM
Free Trade
No non-natural barriers to trade; favored by economists
 protectionism
Shield domestic jobs and industries at the expense of foreign trade

TRADE TODAY IN THE U.S. OF A.

QUICK STATS
The United States is...
♦ The world’s second largest exporter, after Germany
♦ The world’s largest importer

U.S.’s largest trading partner: Canada
The U.S. currently runs a trade deficit, the largest contributor to which is China.

TRADE TEST

QUESTIONS
1. A tax placed on imported goods is called a _____.
2. Which international institution negotiates new trade agreements and resolves trade disputes?
3. How do economists describe the absence of non-natural barriers to trade?

ANSWERS
1. tariff
2. World Trade Organization
3. Free trade

COMPREHENSIVE REVIEW

QUESTIONS
1. If the price of pencils increases, what happens to the demand for pencils?
2. In terms of marginal analysis, what is the “golden rule” of economics?
3. Alpacracy is experiencing inflation. If DemiDec Dan decides to fight inflation through fiscal policy, should he increase taxes or increase the reserve ratio?
4. Dan’s efforts have decreased the price level, but output has stayed constant. The economy Alpacracy must be operating in which region of the SRAS curve?

ANSWERS
1. Nothing. Quantity demand decreases, but demand stays the same.
2. Do something until marginal benefit = marginal cost.
3. Changing the reserve ratio is a tool of monetary policy, so DemiDec Dan should raise taxes.
4. The Classical region

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dumping</td>
<td>Dramatically slashing prices in a foreign market to drive domestic competition out of business and raising prices later; outlawed by the WTO</td>
</tr>
<tr>
<td>Non-tariff barrier to trade (NTBT)</td>
<td>Health, safety, and other product standards; often legitimate, but especially strict standards can restrain trade</td>
</tr>
<tr>
<td>Quota</td>
<td>Restricts the quantity of a good which can be imported</td>
</tr>
<tr>
<td>Tariff</td>
<td>Tax levied on imported goods; raises the price of imports relative to domestically produced goods</td>
</tr>
</tbody>
</table>
CRUNCH KIT
Economics Fundamentals in Two Pages (Page 1)

SCARCITY
- Wants are unlimited; goods are limited (scarce)
- The fundamental problem of economics: allocating scarce resources to satisfy unlimited wants
- The opportunity cost of an economic decision is the value of the next-best alternative to a given course of action

FACTORS OF PRODUCTION
- Land: natural resources, paid by rent
- Labor: human effort, paid by wages
- Capital: finished goods used to produce other goods, paid by interest
- Entrepreneurship: the organization of other factors to produce goods and services, paid by profit
- Money is NOT a factor of production

PRODUCTIONS POSSIBILITIES FRONTIER (PPF)
- Graphs different quantities of two goods that an economic agent can produce with fixed resources
- Producing at a point inside the PPF indicates inefficiency
- Producing at any point on the PPF indicates 100% productive efficiency
- Producing at a point outside the PPF is impossible
- A nation is able to obtain a combination of goods outside its PPF through specialization and trade (not production alone)

MARGINAL ANALYSIS
- Marginal cost: the cost incurred by producing or consuming ONE MORE UNIT of a good
- Marginal benefit: the benefit derived from producing or consuming ONE MORE UNIT of a good
- An individual will continue to produce or consume a good until marginal benefit = marginal cost
- Sunk cost: an irrecoverable cost that plays no role in rational decision-making
- Utility: satisfaction

POSITIVE VS. NORMATIVE
- Positive economics is concerned with “what is”
- Normative economics is concerned with “what should be”

ECONOMIC SYSTEMS
- Traditional: traditions answer the basic economic questions
- Market: individual actors answer the basic questions
- Command/Planned: the state answers the basic questions
- Mixed: both the state and individual actors answer the basic questions; most modern economies are mixed systems

THEORY OF COMPARATIVE ADVANTAGE
- Absolute advantage: an economic agent can produce more of a good with fewer or the same amount of inputs as other economic agents
- Comparative advantage: an economic agent can produce a good at a lower opportunity cost than other economic agents
- The theory of comparative advantage was formulated by David Ricardo
- An economic agent should specialize in the good in which it has a comparative advantage and trade for other goods

MICROECONOMICS VS. MACROECONOMICS
- Micro: focuses on individual actors (firms, consumers, etc.); includes production costs, supply, and demand
- Macro: focus on the economy as a whole; includes inflation, unemployment, GDP, and aggregate supply and demand

SUPPLY
- The quantity of a good or service that producers are willing and able to produce at any given price
- Law of supply: price and quantity supplied are directly (positively) related
- Quantity supplied: the amount of a good supplied at a specific price; it is NOT the same thing as supply
- Supply is influenced by factor costs, technology, number of producers, and producer expectations, but NOT price

DEMAND
- The quantity of a good or service that consumers are willing and able to buy at any given price
- Law of demand: price and quantity demanded are inversely (indirectly) related
- Quantity demanded: the amount of a good demanded at a specific price; it is NOT the same thing as demand
- Demand is influenced by income, substitutes and complements, number of consumers, preferences, and consumer expectations, but NOT price

MARKET EQUILIBRIUM
- Market equilibrium occurs where the supply and demand curves intersect
- Shifts in supply – a rightward shift (increase) in supply decreases price and increases quantity; a leftward shift in supply increases price and decreases quantity
- Shift in demand – a rightward shift in demand increases price and increases quantity; a leftward shift in demand decreases price and decreases quantity
- Shift in both supply and demand – a shift in both curves will produce an ambiguous change in either equilibrium price or quantity, but not both
MACROECONOMICS BASICS

- Circular flow: firms purchase the factors of production from households in the factor market, and households purchase goods from firms in the product market
- Business cycle: the fluctuations of the economy through periods of growth and decline
- Aggregate demand (AD): the quantity of goods and services demanded by households, firms, and the government at every price level
- Like market demand, AD is downward sloping
- Aggregate supply (AS): the potential supply of all goods and services in an economy at any given price level
- Short-run aggregate supply (SRAS) is upward sloping
- Long run aggregate supply (LRAS) is dependent on productive constraints but independent of the price level; consequently, it is vertical
- An increase in aggregate demand increases price level and output in the short run, but it increases only price level in the long run

GROSS DOMESTIC PRODUCT (GDP)

- The total value of final goods and services produced in an economy in a single year; includes four components:
  1. Consumption: consumer spending on final goods
  2. Investment: spending on capital equipment, real estate
  3. Government purchases
  4. Net exports: exports minus imports

EMPLOYMENT

- The labor force includes all non-incarcerated members of the population age 16 and over who are actively looking for work
- Discouraged workers: workers without a job who have given up looking for work; also called “marginally attached”
- Labor force participation rate: percentage of the adult population (age 16 and over) in the labor force

UNEMPLOYMENT

- Unemployment rate: number of unemployed workers looking for work divided by the labor force
- Frictional unemployment: results from the time-lag between jobs
- Structural unemployment: results from a mismatch between needs of the employer and skills of the labor force
- Seasonal unemployment: results when certain jobs are only relevant during certain seasons
- Cyclical unemployment: results from fluctuations in the business cycle; NOT compatible with full employment
- Natural rate of unemployment: the unemployment rate that exists at full employment (~4%)

MONEY

- Features of money: portable, acceptable, divisible, scarce, and durable
- Functions of money: medium of exchange, unit of account, and store of value
- Inflation: a rise in the price level that decreases the purchasing power of money; measured by the Consumer Price Index (CPI)
- Stagflation = stagnation + inflation (simultaneous inflation and recession); high inflation, high unemployment

FISCAL AND MONETARY POLICY

- Fiscal policy is conducted by the government and seeks to influence aggregate demand
- Contractionary fiscal policy: increasing taxes, decreasing government spending
- Expansionary fiscal policy: decreasing taxes, increasing government spending
- Monetary policy is conducted by the Fed and seeks to influence aggregate demand through the money supply
- Primary tools: open market operations, discount rate (DR), federal funds rate (FFR), reserve ratio (RR)
- Contractionary monetary policy (tight money): selling securities, increasing RR, increasing DR, decreasing FF
- Expansionary monetary policy (easy money): buying securities, decreasing RR, decreasing DR, decreasing FFR

INTERNATIONAL ECONOMICS

- Free trade: removal of tariffs, quotas, and other barriers
- Balance of trade: difference between exports and imports
- Exchange rate: the value of one currency in terms of another; can be fixed, floating, or managed

TEST-TAKING TIPS

FUNDAMENTALS
- These questions test the same concepts over and over: scarcity, bartering, comparative/absolute advantage

MICROECONOMICS
- Understand the core concepts and distinctions: supply, demand, production decisions, and market types

MACROECONOMICS
- These questions generally exceed micro questions in terms of both difficulty and number
- Know GDP, monetary/fiscal policy, unemployment, and inflation

INTERNATIONAL TRADE
- These questions are usually the least predictable; know exchange rates and the U.S.’s role in international markets
### 8 Fiscal and Monetary Policy Terms to Know

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatic policy</td>
<td>Changes in spending that do NOT require direct action from policy-makers; includes welfare, unemployment benefits, and Medicaid</td>
</tr>
<tr>
<td>Contractionary policy</td>
<td>Efforts to fight inflation and curb aggregate demand; also known as tight money (for monetary policy)</td>
</tr>
<tr>
<td>Discount rate</td>
<td>Interest rate that the Fed charges banks for loans</td>
</tr>
<tr>
<td>Discretionary policy</td>
<td>Changes in spending that require direct action from policy-making; includes changes in taxation and items of government spending</td>
</tr>
<tr>
<td>Expansionary policy</td>
<td>Efforts to fight recession and stimulate aggregate demand; also known as easy money (for monetary policy)</td>
</tr>
<tr>
<td>Federal funds rate</td>
<td>Rate of interest charged on overnight loans between banks</td>
</tr>
<tr>
<td>Open market operations</td>
<td>Buying and selling of government securities to influence the money supply</td>
</tr>
<tr>
<td>Reserve ratio</td>
<td>Percent of reserves which banks must keep on hand</td>
</tr>
</tbody>
</table>

### 8 Equations to Know

<table>
<thead>
<tr>
<th>Term</th>
<th>Equation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balanced budget multiplier</td>
<td>$1 \ (a$ $50$ million tax increase along with a $50 million increase in government spending leads to a $50 million increase in GDP)</td>
</tr>
<tr>
<td>Elasticity of demand</td>
<td>$E = \frac{% \text{ change in } QD}{% \text{ change in } P} = \frac{(QD_f - QD_0)}{(P_f - P_0)}$</td>
</tr>
<tr>
<td>Elasticity of supply</td>
<td>$E = \frac{% \text{ change in } QS}{% \text{ change in } P} = \frac{(QS_f - QS_0)}{(P_f - P_0)}$</td>
</tr>
<tr>
<td>Government spending multiplier</td>
<td>$\frac{I}{1 - MPC} = \frac{I}{MPS}$</td>
</tr>
<tr>
<td>Marginal propensities</td>
<td>$MPC + MPS = I$</td>
</tr>
<tr>
<td>Money multiplier</td>
<td>$\frac{1}{RR}$</td>
</tr>
<tr>
<td>Tax multiplier</td>
<td>$\frac{-MPC}{MPS} = \frac{-MPC}{1-MPC}$</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>$\frac{# \text{ of Unemployed Workers}}{\text{Labor Force}}$</td>
</tr>
</tbody>
</table>

### 6 Government Programs to Know

<table>
<thead>
<tr>
<th>Program</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aid to Families with Dependent Children (AFDC)</td>
<td>First federal welfare program in the U.S.</td>
</tr>
<tr>
<td>Federal Insurance Contributions Act (FICA)</td>
<td>Levied a payroll tax on all citizens’ paychecks to fund Social Security and, later, Medicare</td>
</tr>
<tr>
<td>Federal Unemployment Tax Act (FUTA)</td>
<td>Levied a tax on employers to fund the state unemployment compensation systems</td>
</tr>
<tr>
<td>Medicaid</td>
<td>Provides health insurance for the poor</td>
</tr>
<tr>
<td>Medicare</td>
<td>Provides health insurance for the elderly</td>
</tr>
<tr>
<td>Social Security</td>
<td>Social insurance program that provides payments to the elderly and disabled</td>
</tr>
<tr>
<td>Temporary Assistance to Needy Families (TANF)</td>
<td>Replaced AFDC as the primary U.S. welfare program after the 1996 Welfare Reform Act</td>
</tr>
</tbody>
</table>

### 6 Economists to Know

<table>
<thead>
<tr>
<th>Economist</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gresham, Thomas</td>
<td>Gresham’s Law says that people hoard good money and spend bad money</td>
</tr>
<tr>
<td>Keynes, John Maynard</td>
<td>Did not believe that a free market economy could maintain full employment and growth on its own; advocated government intervention to stimulate demand during recession</td>
</tr>
<tr>
<td>Marx, Karl</td>
<td>Attacked the exploitative nature of free market capitalism; associated with command economies</td>
</tr>
<tr>
<td>Ricardo, David</td>
<td>Introduced the theory of comparative advantage and supported free trade</td>
</tr>
<tr>
<td>Say, Jean-Baptiste</td>
<td>Say’s Law holds that “supply creates its own demand”; prosperity can be attained by stimulating production</td>
</tr>
<tr>
<td>Smith, Adam</td>
<td>His Wealth of Nations described the “invisible hand of the market”; proponent of free market capitalism</td>
</tr>
</tbody>
</table>
### 7 WORLD INSTITUTIONS AND AGREEMENTS TO KNOW

<table>
<thead>
<tr>
<th>Institution/Agreement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>European Union (EU)</td>
<td>Created by the Maastricht Treaty in 1993; created a European common market and a common currency (the euro)</td>
</tr>
<tr>
<td>General Agreement on Tariffs and Trade (GATT)</td>
<td>Established codes of conduct for trade relations in 1947 with the primary goal of eliminating trade barriers; later institutionalized with the WTO</td>
</tr>
<tr>
<td>International Monetary Fund (IMF)</td>
<td>Originally charged with overseeing the Bretton Woods System of exchange rates; now provides loans to developing countries to cover commercial debts</td>
</tr>
<tr>
<td>North American Free Trade Agreement (NAFTA)</td>
<td>Created a free trade zone in 1994 linking Canada, the United States, and Mexico</td>
</tr>
<tr>
<td>World Bank Group</td>
<td>Includes the IDA, IFC, MIGA, and ICSID</td>
</tr>
<tr>
<td>World Trade Organization (WTO)</td>
<td>Created a free trade zone in 1994 linking Canada, the United States, and Mexico</td>
</tr>
<tr>
<td>World Bank</td>
<td>Provides low-cost loans for development where private capital is unavailable; includes the IBRD and the IDA</td>
</tr>
<tr>
<td>World Trade Organization (WTO)</td>
<td>Includes the IDA, IFC, MIGA, and ICSID</td>
</tr>
<tr>
<td></td>
<td>Established in 1995 during the Uruguay Round of GATT negotiations to institutionalize GATT and arbitrate trade disputes</td>
</tr>
<tr>
<td></td>
<td>Creates a free trade agreement among countries that adhere to its terms; also known as the GATT (General Agreement on Tariffs and Trade)</td>
</tr>
</tbody>
</table>

### 6 LAWS TO KNOW (CHRONOLOGICAL)

<table>
<thead>
<tr>
<th>Law</th>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sherman Antitrust Act</td>
<td>1890</td>
<td>First government action to limit monopolies, outlawing collusive agreements that restricted competition</td>
</tr>
<tr>
<td>Federal Reserve Act</td>
<td>1913</td>
<td>Established the Federal Reserve System</td>
</tr>
<tr>
<td>Clayton Antitrust Act</td>
<td>1914</td>
<td>Outlawed mergers that would result in monopolies</td>
</tr>
<tr>
<td>National Labor Relations Act</td>
<td>1935</td>
<td>Legally recognized labor unions and their right to bargain collectively; also known as the Wagner Act</td>
</tr>
<tr>
<td>Social Security Act</td>
<td>1935</td>
<td>Established a social insurance program to provide funds for the elderly and disabled (Social Security)</td>
</tr>
<tr>
<td>Employment Act</td>
<td>1946</td>
<td>Set economic stability as an official goal of the federal government</td>
</tr>
</tbody>
</table>

### 5 GOVERNMENT INSTITUTIONS TO KNOW

<table>
<thead>
<tr>
<th>Institution</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bureau of Labor Statistics (BLS)</td>
<td>Calculates the Consumer Price Index and the unemployment rate</td>
</tr>
<tr>
<td>Federal Deposit Insurance Corporation (FDIC)</td>
<td>Insures deposits in member banks up to $100,000</td>
</tr>
<tr>
<td>Federal Trade Commission (FTC)</td>
<td>The current agency that regulates business practices</td>
</tr>
<tr>
<td>Interstate Commerce Commission (ICC)</td>
<td>First regulatory agency in the U.S., operating from 1887 to 1995</td>
</tr>
<tr>
<td>Securities and Exchange Commission (SEC)</td>
<td>Regulates trade in stocks and bonds</td>
</tr>
</tbody>
</table>

### 4 FEDERAL RESERVE INSTITUTIONS TO KNOW

<table>
<thead>
<tr>
<th>Institution</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chairman of the Board of Governors</td>
<td>The effective head of the Federal Reserve; appointed every four years; the current chairman is Ben Bernanke</td>
</tr>
<tr>
<td>Federal Open Market Committee (FOMC)</td>
<td>Committee of 12 people who buy and sell government securities: the Board of Governors, the president of the New York District Bank, and the presidents of four other district banks</td>
</tr>
<tr>
<td>Federal Reserve Board of Governors</td>
<td>Seven people appointed by the President to 14-year terms; sets discount rate and reserve ratio</td>
</tr>
<tr>
<td>Federal Reserve District Banks</td>
<td>Make up the Federal Reserve System; located in Boston, New York, Philadelphia, Cleveland, Richmond, Atlanta, Chicago, St. Louis, Minneapolis, Kansas City, Dallas, and San Francisco</td>
</tr>
</tbody>
</table>
ABOUT THE AUTHOR

DEAN SCHAFFER

This brief biography marks one of the few instances this summer in which Dean Schaffer has written in prose (not bullets), and he’s honestly not sure what to do about it. When Dean isn’t working for DemiDec, attending class at Stanford University, or playing guitar in a futile attempt to achieve everlasting fame and glory, he’s probably sleeping and dreaming about doing (at least) one of the three. This fall, Dean will head for a quarter abroad at Oxford University in England, a long way away from his hometown and alma mater, Taft High School.

Because prose occupies so much less vertical space than bullets, Dean has run out of interesting things to say much sooner than he expected. Nonetheless, Dean would like to tell you that the perils of Academic Decathlon are worth every sleepless, soul-slaying second, especially since it makes you much better at coining goofy alliterations without even realizing it. If you’ve already read the Power Guide (and bulleted!) version of his About the Editor, you’ll know that you can email him at dean@demidec.com if it suits your fancy.

FINAL TIPS AND ABOUT THE CONTRIBUTOR

<table>
<thead>
<tr>
<th>FINAL TIPS</th>
<th>ABOUT THE CONTRIBUTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>♦ Remember the distinction between supply and quantity supplied, and demand and quantity demanded</td>
<td>An Qi was born at least 100 years ago in the vast wasteland known as Red China. After spending his childhood stomping on little animals and consuming copious amounts of mushrooms, he found religion when he joined the Academic Decathlon team. The cult quickly promoted him to the rank of major general and charged him with defending the food bin from roving bands of raccoons, among other important duties. After leaving the cult, he led his classmates in a valiant but ultimately futile struggle to save his beloved Centennial High School from the forces of International Communism. He currently spends his time chasing smart libertarian women, LOLlerblading, and vandalizing Wikipedia.</td>
</tr>
<tr>
<td>♦ The most important pages in this Cram Kit are the three covering supply and demand; make sure you understand ALL the concepts covered in those pages, as they will help you in macro and international econ</td>
<td></td>
</tr>
<tr>
<td>♦ Macroeconomics generally receives more attention on competition exams than any other section, so be sure to master its core ideas</td>
<td></td>
</tr>
<tr>
<td>♦ Understanding the main concepts of each area will help you more than simply memorizing terms</td>
<td></td>
</tr>
<tr>
<td>♦ To help you master these concepts, try teaching them to your teammates, friends, or parents</td>
<td></td>
</tr>
<tr>
<td>♦ Get plenty of rest the night before competition—sleeping an extra hour will help you more than cramming an extra hour</td>
<td></td>
</tr>
</tbody>
</table>