**Chapter 1 – The Role and Method of Economics**

**Use the Section Summaries to preview the chapter's content.**

Section Summaries

The following section summaries appear on the Student Review Cards.

**1-1 Economics: A Brief Introduction**

Economics is the study of the choices we make among our many wants and desires given our limited resources. Scarcity forces us to choose, and choices are costly because we must give up other opportunities that we value—this is the economic problem. Our scarce resources can be grouped into four categories: labor, land, capital, and entrepreneurship. Entrepreneurship is the process of combining labor, land, and capital to produce goods and services. Goods are tangible items that we value or desire, and services are intangible acts for which people are willing to pay. Everyone faces scarcity, and it cannot be eliminated.

**1-2 Economic Behavior**

Economists assume that individuals act as if they are motivated by self-interest and respond in predictable ways to changing circumstances. Self-interest to an economist is not a narrow monetary self-interest. A person acting in self-interest might pursue personal gain, but that does not necessarily exclude helping others. Rational behavior merely means that people do the best they can, based on their values and information, under current and anticipated future circumstances. Because most people seek opportunities that make them better off, we can predict what will happen when incentives are changed.

**1-3 Markets**

A market is the process of buyers and sellers exchanging goods and services. In most countries, resources are allocated through a market economy. Efficiency is achieved when the economy gets the most out of its scarce resources. Voluntary exchange and the price system guide people’s choices and help determine what goods are produced and how they are produced. Market failure occurs when the economy fails to allocate resources efficiently on its own. We use a circular flow model to illustrate the flow of goods and services. Households and firms interact with each other in product markets (where households buy and firms sell) and factor markets (where households sell and firms buy).

**1-4 Economic Theories and Models**

A theory or a model, is an established explanation that accounts for known facts or phenomena. Specifically, economic theories and models are statements or propositions about patterns of human behavior that occur expectedly under certain circumstances. Economic theories and models use abstraction to weed out relevant from irrelevant information. A theory begins with a hypothesis, which is tested through empirical analysis. If the data collected supports the hypothesis, it can be tentatively accepted as an economic theory.

Conventionally, we distinguish two main branches of economics: microeconomics, which deals with smaller units in the economy and macroeconomics, which deals with the aggregate or total economy.

**1-5 Pitfalls to Avoid in Scientific Thinking**

The two major pitfalls to avoid are confusing correlation with causation and the fallacy of composition. The fact that two events usually occur together (correlation) does not necessarily mean that the one caused the other to occur (causation). The fallacy of composition tells us that if a thing is true for an individual, it is not necessarily true on a group level.

**1-6 Positive and Normative Economics**

Positive analysis deals with factual statements trying to explain the world. Normative analysis deals with value judgments trying to improve the world. An important distinction is that positive statements can be tested but normative statements cannot.

**1-7 Why Study Economics?**

Perhaps the best reason for studying economics is that so many of the things of concern in the world around us are at least partly economic in character. The study of economics provides a systematic, disciplined way of thinking.

**A-1 APPENDIX: Working with Graphs**

Sometimes the use of visual aids, such as graphs, greatly enhances our understanding of a theory. This textbook will use graphs throughout to enhance the understanding of important economic relationships. This appendix provides a guide on how to read and create your own graphs.

**Use the Teaching Tips to plan what key concepts you wish to emphasize.**

Teaching Tips

You can also find selected teaching tips located on your Chapter 1 Instructor Prep Card.

* It is crucial to clearly discuss the basic paradigm that underlies all that we do in economics. Show what we mean by scarcity; how scarcity implies the necessity of making choices; and how choices imply the bearing of opportunity costs.
* A useful way to integrate student understanding of how value is created and the crucial role of entrepreneurship in the process is to show students that all forms of creating value involve one or more of the following: Resources are being moved from less to more valuable forms (what we typically think of as production does not create matter; it simply rearranges it); from less to more valuable locations (the value created in transportation); from less to more valuable time periods (the value created in speculation); or from lower valuing to higher valuing uses and/or users (the value created in exchange). In each case, there is a large aspect of entrepreneurship in trying to discover higher valued forms, locations, and times and higher valuing users than others have discovered. Further, this reinforces the fact that the incentives facing entrepreneurs are crucial to the value creating process.
* A good way to illustrate entrepreneurship to students is to discuss in class how each of them is an entrepreneur when it comes to discovering the best way to “produce” higher grades in the course. Different people learn better in different ways, handle pressure differently, have different attitudes toward the risk of getting a lower grade if they do less well than expected, different time constraints, etc. Further, not all courses are the same, and what works well in one course (e.g., memorization of terms) may not work well in another (e.g., one requiring application). Should you always go to class? Is it more effective to read before class, after class, or not at all? Should you use a study guide? Should you study in groups? All these questions are entrepreneurial in nature.
* A good way to get students thinking about scarcity is to ask them what is scarce when one decides to go on a diet. We usually think of food as being scarce, yet in this case, it is healthier food (with fewer calories rather than more) and self-restraint in eating that are scarce.
* A useful illustration of self-interest is to ask what kind of nails a steelmaker would likely make if it were rewarded on the basis of the weight of nails produced (railroad spikes, because it is less costly to produce a given weight of nails that way) and contrast that result to what it would likely make if it were rewarded on the basis of the number of nails made (pins, because it is less costly to produce a given number of pins than larger nails). Those results can then be compared to what would happen if the steelmaker were rewarded by being allowed to keep any profits. (It would make those products it thought people valued at more than the cost of production, which depends on what people value in their current circumstances.)
* Students sometimes struggle with the self-interest assumption in economics because they often consider themselves to be acting altruistically. Point out to students that the belief that they are more altruistic than they really are is consistent with self-interest (we want to think well of ourselves), and then ask them whether they think self-interest or altruism is a more reliable way to get others to coordinate behavior in a society.
* It is worth emphasizing that economic principles allow economists to know better what not to do than what to do. We can identify choices that would do poorly in achieving intended goals, but we don’t know what course of action will be the best possible in a complex world of uncertainty.
* You can illustrate the role of incentives by discussing with your class whether you should reward marginal exam improvement by giving higher grades to the students who improve the most from their first exam results to the final. There are conflicting incentives facing students here. There are great incentives to improve (you don’t stop studying because you think you will get a C no matter what you do on the final), but such a grading system would also give students incentives to do terribly on the first test so that they could improve more. This would also be a good introduction to the economic way of thinking at the margin, where people make decisions by comparing the expected marginal benefits with the expected marginal costs.
* A good analogy to stress the importance of the price mechanism as a form of communication is to travel to a foreign country where one does not speak the language of the country. Ask if any of the students have ever traveled in a country where they did not speak the language. Ask one of those who have how well they found out what they wanted to know and how well they did at achieving their objectives as a result. For most, the honest answer is “not so well.” For those who insist they did just fine, ask them how often it was because the foreigners knew English, and how often it was because prices were clearly indicated in those countries.
* Because most students have heard that market systems built on private property rights are based on the selfishness of people, it is often interesting to ask students whether market systems are based on people’s selfishness or on protecting people from others’ selfishness. They will tend to answer “selfishness.” Then you can show that property rights, while they do allow you to do “selfish” things with your own property, also prevent others from selfishly using or abusing your property without your consent or without paying sufficient compensation to acquire your consent. Given that each of us is vastly outnumbered by “others,” property rights’ protections against others’ selfishness may well be its most important function.
* The circular flow model is primarily designed to remind students that in the economy as a whole, “everything depends on everything else.” In the simple circular flow model, emphasis is on the interaction of only two types of economic decision-makers (households and firms) through two types of markets (product market and factors market). A more developed circular flow model can trace the many effects of a given change in one market on others, as well as identify some of the changes in other markets that would have an impact on any particular market.
* As an example of the approach used in economic theorizing and modeling, ask students whether an airplane model needs to have wings and seats. Typically some will say both and others will say only wings are necessary. Then ask what difference it makes whether the model is intended to train stewardesses in their jobs or whether to investigate its aerodynamics. They will quickly see that the right sort of model will reflect its intended use; abstracting from those aspects that are unimportant to the question at hand to better focus on the important considerations you want to investigate.
* The text’s emphasis on empirical testing of theories can be reinforced by getting students to see that a major part of economic research is the search to design tests that will discriminate among different hypotheses proposed to explain something. When something is consistent with multiple hypotheses, we don’t have much of an idea of what is going on, so a test that distinguishes among hypotheses in that circumstance can be very valuable.
* I find rain dancing a good illustration of confusing correlation with causation. Since a group of people believe that a deity that brings them rain needs its anger appeased by rain dancing at the beginning of the normal rainy season, they dance long enough till it rains. It will not rain because they danced, but because the rainy season started. But once a belief in the necessity of rain dancing has begun, it can be very hard to change, because every time they dance (if they dance long enough), it rains.
* Weather can also be used to illustrate problems of establishing causation. Since heaters come on in the winter and air conditioners in the summer, one could conclude that heaters cause the house to be colder and air conditioners cause it to be hotter.
* Similarly, chill drafts can be blamed for catching a cold in the winter (because looking back, it’s easy to remember being exposed to some recent draft in the winter) even though the more scientific reason is that you are inside more, closely exposed to more of other people’s “bugs,” in the winter than in the summer.
* In addition to the illustrations of the fallacy of composition from the text, you could add leaving early to beat the traffic (similar to arriving early to beat the crowd) and cutting your price to take sales from rivals (which doesn’t work if all rivals lower their prices).
* Offering several examples of normative statements will help differentiate them from positive statements. Then you can underline the need to distinguish between positive and normative analysis because many controversies in economics revolve around policy considerations that contain both.
* The text emphasizes economics as a disciplined way of thinking, not as a source of clear-cut answers for every circumstance. It is worth emphasizing why the economic way of thinking points toward “it depends” as the first part of the answer to general questions (because the expected marginal benefits and expected marginal costs of choices depend on so many factors).
* It's worth mentioning that there are plenty of issues that most economists agree on. Your students might enjoy a short discussion of the effects of rent ceilings or the effects of tariffs and imports quotas.

**If you wish to use the PowerPoint slides, use the Chapter Outline to plan your lecture.**

Chapter Outline

|  |  |
| --- | --- |
| **PowerPoint Slide 4** | **1-1 Economics: A Brief Introduction** |
| **PowerPoint Slides 4–5**  Economics—A Word With Many Different Meanings  **PowerPoint Slide 6**  Scarcity And Unlimited Human Wants  **PowerPoint Slides 7–9**  Scarcity And Limited Resources  **PowerPoint Slides 10–11**  What Are Goods And Services?  **PowerPoint Slide 12**  Does Everyone Face Scarcity?  **PowerPoint Slide 12**  Will Scarcity Ever Be Eradicated? | The study of economics is concerned with the choices we make when confronted with resource scarcity.  A. Economics—A Word With Many Different Meanings  **Economics** is the study of the choices we make among our many wants and desires given our limited resources.  **Resources** are inputs—land, human effort and skills, and machines and factories, for instance—used to produce goods and services.  **Scarcity** exists because human wants for goods and services exceed the amount of goods and services that can be produced using all of our available resources.  **The economic problem**: Scarcity forces us to choose, and choices are costly because we must give up other opportunities that we value.  B. Scarcity And Unlimited Human Wants  As long as human wants exceed available resources, scarcity will exist.  C. Scarcity And Limited Resources  Four categories of resources: labor, land, capital, and entrepreneurship  **Labor** is the total of both physical and mental effort used in the production of goods and services  **Land** includes the “gifts of nature,” or the natural resources used in the production of goods and services.  **Capital** is the equipment and structures used to produce goods and services.  **Entrepreneurship** is a special human resource, distinct from labor. It is the process of combining labor, land, and capital to produce goods and services. Entrepreneurship is not just about new technology. It is also about the introduction of new goods, new production methods, new markets, new sources of raw materials, and new organizational structures.  D. What Are Goods And Services?  **Goods** are items we value or desire. They tend to be tangible.  **Tangible goods** are items we value or desire that we can reach out and touch.  **Intangible goods** are goods that we cannot reach out and touch, such as friendship and knowledge.  **Services** are intangible items of value provided to consumers, such as education.  **Economic goods** are scarce goods created from scarce resources—goods that are desirable but limited in supply  Bads are those items that we do not desire or want. People tend to eliminate or minimize bads, so they will often pay to have bads removed.  E. Does Everyone Face Scarcity?  We all face scarcity because we cannot have all the goods and services we desire. However, because we all have different wants and desires, scarcity affects everyone differently.  F. Will Scarcity Ever Be Eradicated?  Scarcity never has and never will be eradicated. The same creativity that develops new methods to produce goods and services in greater quantities also reveals new wants. |
| **PowerPoint Slide 13** | **1-2 Economic Behavior** |
| **PowerPoint Slide 13**  Self-Interest  **PowerPoint Slides 14–15**  Do People Actually Engage In Rational Behavior?  **PowerPoint Slide 16**  People Respond To Changes In Incentives | Economic behavior is usually determined by self-interest and rational behavior, which can help in predicting how people will react to changes in incentives.  A. Self-Interest    Economists assume that individuals act as if they are motivated by self-interest and respond in predictable ways to changing circumstances.  When economists use the term self-interest they are not implying that people only seek to maximize their material consumption. Many acts of selfless behavior may be self-interested.  B. Do People Actually Engage In Rational Behavior?  **Rational behavior** means that people do the best they can, based on their values and information, under current and anticipated future circumstances.  *Rational self-interest* means that individuals try to weigh the expected *benefits* and *costs* of their decisions.  C. People Respond To Changes In Incentives  An incentive induces people to respond to a reward or a punishment. Incentives matter.  A **positive incentive** is an incentive that either reduces costs or increases benefits, resulting in an increase in the activity or behavior.  A **negative incentive** is an incentive that either increases costs or reduces benefits, resulting in a decrease in the activity or behavior. |
| **PowerPoint Slide 17** | **1-3 Markets** |
| **PowerPoint Slide 17**  **PowerPoint Slide 17–18**  How Does the Market Work to Allocate Scarce Resources?  **PowerPoint Slides 19–20**  Market Prices Provide Important Information  **PowerPoint Slide 21**  Countries That Do Not Rely On A Market System  **PowerPoint Slides 22–24**  Market Failure  **PowerPoint Slide 25**  The Circular Flow Model  **PowerPoint Slide 25**  Product Markets  **PowerPoint Slide 25**  Factor Markets  **PowerPoint Slides 26–27**  The Simple Circular Flow Model  **PowerPoint Slide 28**  Exhibit 1.1 | A **market** is the process of buyers and sellers exchanging goods and services. Every market is different. The conditions under which the exchange between buyers and sellers takes place can vary.  A. How Does the Market Work to Allocate Scarce Resources?  Different methods of resource allocation: Survival of the fittest, physical violence, governments, the market economy  The *market economy* provides a way for millions of producers and consumers to allocate scarce resources. For the most part, markets are efficient.  **Efficiency** is achieved when the economy gets the most out of its scarce resources; it makes the economic pie as large as possible.  B. Market Prices Provide Important Information  Market prices serve as the language of the market system.  The basis of a *market economy* is voluntary exchange and the price system that guides people’s choices and produces solutions to the questions of what goods to produce and how to produce and distribute them.  C. Countries That Do Not Rely On A Market System  Countries that do not rely on the market system have no clear communication between buyers and sellers.  *Property rights* are the rules of our economic game. If well defined, property rights give individuals the incentive to use their property efficiently.  The market system can only work if the *government enforces the rules*. One of the key functions of government is to provide a legal framework that protects and enforces property rights and contracts.  The government defines and protects property rights through the legal system and public policy. *The legal system* ensures the rights of private ownership, the enforcement of contracts, and the legal status for businesses.  D. Market Failure  **Market failure** happens when the economy fails to allocate resources efficiently on its own.  The government can help promote efficiency when there is a market failure—making the economic pie larger.  A trade-off exists between how much an economy can produce efficiently and how that output is distributed—the degree of equality.  Government policy makers make decisions recognizing that there is a trade-off between efficiency (creating a bigger pie) and equality (dividing that pie).  Government is not always the solution.  E. The Circular Flow Model  A continuous flow of goods and services is bought and sold between the producers of goods and services (which we call firms) and the buyers of goods and services (which we call households) in product markets.  A continuous flow of income also moves from firms to households as firms buy inputs to produce the goods and services they sell in factor markets.  F. Product Markets  **Product markets** are the markets for consumer goods and services. Households are buyers and firms are sellers.  G. Factor Markets  **Factor** or **input markets** are markets in which households sell the use of their inputs (capital, land, labor, and entrepreneurship) to firms. Households are the sellers and firms are the buyers.  H. The Simple Circular Flow Model  The **simple circular flow model** is an illustration of the continuous flow of goods, services, inputs, and payments between firms and households.  *Exhibit 1.1: The Circular Flow Diagram* |
| **PowerPoint Slide 29** | **1-4 Economic Theories and Models** |
| **PowerPoint Slide 29**  Economic Theories And Models  **PowerPoint Slide 29**  Abstraction Is Important  **PowerPoint Slide 30**  Developing A Testable Proposition  **PowerPoint Slide 30**  The *Ceteris Paribus* Assumption  **PowerPoint Slide 31**  Why Are Observation And Prediction Harder In The Social Sciences?  **PowerPoint Slide 31–32**  Why Do Economists Predict On A Group Level?  **PowerPoint Slide 33**  The Two Branches Of Economics: Microeconomics And Macroeconomics | A. Economic Theories And Models  **Theories** and **models** are explanations of how things work that help us understand and predict behavior in the real world.  B. Abstraction Is Important  A good economic theory or model weeds out the irrelevant facts from the relevant ones. We must abstract. Without abstraction or simplification, the world is too complex to analyze.  C. Developing A Testable Proposition  The beginning of any theory is a **hypothesis**, a testable proposition that makes some type of prediction about behavior in response to certain changes in conditions based on our assumptions.  To determine whether our hypothesis is valid, we must engage in **empirical analysis,** that is, examine the data to see whether our hypothesis fits well with the facts.  After gathering their data, economic researchers must evaluate the results to determine whether their hypothesis is supported or refuted.  D. The *Ceteris Paribus* Assumption  ***Ceteris paribus***: Holding all other things constant  E. Why Are Observation And Prediction Harder In The Social Sciences?  Because the social scientists, including economists, are concerned with *human behavior*. And human behavior is more variable and often less readily predictable than the behavior of experiments observed in a laboratory.  F. Why Do Economists Predict On A Group Level?  Looking at the behaviors of a large group allows economists to discern general patterns of actions.  Group behavior is often more predictable than individual behavior.  Economists do not typically use survey data. Economists prefer to look at revealed preferences (how people actually behave) rather than declared preferences (how they say they behave).  G. The Two Branches Of Economics: Microeconomics And Macroeconomics  **Microeconomics** is the study of household and firm behavior and how they interact in the marketplace.  **Macroeconomics** is the study of the whole economy (**aggregate**), including the topics of inflation, unemployment, and economic growth. |
| **PowerPoint Slide 34** | **1-5 Pitfalls To Avoid In Scientific Thinking** |
| **PowerPoint Slide 34**  Confusing Correlation And Causation  **PowerPoint Slide 34**  The Fallacy Of Composition | A. Confusing Correlation And Causation  The fact that two events usually occur together does not necessarily mean that one caused the other to occur. It is also important to consider in which direction causality runs.  **Correlation**: When two events occur together  **Causation**: When one event brings about another event  B. The Fallacy Of Composition  **The fallacy of composition** is the incorrect view that what is true for the individual is always true for the group. |
| **PowerPoint Slide 35** | **1-6 Positive And Normative Analysis** |
| **PowerPoint Slide 35**  **PowerPoint Slide 35**  Positive Statement  **PowerPoint Slide 36**  Normative Statement  **PowerPoint Slide 37**  Disagreement Is Common In Most Disciplines  **PowerPoint Slides 38–41** | Positive analysis deals with factual statements trying to explain the world.  Normative analysis deals with value judgments trying to improve the world.  A. Positive Statement  A **positive statement** is an objective, testable statement that describes what happens and why it happens. A positive statement does not have to be a true statement, but it does have to be a testable statement.  B. Normative Statement  A **normative statement** is a subjective, untestable statement that attempts to describe what should be done.  Normative statements involve judgments about what should be or what ought to happen.  Positive statements are about what is, normative statements are about what ought to or should be. Positive statements are attempts to describe what happens and why it happens, while normative statements are attempts to prescribe what should be done.  C. Disagreement Is Common In Most Disciplines  The majority of disagreements in economics stem from normative issues; differences in values or policy beliefs result in conflict.  Often, economists do agree.  Often Economists do Agree  According to a survey among members of the American Economic Association, most economists agree on a wide range of issues, including rent control, import tariffs, export restrictions, the use of wage and price controls to curb inflation, and the minimum wage. |
| **PowerPoint Slide 42** | **1-7 Why Study Economics?** |
| **PowerPoint Slide 42**  Why Study Economics?  **PowerPoint Slide 43**  Economics Is All Around Us | The study of economics provides a systematic, disciplined way of thinking.  A. Economics Is All Around Us  The tools of economics are far reaching, they have been used in so many fields outside the formal area of economics, such as crime, education, marriage, divorce, addiction, finance, health, law, politics, and religion. |
| **PowerPoint Slide 44** | **A1-1 Appendix—Working with Graphs** |
| **PowerPoint Slide 44**  Graphs are an Important Economic Tool  **PowerPoint Slide 45**  Exhibit A-1: Plotting a Graph  **PowerPoint Slide 46**  Using Graphs and Charts  **PowerPoint Slides 47–49**  Exhibit A-2: Pie Chart, Bar Graph, and Time Series Graph  **PowerPoint Slide 50**  Using Graphs to Show the Relationship Between Two Variables  **PowerPoint Slide 51**  Exhibit A-3: A Positive Relationship  **PowerPoint Slide 52**  The Graph of a Demand Curve  **PowerPoint Slide 53**  Exhibit A-4: A Negative *Relationship*  **PowerPoint Slide 54**  Using Graphs to Show the Relationship Among Three Variables  **PowerPoint Slide 55**  Exhibit A-5: Shifting a Curve  **PowerPoint Slide 56**  The Difference between a Movement along and a Shift in the Curve  **PowerPoint Slide 57**  Exhibit A-6: Shifts versus Movements  **PowerPoint Slide 58**  Slope  **PowerPoint Slide 59**  Measuring the Slope of a Linear Curve  **PowerPoint Slide 60**  Exhibit A-7: Downward- and Upward-Sloping Linear Curves  **PowerPoint Slide 61**  Exhibit A-8: Slopes of Positive and Negative Curves  **PowerPoint Slide 62**  Finding the Slope of a Nonlinear Curve  **PowerPoint Slide 63**  Exhibit A-9: Slopes of a Nonlinear Curve | A. Graphs are an Important Economic Tool  The most useful graph for our purposes is one that merely connects a vertical line (**the Y-axis**) with a horizontal line (**the X-axis**).  *Exhibit A-1: Plotting a Graph*  Using Graphs and Charts  Pie charts are used to show the relative size of various quantities that add up to 100 percent.  Bar graphs are used to show a comparison of quantities.  A time-series graph shows changes in the value of a variable over time.  *Exhibit A-2: Pie Chart, Bar Graph, and Time Series Graph*  B. Using Graphs to Show the Relationship Between Two Variables  A **variable** is something that is measured by a number.  **A Positive Relationship**: When two variables change in the same direction    **Negative Relationship**: When two variables change in opposite directions  *Exhibit A-3: A Positive Relationship*  C. The Graph of a Demand Curve  Downward-sloping line represents combinations of price and quantity  *Exhibit A-4: A Negative Relationship*  D. Using Graphs to Show the Relationship Among Three Variables  The third variable is a shifter of the curve  *Exhibit A-5: Shifting a Curve*  The Difference between a Movement along and a Shift in the Curve  A change in one of the variables on the graph will cause a movement along the curve, while a change in one of the variables not shown will cause the whole curve to shift.  *Exhibit A-6: Shifts versus Movements*  E. Slope  The steepness of a curve is called its slope.  Measuring the Slope of a Linear Curve  The slope of a linear curve between two points measures the relative rates of change of two variables.  *Exhibit A-7: Downward- and Upward-Sloping Linear Curves*  *Exhibit A-8: Slopes of Positive and Negative Curves*  Finding the Slope of a Nonlinear Curve  We can find the slope of this curve at any given point by drawing a straight line tangent to that point on the curve.  *Exhibit A-9: Slopes of a Nonlinear Curve* |

Key Terms

|  |  |  |
| --- | --- | --- |
| **Aggregate** | **fallacy of composition** | **positive incentive** |
| **Bads** | **goods** | **positive statement** |
| **capital** | **hypothesis** | **product markets** |
| **causation** | **intangible goods** | **rational behavior** |
| ***ceteris paribus*** | **labor** | **resources** |
| **correlation** | **land** | **scarcity** |
| **economic goods** | **macroeconomics** | **services** |
| **economics** | **market** | **simple circular flow model** |
| **efficiency** | **market failure** | **tangible goods** |
| **empirical analysis** | **microeconomics** | **the economic problem** |
| **entrepreneurship** | **negative incentives** | **theories and models** |
| **factor (or input) markets** | **normative statement** |  |

Appendix Key Terms

|  |  |  |
| --- | --- | --- |
| **bar graph** | **positive relationship** | **variable** |
| **negative relationship** | **slope** | ***X*-axis** |
| **pie chart** | **time-series graph** | ***Y*-axis** |

Key Formulas

The Student Review Card Deck has a card devoted to the key economic formulas covered in this text. There are no key formulas in Chapter 1.

**You can use the following questions and exercises to work with students as part of your in-class discussion. You might also use them as an in-class quiz or give them to students as an independent homework assignment.**

Class Exercises

1. Write your own definition of economics. What are the main elements of the definition?

**Answer: The definition must recognize the central parts of the economist’s point of view: resources are scarce; scarcity forces us to make choices; and the cost of any choice is the highest value of the lost opportunities.**

1. Identify whether each of the following transactions takes place in the factor (or input) market or the product market.

a. Billy buys a sofa from Home Time Furniture for his new home.

b. Home Time Furniture pays its manager her weekly salary.

c. The manager buys dinner at Billy’s Café.

d. After he pays all of his employees their wages and pays his other bills, the owner of Billy’s Café takes his profit.

**Answers:**

**a. Product market**

**b. Factor market**

**c. Product market**

**d. Factor market**

**Furniture is a good purchased in the product market from firms. Labor is a resource that households sell to firms in the factor market. Restaurant food is a good purchased by consumers in the product market. Finally, Billy’s entrepreneurial resource is paid with profit, which is what is left over after all his other costs have been paid. This takes place in the factor market.**

1. The Environmental Protection Agency asks you to help it understand the causes of urban pollution. Air pollution problems are worse the higher the Air Quality Index. You develop the following two hypotheses.

*Hypothesis I*: Air pollution will be a greater problem the higher the average temperature in the urban area.

*Hypothesis II*: Air pollution will be a greater problem the greater the population of the urban area.

Test each hypothesis with the facts given below. Which hypothesis fits the facts better? Have you developed a theory?

|  |  |  |  |
| --- | --- | --- | --- |
| Metropolitan Statistical Area | Days with Polluted Air\* | Average Maximum Temperature | Population (thousands) |
| Cincinnati, OH | 30 | 64.0 | 1,979 |
| El Paso, TX | 13 | 77.1 | 680 |
| Milwaukee, WI | 12 | 55.9 | 1,690 |
| Atlanta, GA | 24 | 72.0 | 4,112 |
| Philadelphia, PA | 33 | 63.2 | 5,101 |
| Albany, NY | 8 | 57.6 | 876 |
| San Diego, CA | 20 | 70.8 | 2,814 |
| Los Angeles, CA | 80 | 70.6 | 9,519 |

\*Air Quality Index greater than 100 (2002)

Source: U.S. Dept. of Commerce, Bureau of Census, 2002 *Statistical Abstract of the United States*, Tables Nos. 30, and 363; U.S. EPA, *Air Trends Report, 2002*, EPA.Gov/airtrends/Factbook.

**Answer: The data support the second hypothesis better than the first. The number of days with polluted air generally increases with the population. The five cities the most days with polluted air are large places. The first hypothesis does not seem to be supported by the data. El Paso, Texas, was the hottest place on our list and had relatively few polluted days. The causes of air pollution are complex and many things affect the level of pollution in a city. In our limited world of seven cities, the second hypothesis is supported by the facts, and we could make a theoretical statement that air pollution will increase in general as population increases.**

1. In the 1940s, Dr. Melvin Page conducted a national campaign to stop people other than infants from drinking milk. According to Page, milk was a dangerous food and a leading cause of cancer. He pointed to the fact that more people died of cancer in Wisconsin, the nation’s leading milk producer, than any other state as proof of his claim. How would you evaluate Dr. Page’s claim?

**Answer: This is a case of mistaking correlation for causation. People in Wisconsin tended to live long lives and since cancer is a disease of middle and old age, it was a more frequent cause of death in Wisconsin than in other states. An area low in cancer deaths is likely to be an area of poor health where inhabitants die young.**

1. Are the following statements normative or positive, or do they contain both normative and positive statements?

a. A higher income-tax rate would generate increased tax revenues. Those extra revenues should be used to give more government aid to the poor.

b. The study of physics is more valuable than the study of sociology, but both should be studied by all college students.

c. An increase in the price of corn will decrease the amount of corn purchased. However, it will increase the amount of wheat purchased.

d. A decrease in the price of butter will increase the amount of butter purchased, but that would be bad because it would increase the cholesterol levels of Americans.

e. The birth rate is reduced as economies urbanize, but it also leads to a decreased average age of the populations of developing countries.

**Answers:**

**a. Both normative (the second statement) and positive (the first statement)**

**b. Normative statements**

**c. Positive statements**

**d. Both normative (the second statement) and positive (the first statement)**

**e. Positive statements**