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2 of 52

PART I INTRODUCTION TO ECONOMICS

The Scope and Method of Economics



1

CHAPTER OUTLINE

- Why Study Economics?**
  - To Learn a Way of Thinking
  - To Understand Society
  - To Be an Informed Citizen
- The Scope of Economics**
  - Microeconomics and Macroeconomics
  - The Diverse Fields of Economics
- The Method of Economics**
  - Theories and Models
  - Economic Policy
- An Invitation**
- Appendix: How to Read and Understand Graphs**

**economics** The study of how individuals and societies choose to use the scarce resources that nature and previous generations have provided.

The key word in this definition is *choose*.

Economics is a behavioral, or social, science. In large measure, it is the study of how people make choices. The choices that people make, when added up, translate into societal choices.

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3 of 52

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4 of 52



What is economics?

- a. Economics is the study of money and financial systems.
- b. Economics is the study of business.
- c. Economics is a behavioral science that studies how people make choices.
- d. Economics is a natural science that studies the resources that nature and previous generations have provided.

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5 of 52

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6 of 52

## Why Study Economics?

### To Learn a Way of Thinking

Three fundamental concepts:

- Opportunity cost
- Marginalism
- Efficient markets

## Opportunity Cost

**opportunity cost** The best alternative that we forgo, or give up, when we make a choice or a decision.

**scarce** Limited.



What is opportunity cost?

- Opportunity cost refers to costs that cannot be avoided, regardless of what is done in the future, because they have already been incurred.
- Opportunity cost is the value of what we give up by not making the alternative choice.
- Opportunity cost is a business concept that explains why it is important to consider the additional cost of production, not just the initial cost, in making production decisions.
- Opportunity cost is a cost associated with the allocation of abundant resources among alternative uses.
- Opportunity cost is a monetary measure of cost that takes into account only explicit costs, or costs that can be counted.

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## Marginalism

**marginalism** The process of analyzing the additional or incremental costs or benefits arising from a choice or decision.

## Efficient Markets—No Free Lunch

**efficient market** A market in which profit opportunities are eliminated almost instantaneously.

The study of economics teaches us a way of thinking and helps us make decisions.

## To Understand Society

**Industrial Revolution** The period in England during the late eighteenth and early nineteenth centuries in which new manufacturing technologies and improved transportation gave rise to the modern factory system and a massive movement of the population from the countryside to the cities.

The study of economics is an essential part of the study of society.

## To Be an Informed Citizen

To be an informed citizen requires a basic understanding of economics.

## ECONOMICS IN PRACTICE

### iPod and the World

A sticker that says "Made in China" can often be misleading.

Indeed, for the iPod, which is composed of many small parts, it is almost impossible to accurately tell exactly where each piece was produced without pulling it apart.

From an economics point of view, one often has to dig a little deeper to see what is really going on.



#### THINKING PRACTICALLY

1. What do you think accounts for where components of the iPod are made?

## The Scope of Economics

### Microeconomics and Macroeconomics

**microeconomics** The branch of economics that examines the functioning of individual industries and the behavior of individual decision-making units—that is, firms and households.

**macroeconomics** The branch of economics that examines the economic behavior of aggregates—income, employment, output, and so on—on a national scale.

Microeconomics looks at the individual unit—the household, the firm, the industry. It sees and examines the “trees.”  
Macroeconomics looks at the whole, the aggregate. It sees and analyzes the “forest.”



Which of the following statements is correct?

- The aggregate price level is a subject of concern in microeconomics.
- A study of employment in the semiconductor industry would be categorized as a microeconomic study.
- The production and growth of output in the domestic economy is a microeconomic concern.
- Microeconomics is an in-depth study of aggregate economic behavior.
- Microeconomics includes the study of fiscal and monetary policies, or government policies designed to steer the economy in the right direction.

**TABLE 1.1** Examples of Microeconomic and Macroeconomic Concerns

Division of Economics	Production	Prices	Income	Employment
Microeconomics	<i>Production/output in individual industries and businesses</i>	<i>Prices of individual goods and services</i>	<i>Distribution of income and wealth</i>	<i>Employment by individual businesses and industries</i>
	How much steel How much office space How many cars	Price of medical care Price of gasoline Food prices Apartment rents	Wages in the auto industry Minimum wage Executive salaries Poverty	Jobs in the steel industry Number of employees in a firm Number of accountants
	<i>National production/output</i>	<i>Aggregate price level</i>	<i>National income</i>	<i>Employment and unemployment in the economy</i>
Macro	Total industrial output Gross domestic product Growth of output	Consumer prices Producer prices Rate of inflation	Total wages and salaries Total corporate profits	Total number of jobs Unemployment rate

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### The Diverse Fields of Economics

**TABLE 1.2** The Fields of Economics

<i>Behavioral economics</i>	uses psychological theories relating to emotions and social context to help understand economic decision making and policy. Much of the work in behavioral economics focuses on the biases that individuals have that affect the decisions they make.
<i>Comparative economic systems</i>	examines the ways alternative economic systems function. What are the advantages and disadvantages of different systems?
<i>Econometrics</i>	applies statistical techniques and data to economic problems in an effort to test hypotheses and theories. Most schools require economics majors to take at least one course in statistics or econometrics.
<i>Economic development</i>	focuses on the problems of low-income countries. What can be done to promote development in these nations? Important concerns of development for economists include population growth and control, provision for basic needs, and strategies for international trade.
<i>Economic history</i>	traces the development of the modern economy. What economic and political events and scientific advances caused the Industrial Revolution? What explains the tremendous growth and progress of post-World War II Japan? What caused the Great Depression of the 1930s?

Continued...

## The Diverse Fields of Economics

TABLE 1.2 The Fields of Economics (continued)

<i>Environmental economics</i>	studies the potential failure of the market system to account fully for the impacts of production and consumption on the environment and on natural resource depletion. Have alternative public policies and new economic institutions been effective in correcting these potential failures?
<i>Finance</i>	examines the ways in which households and firms actually pay for, or finance, their purchases. It involves the study of capital markets (including the stock and bond markets), futures and options, capital budgeting, and asset valuation.
<i>Health economics</i>	analyzes the health care system and its players: government, insurers, health care providers, and patients. It provides insight into the demand for medical care, health insurance markets, cost-controlling insurance plans (HMOs, PPOs, IPAs), government health care programs (Medicare and Medicaid), variations in medical practice, medical malpractice, competition versus regulation, and national health care reform.
<i>The history of economic thought,</i>	which is grounded in philosophy, studies the development of economic ideas and theories over time, from Adam Smith in the eighteenth century to the works of economists such as Thomas Malthus, Karl Marx, and John Maynard Keynes. Because economic theory is constantly developing and changing, studying the history of ideas helps give meaning to modern theory and puts it in perspective.

Continued...

## The Diverse Fields of Economics

TABLE 1.2 The Fields of Economics (continued)

<i>Industrial organization</i>	looks carefully at the structure and performance of industries and firms within an economy. How do businesses compete? Who gains and who loses?
<i>International economics</i>	studies trade flows among countries and international financial institutions. What are the advantages and disadvantages for a country that allows its citizens to buy and sell freely in world markets? Why is the dollar strong or weak?
<i>Labor economics</i>	deals with the factors that determine wage rates, employment, and unemployment. How do people decide whether to work, how much to work, and at what kind of job? How have the roles of unions and management changed in recent years?
<i>Law and economics</i>	analyzes the economic function of legal rules and institutions. How does the law change the behavior of individuals and businesses? Do different liability rules make accidents and injuries more or less likely? What are the economic costs of crime?
<i>Public economics</i>	examines the role of government in the economy. What are the economic functions of government, and what should they be? How should the government finance the services that it provides? What kinds of government programs should confront the problems of poverty, unemployment, and pollution? What problems does government involvement create?
<i>Urban and regional economics</i>	studies the spatial arrangement of economic activity. Why do we have cities? Why are manufacturing firms locating farther and farther from the center of urban areas?

## The Method of Economics

**positive economics** An approach to economics that seeks to understand behavior and the operation of systems without making judgments. It describes what exists and how it works.

**normative economics** An approach to economics that analyzes outcomes of economic behavior, evaluates them as good or bad, and may prescribe courses of action. Also called *policy economics*.

## Theories and Models

**model** A formal statement of a theory, usually a mathematical statement of a presumed relationship between two or more variables.

**variable** A measure that can change from time to time or from observation to observation.

**Ockham's razor** The principle that irrelevant detail should be cut away.



If you apply your own values to judge economic decisions, which category of economics would you be applying?

- Normative economics.
- Positive economics.
- Descriptive economics.
- Economic theory.
- Empirical economics.

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***ceteris paribus*, or all else equal** A device used to analyze the relationship between two variables while the values of other variables are held unchanged.

Using the device of *ceteris paribus* is one part of the process of abstraction. In formulating economic theory, the concept helps us simplify reality to focus on the relationships that interest us.

Economic models are:

- a. Precise representations of reality that include as many details as possible in order to accurately predict behavior.
- b. Simplifications of reality that focus only on key relationships and ignore less relevant details.
- c. General interpretations of cause and effect.
- d. Analytical interpretations of economic behavior involving a good deal of the surrounding social and political structure of society.
- e. Devices that usually make it impossible to isolate the impact of a single factor.

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### Expressing Models in Words, Graphs, and Equations

We use both graphs and equations to capture the quantitative side of our economic observations and predictions.

### Cautions and Pitfalls

#### ***What Is Really Causal?***

***post hoc, ergo propter hoc*** Literally, “after this (in time), therefore because of this.”

A common error made in thinking about causation: If Event A happens before Event B, it is not necessarily true that A caused B.

#### ***The Fallacy of Composition***

**fallacy of composition** The erroneous belief that what is true for a part is necessarily true for the whole.

### Testing Theories and Models: Empirical Economics

**empirical economics** The collection and use of data to test economic theories.

Does Your Roommate Matter for Your Grades?

If you choose mischievous friends and you misbehave, are your friends causing your misbehavior or does an inclination toward mischief cause your choice of friends?

Several recent economics studies of the effect of roommates on college grades help to sort out causality in *peer effects*.

Bruce Sacerdote, a professor at Dartmouth college—one of many schools that randomly assign roommates to freshmen—used data on freshmen academic and social performance, combined with their background data, to test the peer effects from different types of roommates.

He found strong roommate effects on grade point average, effort in school, and fraternity membership.

THINKING PRACTICALLY

1. Would you expect college seniors who choose their own roommates to have more or less similar grades than college freshmen who are assigned as roommates? Why or why not?

Economic Policy

Four criteria in judging economic outcomes:

1. Efficiency
2. Equity
3. Growth
4. Stability

Efficiency

**efficiency** In economics, allocative efficiency. An efficient economy is one that produces what people want at the least possible cost.

Equity

**equity** Fairness.

Growth

**economic growth** An increase in the total output of an economy.

Stability

**stability** A condition in which national output is growing steadily, with low inflation and full employment of resources.

An Invitation

You cannot begin to understand how a society functions without knowing something about its economic history and its economic system.

Learning to think in this very powerful way will help you better understand the world.

As you proceed, it is important that you keep track of what you have learned in earlier chapters. This book has a plan; it proceeds step-by-step, each section building on the last. Make sure you understand where it all fits in the big picture.



Which of the following criteria for judging economic outcomes refers to producing what people want at the least possible cost?

- a. Efficiency.
- b. Equity.
- c. Growth.
- d. Stability.
- e. All of the above.

Which of the following criteria for judging economic outcomes refers to producing what people want at the least possible cost?

- a. **Efficiency.**
- b. Equity.
- c. Growth.
- d. Stability.
- e. All of the above.

- ceteris paribus*, or all else equal
- economic growth
- economics
- efficiency
- efficient market
- empirical economics
- equity
- fallacy of composition
- Industrial Revolution
- macroeconomics
- marginalism
- microeconomics
- model
- normative economics
- Ockham's razor
- opportunity cost
- positive economics
- post hoc, ergo propter hoc*
- scarce
- stability
- variable

## CHAPTER 1 APPENDIX

### How to Read and Understand Graphs

A **graph** is a two-dimensional representation of a set of numbers, or data.

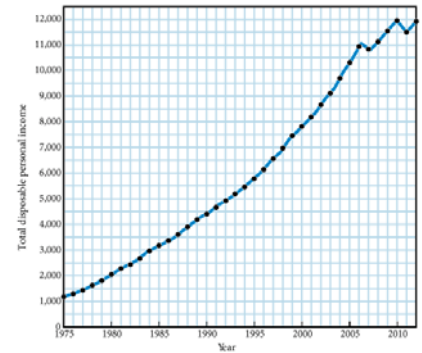
### Time Series Graphs

A **time series graph** shows how a single measure or variable changes over time.

**TABLE 1A.1** Total Disposable Personal Income in the United States, 1975–2012 (in billions of dollars)

Year	Total Disposable Personal Income	Year	Total Disposable Personal Income
1975	1,187.3	1994	5,184.3
1976	1,302.3	1995	5,457.0
1977	1,435.0	1996	5,759.6
1978	1,607.3	1997	6,074.6
1979	1,790.8	1998	6,498.9
1980	2,002.7	1999	6,803.3
1981	2,237.1	2000	7,327.2
1982	2,412.7	2001	7,648.5
1983	2,599.8	2002	8,009.7
1984	2,891.5	2003	8,377.8
1985	3,079.3	2004	8,889.4
1986	3,258.8	2005	9,277.3
1987	3,435.3	2006	9,915.7
1988	3,726.3	2007	10,423.6
1989	3,991.4	2008	11,024.5
1990	4,254.0	2009	10,772.4
1991	4,444.9	2010	11,127.1
1992	4,736.7	2011	11,549.3
1993	4,921.6	2012	11,930.6

**FIGURE 1A.1** Total Disposable Personal Income in the United States: 1975–2012 (in billions of dollars)



### Graphing Two Variables

**X-axis** The horizontal line against which a variable is plotted.

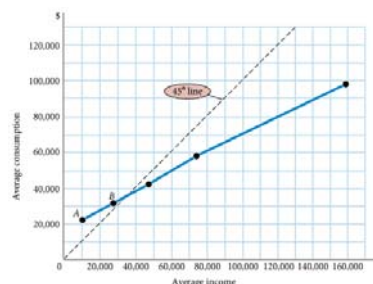
**Y-axis** The vertical line against which a variable is plotted.

**origin** The point at which the horizontal and vertical axes intersect.

**Y-intercept** The point at which a graph intersects the Y-axis.

**X-intercept** The point at which a graph intersects the X-axis.

### Plotting Income and Consumption Data for Households



**TABLE 1A.2** Consumption Expenditures and Income, 2008

	Average Income Before Taxes	Average Consumption Expenditures
Bottom fifth	\$ 10,263	\$ 22,304
2nd fifth	27,442	31,751
3rd fifth	47,196	42,659
4th fifth	74,090	58,632
Top fifth	158,652	97,003

**FIGURE 1A.2** Household Consumption and Income

A graph is a simple two-dimensional geometric representation of data. This graph displays the data from Table 1A.2.

Along the horizontal scale (X-axis), we measure household income. Along the vertical scale (Y-axis), we measure household consumption.

*Note:* At point A, consumption equals \$22,304 and income equals \$10,263. At point B, consumption equals \$31,751 and income equals \$27,442.

**Slope**

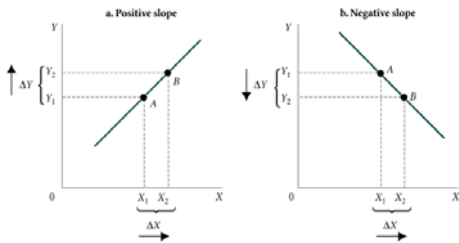
**positive relationship** A relationship between two variables, X and Y, in which a decrease in X is associated with a decrease in Y, and an increase in X is associated with an increase in Y.

**negative relationship** A relationship between two variables, X and Y, in which a decrease in X is associated with an increase in Y and an increase in X is associated with a decrease in Y.

**slope** A measurement that indicates whether the relationship between variables is positive or negative and how much of a response there is in Y (the variable on the vertical axis) when X (the variable on the horizontal axis) changes.

$$\frac{\Delta Y}{\Delta X} = \frac{Y_2 - Y_1}{X_2 - X_1}$$

▼ FIGURE 1A.3 A Curve with (a) Positive Slope and (b) Negative Slope



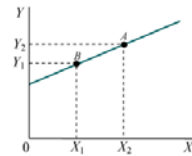
A *positive* slope indicates that increases in X are associated with increases in Y and that decreases in X are associated with decreases in Y.

A *negative* slope indicates the opposite—when X increases, Y decreases; and when X decreases, Y increases.



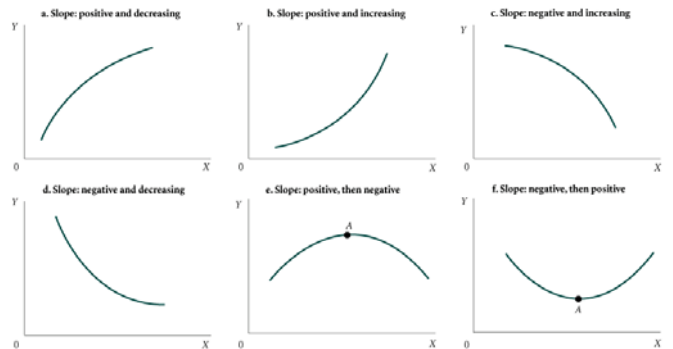
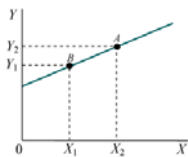
Refer to the figure below. The expression of the slope of the line between points A and B equals:

- a.  $\frac{Y_2 - Y_1}{X_2 - X_1}$
- b.  $\frac{Y_2 - X_2}{Y_1 - X_1}$
- c.  $\frac{X_2 - X_1}{Y_2 - Y_1}$
- d.  $\frac{X_2 - Y_1}{Y_2 - X_1}$
- e.  $\frac{X_2 - X_1}{Y_1 - Y_2}$



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- e.  $\frac{X_2 - X_1}{Y_1 - Y_2}$



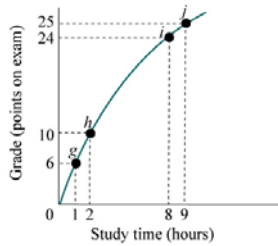
▲ FIGURE 1A.4 Changing Slopes Along Curves





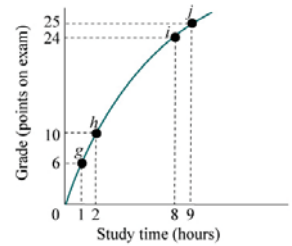
Refer to the figure below. According to this graph, the relationship between hours of study time and points on the exam is as follows:

- The relationship is first positive and then it turns negative.
- Positive but diminishing.
- Positive and increasing.
- Negative.
- Nonexistent.

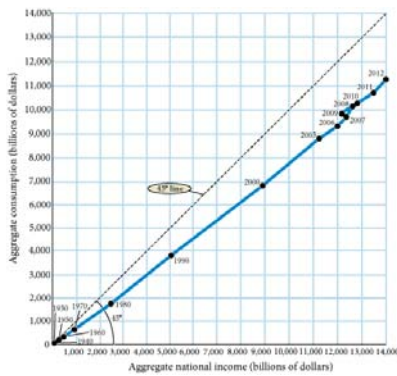


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- Positive but diminishing.**
- Positive and increasing.
- Negative.
- Nonexistent.



### Some Precautions



**TABLE 1A.3** Aggregate National Income and Consumption for the United States, 1930–2012 (in billions of dollars)

	Aggregate National Income	Aggregate Consumption
1930	82.9	70.1
1940	90.9	71.3
1950	263.9	192.2
1960	473.9	331.8
1970	929.5	648.3
1980	2,433.0	1,755.8
1990	5,059.8	3,835.5
2000	8,938.9	6,830.4
2005	11,273.8	8,803.5
2006	12,031.2	9,301.0
2007	12,396.4	9,772.3
2008	12,609.1	10,035.5
2009	12,132.6	9,845.9
2010	12,811.4	10,215.7
2011	13,358.9	10,729.0
2012	13,720.9	11,119.5

**▲ FIGURE 1A.5** National Income and Consumption

It is important to think carefully about what is represented by points in the space defined by the axes of a graph. In this graph, we have graphed income with consumption, as in Figure 1A.2, but here each observation point is national income and aggregate consumption in *different years*, measured in billions of dollars.

## APPENDIX REVIEW TERMS AND CONCEPTS

graph

negative relationship

origin

positive relationship

slope

time series graph

X-axis

X-intercept

Y-axis

Y-intercept