Principles of Economics

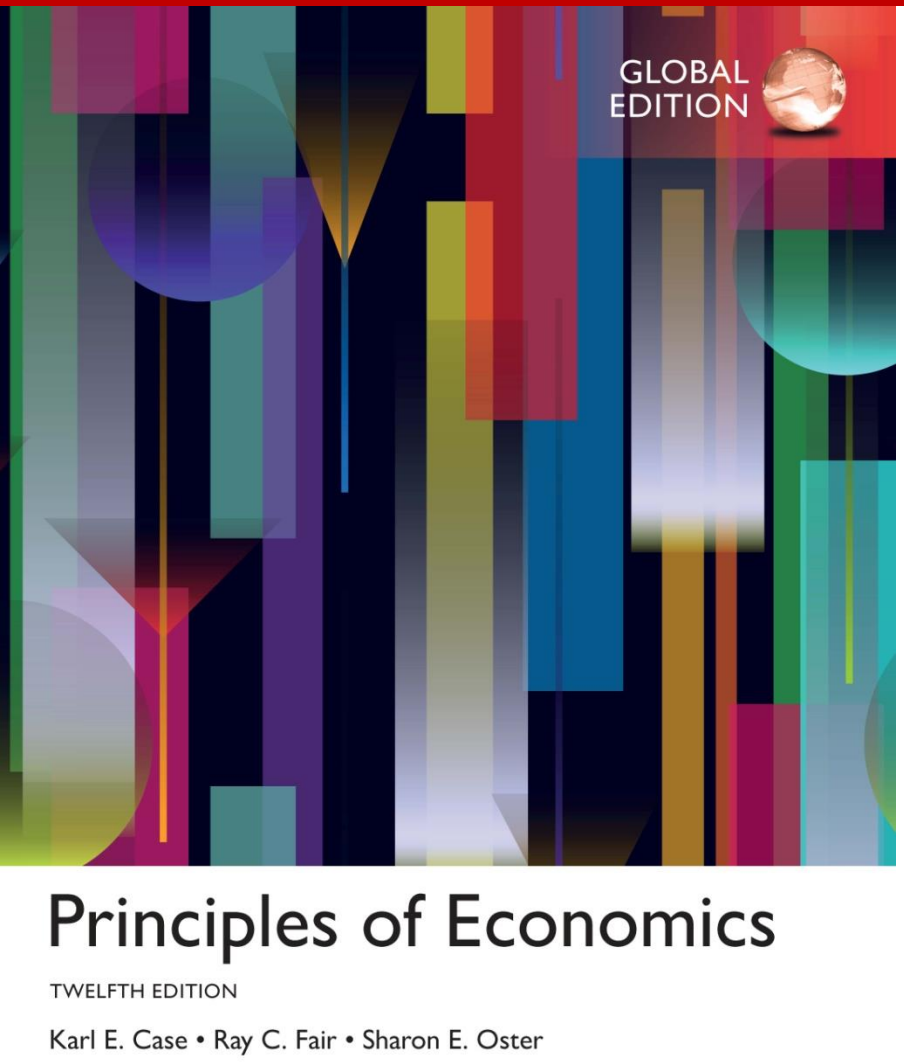
Twelfth Edition

INTRODUCTION TO ECONOMICS

Copyright © 2017 Pearson Education, Inc.

Principles of Economics

Twelfth Edition*(2 of 2)*



Chapter 1

The Scope and Method of Economics

Copyright © 2017 Pearson Education, Inc.

What is Economics?

Copyright © 2017 Pearson Education, Inc.

What could be Economics about?

- **Is Economics about betting and auctions?**
- **Is Economics about investing in stock markets and multiply wealth?**
- **Is Economics about which insurance to buy or whether to invest in real estate property or gold?**
- **Is Economics about transnational trade?**
- **Is Economics about deciding about what consumers want for consumption?**
- **Is Economics about how much labor to employ and which technology to adopt for manufacturing?**
- **Is Economics about alleviating poverty?**
- **Is Economics about understanding how humanity has transformed from being a hunter-gatherer community to its present form?**

Copyright © 2017 Pearson Education, Inc.

Let's generalize what Economics is about:

Economics is the study of how individuals and societies, in order to survive and thrive, make *choices* using the *resources* accessible to them.

Copyright © 2017 Pearson Education, Inc.

Points to remember:

- **Resources** are **Scarce**

- **Optimize** resource usage

Copyright © 2017 Pearson Education, Inc.

A simple economic model: one person economy

- Let us consider a Robinson Crusoe economy
  - What to eat
  - How to find food
  - How to build a shelter
  - How to divide time between leisure and work

Copyright © 2017 Pearson Education, Inc.

Two person economy

- Coordinate and collaborate
- Divide work based on skills
- The basic question i.e. how to optimize use of scare resources to meet the desired ends continues

Copyright © 2017 Pearson Education, Inc.

Examples: All is well until you can choose!

- What fraction of your income are you going to spend on necessities, luxuries, entertainment, travel, investment, or charitable donations.
- An individual wants a house for the family and is facing few choices (hypothetical numbers):
  - A. Buy land and the construction is done on contract – est. cost of construction Rs 2,500,000. Cost of land Rs 1,500,000
  - B. Act as you are your own contractor and supervise the entire process – est. cost of construction Rs 1,000,000
  - C. Purchase a ready-made home for Rs 3,200,000

Copyright © 2017 Pearson Education, Inc.

Economics in Action

- The individual faces key economic constraints and the decision making is complex in this situation.
- A. Economic resources available (Time, Money, other members in the family..)
- B. Tastes and preferences (utility/satisfaction)
- C. Opportunity cost: Money matters!
- D. Marginal decisions – whether to have a basement? Or lawn vs garden?

Copyright © 2017 Pearson Education, Inc.

Key takeaways:

- Three fundamental concepts in Economics
  - Opportunity cost
  - Marginalism
  - Efficient markets

Copyright © 2017 Pearson Education, Inc.

The Scope and Method of Economics

- **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 the definition is *choose*.
- Economics is a behavioral, or social, science.
- Economics is the study of how people make choices.

Copyright © 2017 Pearson Education, Inc.

Why Study Economics?

To Learn a Way of Thinking

- Economics has three fundamental concepts:
  - Opportunity cost
  - Marginalism
  - Efficient markets

Copyright © 2017 Pearson Education, Inc.

To Learn a Way of Thinking *(1 of 3)*

Opportunity Cost

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

Copyright © 2017 Pearson Education, Inc.

Constituents of an economic system

- Individuals
- Entrepreneur
- Factories
- Transportation system
- Labour
- Land
- Intangible goods such as computer software (mobile app)
- Stock market; Foreign exchange market; Commodities market
- Market for goods and services
- Big companies and small companies (firms, businesses, corporations, enterprises etc.)

Copyright © 2017 Pearson Education, Inc.

A brief history of economic thought and notable historical events

- Classical economics
  - Adam Smith (The Wealth of Nations)
  - Karl Marx (Capital)
- Neo-classical economics
- Key global historical events:
  - Industrial revolution
  - World War I
  - The Great Depression
  - World War II
  - Oil crisis of 1970s
  - Information Age
  - Sub-prime crisis of 2008-09

Copyright © 2017 Pearson Education, Inc.

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.

Copyright © 2017 Pearson Education, Inc.

The Scope of Economics

Microeconomics and Macroeconomics

- 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."

Copyright © 2017 Pearson Education, Inc.

TABLE 1.1 Examples of Microeconomic and Macroeconomic Concerns

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

Copyright © 2017 Pearson Education, Inc.

TABLE 1.2 The Fields of Economics (*1 of 3*)

Behavioral economics	Do aggregate household savings increase when we automatically enroll people in savings programs and let them opt out as opposed to requiring them to sign up?
Comparative economic systems	How does the resource allocation process differ in market versus command and control systems?
Econometrics	What inferences can we make based on conditional moment inequalities?
Economic development	Does increasing employment opportunities for girls in developing nations increase their educational achievements?
Economic history	How did the growth of railroads and improvement in transportation more generally change the U.S. banking systems in the nineteenth century?

Copyright © 2017 Pearson Education, Inc.

TABLE 1.2 The Fields of Economics (*cont'd 2 of 3*)

Environmental economics	What effect would a tax on carbon have on emissions? Is a tax better or worse than rules?
Finance	Is high frequency trading socially beneficial?
Health economics	Do co-pays by patients change the choice and use of medicines by insured patients?
The history of economic thought	How did Aristotle think about just prices?
Industrial organization	How do we explain price wars in the airline industry

Copyright © 2017 Pearson Education, Inc.

TABLE 1.2 The Fields of Economics (*cont'd 3 of 3*)

International economics	What are the benefits and costs of free trade? Does concern about the environment change our views of free trade?
Labor economics	Will increasing the minimum wage decrease employment opportunities?
Law and economics	Does the current U.S. patent law increase or decrease the rate of innovation?
Public economics	Why is corruption more widespread in some countries than in others?
Urban and regional economics	Do enterprise zones improve employment opportunities in central cities?

Copyright © 2017 Pearson Education, Inc.

The Method of Economics

- Economics deals with two kinds of questions: positive and normative.
- **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*.

Copyright © 2017 Pearson Education, Inc.

Theories and Models *(1 of 5)*

- **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.

Copyright © 2017 Pearson Education, Inc.

Theories and Models *(2 of 5)*

All Else Equal

- ***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.

Copyright © 2017 Pearson Education, Inc.

Theories and Models *(3 of 5)*

Expressing Models in Words, Graphs, and Equations

- Graphs and equations capture the quantitative side of economic observations and predictions.

Copyright © 2017 Pearson Education, Inc.

Theories and Models *(4 of 5)*

Cautions and Pitfalls

- Economists are interested in cause and effect, but sorting out causality from correlation is not always easy.
- Correlation does not imply causation
- PR number and semester GPA

Copyright © 2017 Pearson Education, Inc.

Theories and Models *(5 of 5)*

Testing Theories and Models: Empirical Economics

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

Copyright © 2017 Pearson Education, Inc.

Economic theories give direction to economic policies *(1 of 3)*

- RBI's monetary policy
- India's foreign trade policy
- Privatization of pubic sector companies
- Four criteria are important in judging economic outcomes:
  1. Efficiency
  2. Equity
  3. Growth
  4. Stability

Copyright © 2017 Pearson Education, Inc.

Economic Policy *(2 of 3)*

Efficiency

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

Equity

- **equity** Fairness.

Copyright © 2017 Pearson Education, Inc.

Economic Policy *(3 of 3)*

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.

Copyright © 2017 Pearson Education, Inc.

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.
- This book proceeds step-by-step, each section building on the last.
- Make sure you understand where it all fits in the big picture.

Copyright © 2017 Pearson Education, Inc.

REVIEW TERMS AND CONCEPTS

- *ceteris paribus,* or all else equal
- economic growth
- economics
- efficiency
- efficient market
- empirical economics
- equity
- Industrial Revolution
- macroeconomics
- Marginalism
- microeconomics
- model
- normative economics
- opportunity cost
- positive economics
- scarce
- stability
- variable

Copyright © 2017 Pearson Education, Inc.

CHAPTER 1 APPENDIX: How to Read and Understand Graphs

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

Time Series Graphs

- **time series graph** A graph illustrating how a variable changes over time.

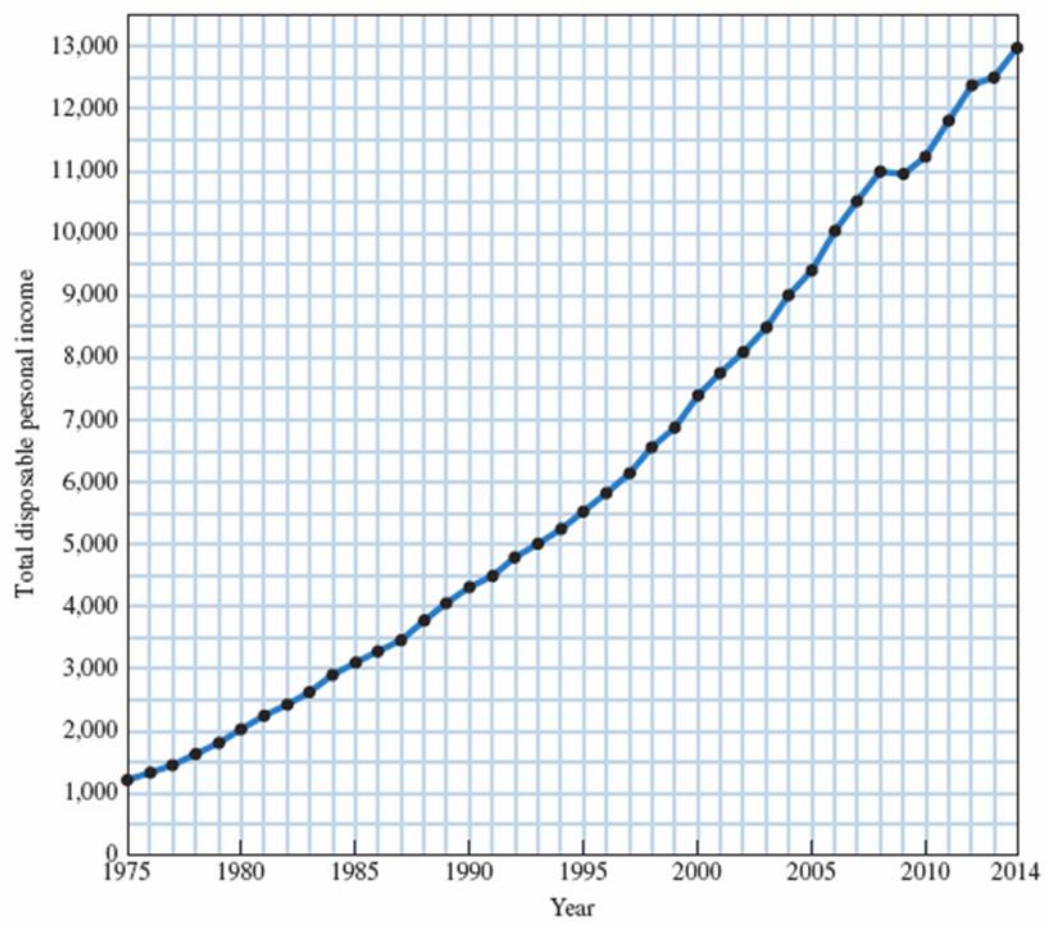
Copyright © 2017 Pearson Education, Inc.

TABLE 1A.1 Total Disposable Personal Income in the United States, 1975–2014 (in Billions of Dollars)

Year	Total Disposable Personal Income	Year	Total Disposable Personal Income
1975	1,219	1995	5,533
1976	1,326	1996	5,830
1977	1,457	1997	6,149
1978	1,630	1998	6,561
1979	1,809	1999	6,876
1980	2,018	2000	7,401
1981	2,251	2001	7,752
1982	2,425	2002	8,099
1983	2,617	2003	8,466
1984	2,904	2004	9,002
1985	3,099	2005	9,401
1986	3,288	2006	10,037
1987	3,466	2007	10,507
1988	3,770	2008	10,994
1989	4,052	2009	10,943
1990	4,312	2010	11,238
1991	4,485	2011	11,801
1992	4,800	2012	12,384
1993	5,000	2013	12,508
1994	5,244	2014	12,981

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

FIGURE 1A.1 Total Disposable Personal Income in the United States: 1975–2014 (in Billions of Dollars)



Source: See Table 1A.1.

Copyright © 2017 Pearson Education, Inc.

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.

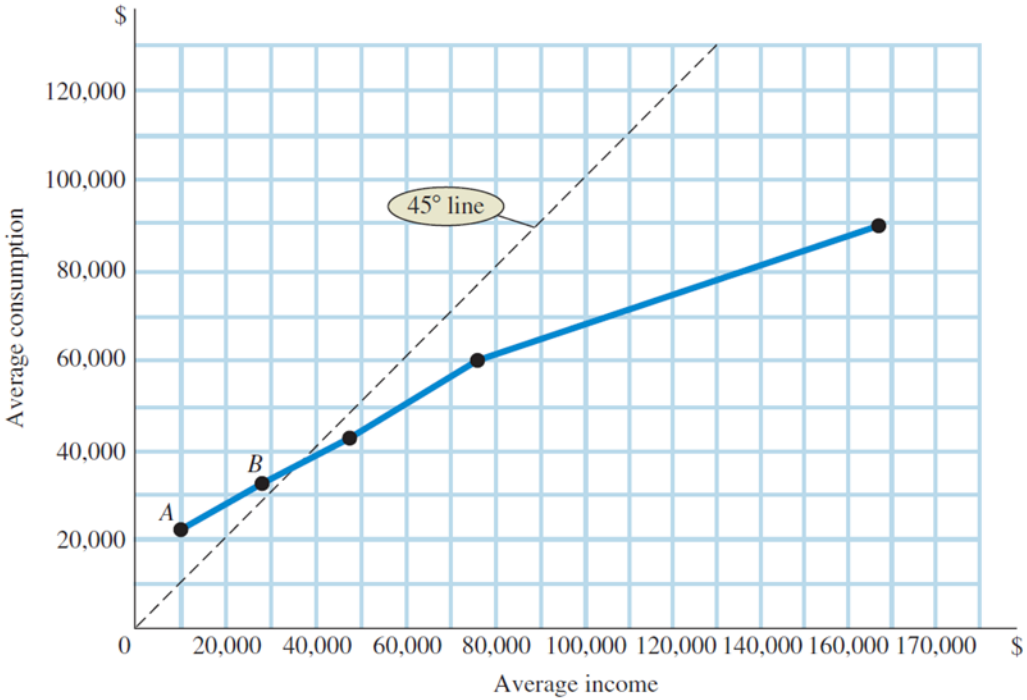
Copyright © 2017 Pearson Education, Inc.

Plotting Income and Consumption Data for Households

- 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*.

Copyright © 2017 Pearson Education, Inc.

FIGURE 1A.2 Household Consumption and Income



Source: See Table 1A.2.

TABLE 1A.2 Consumption Expenditures and Income, 2012

	Average Income Before Taxes	Average Consumption Expenditures
Bottom fifth	$ 9,988	$ 22,154
2nd fifth	27,585	32,632
3rd fifth	47,265	43,004
4th fifth	75,952	59,980
Top fifth	167,010	99,368

Source: Consumer Expenditures in 2012, U.S. Bureau of Labor Statistics.

A graph is a simple two-dimensional geometric representation of data. The graph in Figure 1A.2 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 $22,154 and income equals $9,988. At point *B*, consumption equals $32,632 and income equals $27,585.

Copyright © 2017 Pearson Education, Inc.

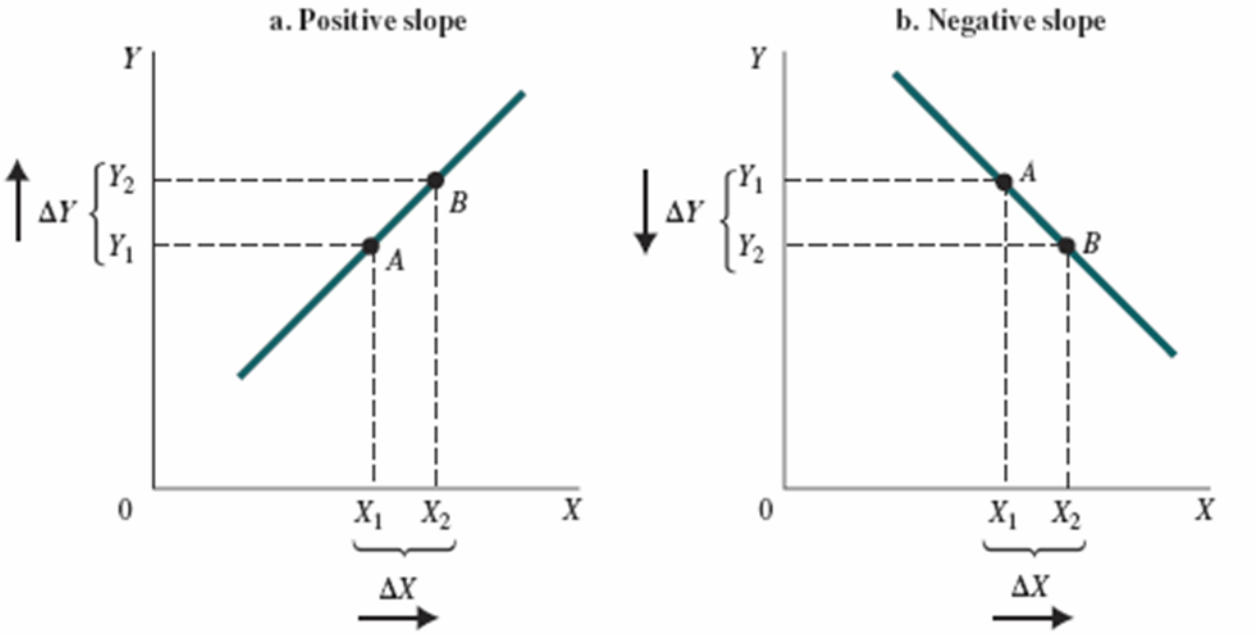
Slope

- **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.**

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

Copyright © 2017 Pearson Education, Inc.

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

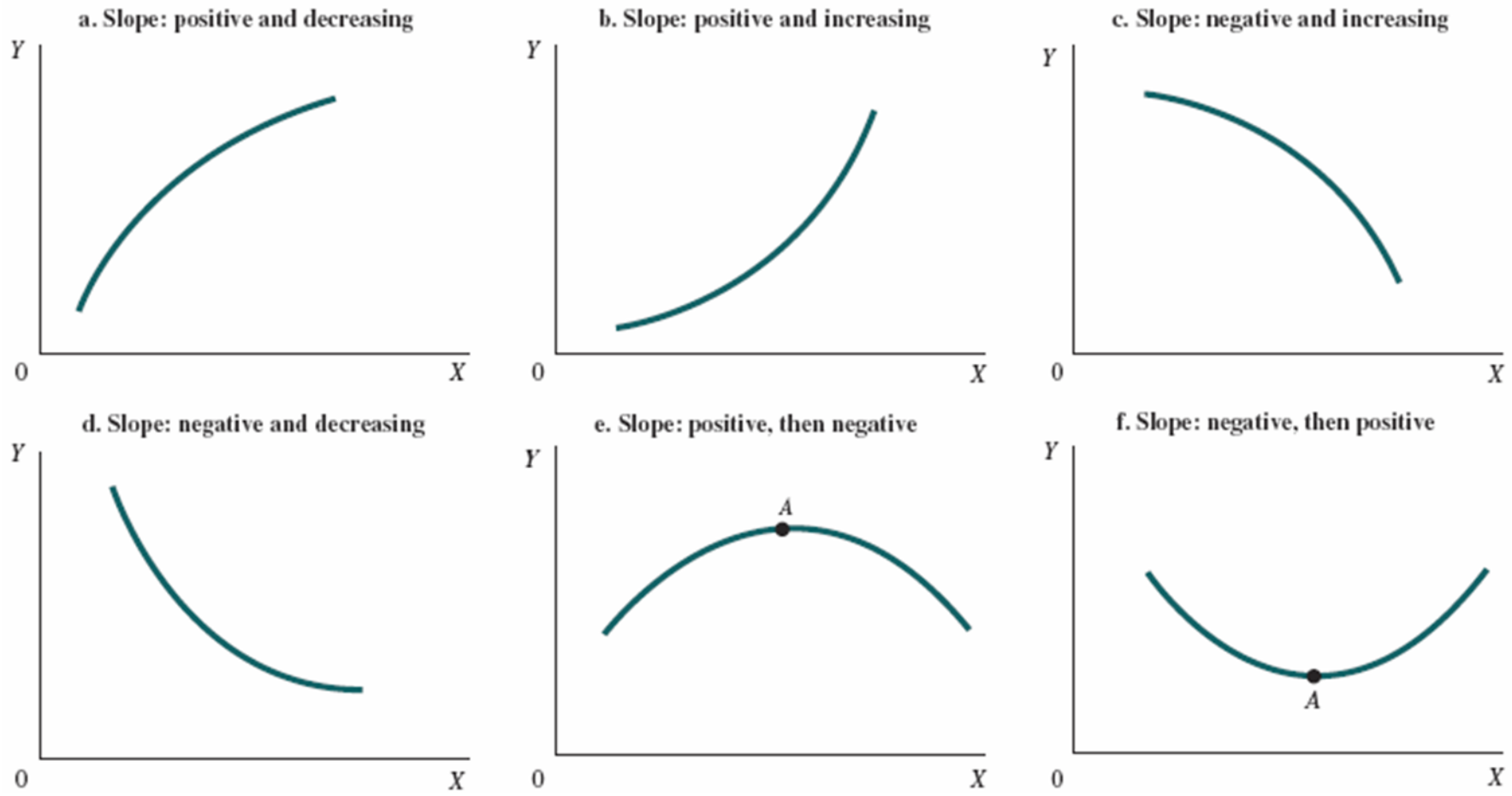


A *positive* slope indicates that increases in *X* are associated with increases in *Y* and that decreases in *X* are associated with decreases in *Y*.

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

Copyright © 2017 Pearson Education, Inc.

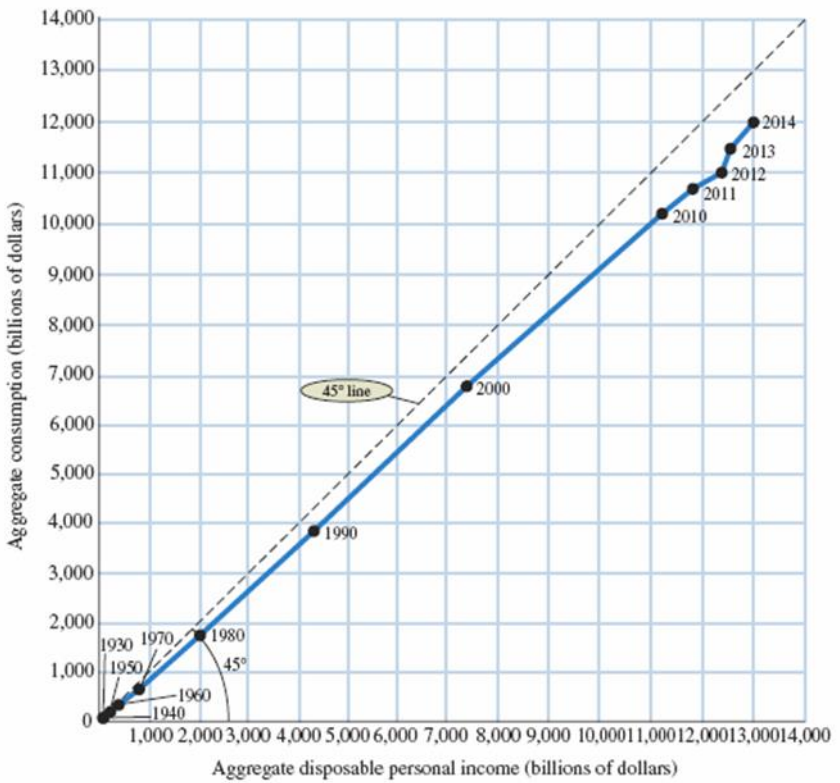
FIGURE 1A.4 Changing Slopes along Curves



Copyright © 2017 Pearson Education, Inc.

Some Precautions

FIGURE 1A.5 National Income and Consumption



Source: See Table 1A.3.

TABLE 1A.3 Aggregate National Income and Consumption for the United States, 1930–2014 (in Billions of Dollars)

	Aggregate National Income	Aggregate Consumption
1930	75	70
1940	78	71
1950	215	192
1960	377	332
1970	762	648
1980	2,018	1,755
1990	4,312	3,826
2000	7,401	6,792
2010	11,238	10,202
2011	11,801	10,689
2012	12,384	11,083
2013	12,505	11,484
2014	12,981	11,928

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

It is important to think carefully about what is represented by points in the space defined by the axes of a graph. In Figure 1A.5 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.

Copyright © 2017 Pearson Education, Inc.

APPENDIX REVIEW TERMS AND CONCEPTS

- graph
- negative relationship
- origin
- positive relationship
- Slope
- time series graph
- X-axis
- X-intercept
- Y-axis
- Y-intercept

Copyright © 2017 Pearson Education, Inc.