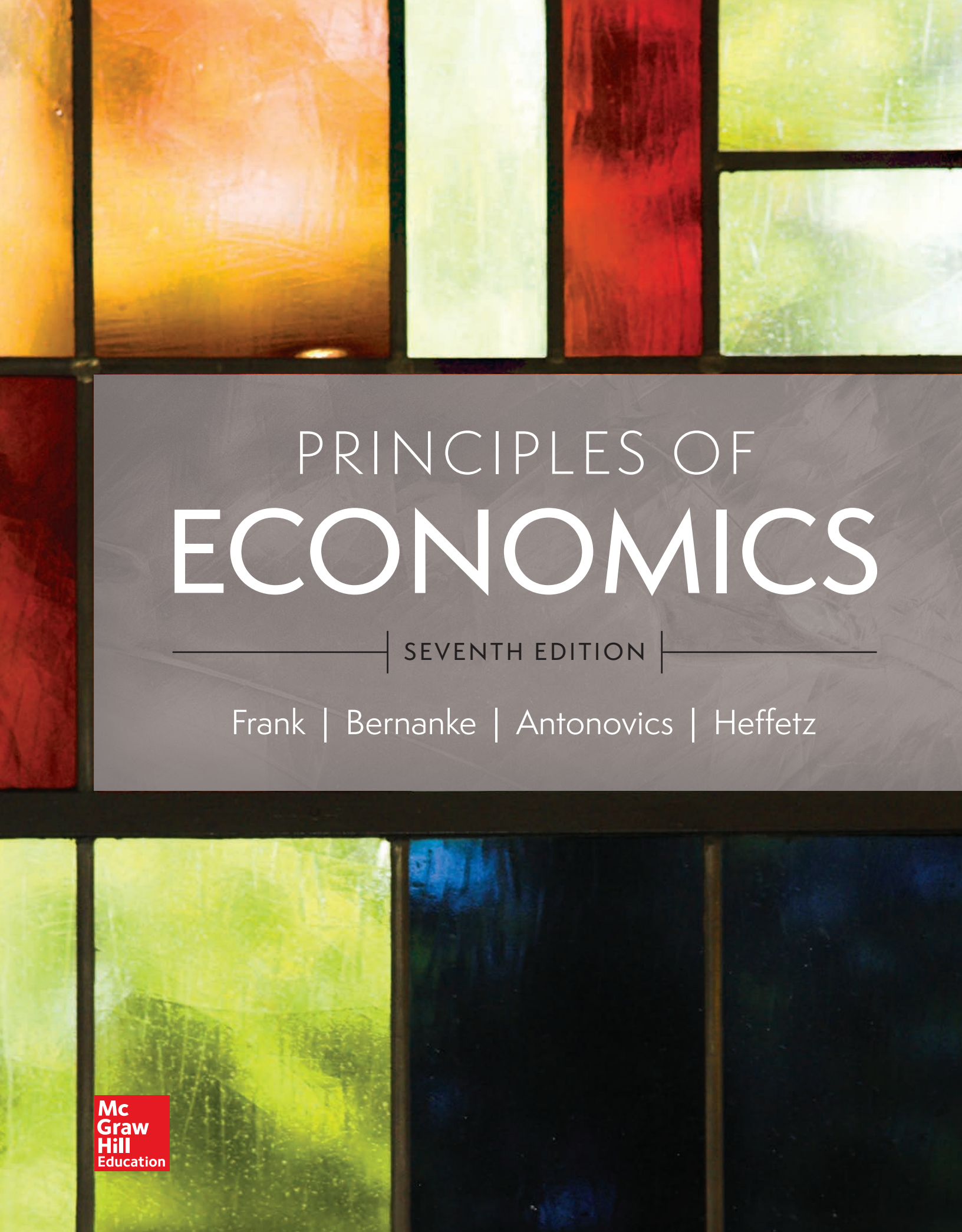
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PRINCIPLES OF ECONOMICS

Seventh Edition

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Cornell University

BEN S. BERNANKE

Brookings Institution [affiliated]
Former Chairman, Board of Governors of the Federal Reserve System

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DEDICATION

For Ellen

R. H. F.

For Anna

B. S. B.

For Fiona and Henry

K. A.

For Katrina, Eleanor, Daniel, and Amalia

O. H.

ABOUT THE AUTHORS

ROBERT H. FRANK

Robert H. Frank is the H. J. Louis Professor of Management and Professor of Economics at Cornell's Johnson School of Management, where he has taught since 1972. His "Economic View" column appears regularly in *The New York Times.* After receiving his B.S. from Georgia Tech in 1966, he taught math and science for two years as a Peace Corps Volunteer in rural Nepal. He received his M.A. in statistics in 1971 and his Ph.D. in economics in 1972 from The University of California at Berkeley. He also holds honorary doctorate degrees from the University of St. Gallen and Dalhousie University. During leaves of absence from Cornell, he has served as chief economist for the Civil Aeronautics Board (1978–1980), a Fellow at the Center for Advanced Study in the Behavioral Sciences (1992–1993), Professor of American Civilization at l'École des Hautes Études en Sciences Sociales in Paris (2000–2001), and the Peter and Charlotte Schoenfeld Visiting Faculty Fellow at the NYU Stern School of Business in 2008–2009. His papers have appeared in the *American Economic Review, Econometrica,* the *Journal of Political Economy,* and other leading professional journals.

Professor Frank is the author of a best-selling intermediate economics textbook—*Microeconomics and Behavior*, Ninth Edition (Irwin/McGraw-Hill, 2015). His research has focused on rivalry and cooperation in economic and social behavior. His books on these themes include *Choosing the Right Pond* (Oxford, 1995), *Passions Within Reason* (W. W. Norton, 1988), *What Price the Moral High Ground?* (Princeton, 2004), *Falling Behind* (University of California Press, 2007), *The Economic Naturalist* (Basic Books, 2007), *The Economic Naturalist's Field Guide* (Basic Books, 2009), *The Darwin Economy* (Princeton, 2011), and *Success and Luck* (Princeton, 2016), which have been translated into 24 languages. *The Winner-Take-All Society* (The Free Press, 1995), co-authored with Philip Cook, received a Critic's Choice Award, was named a Notable Book of the Year by *The New York Times*, and was included in *BusinessWeek*'s list of the 10 best books of 1995. *Luxury Fever* (The Free Press, 1999) was named to the *Knight-Ridder* Best Books list for 1999.

Professor Frank has been awarded an Andrew W. Mellon Professorship (1987–1990), a Kenan Enterprise Award (1993), and a Merrill Scholars Program Outstanding Educator Citation (1991). He is a co-recipient of the 2004 Leontief Prize for Advancing the Frontiers of Economic Thought. He was awarded the Johnson School's Stephen Russell Distinguished Teaching Award in 2004, 2010, and 2012, and the School's Apple Distinguished Teaching Award in 2005. His introductory microeconomics course has graduated more than 7,000 enthusiastic economic naturalists over the years.

BEN S. BERNANKE

Professor Bernanke received his B.A. in economics from Harvard University in 1975 and his Ph.D. in economics from MIT in 1979. He taught at the Stanford Graduate School of Business from 1979 to 1985 and moved to Princeton University in 1985, where he was named the Howard Harrison and Gabrielle Snyder Beck Professor of Economics and Public Affairs and where he served as Chairman of the Economics Department. Professor Bernanke is currently a Distinguished Fellow in Residence with the Economic Studies Program at the Brookings Institution.

Professor Bernanke was sworn in on February 1, 2006, as Chairman and a member of the Board of Governors of the Federal Reserve System—his second term expired January 31, 2014. Professor Bernanke also served as Chairman of the Federal Open Market Committee, the Fed's principal monetary policymaking body. Professor Bernanke was also Chairman of the President's Council of Economic Advisers from June 2005 to January 2006.

Professor Bernanke's intermediate textbook, with Andrew Abel and Dean Croushore, *Macroeconomics,* Ninth Edition (Addison-Wesley, 2017), is a best seller in its field. He has authored numerous scholarly publications in macroeconomics, macroeconomic history, and finance. He has done significant research on the causes of the Great Depression, the role of financial markets and institutions in the business cycle, and measurement of the effects of monetary policy on the economy.

Professor Bernanke has held a Guggenheim Fellowship and a Sloan Fellowship, and he is a Fellow of the Econometric Society and of the American Academy of Arts and Sciences. He served as the Director of the Monetary Economics Program of the National Bureau of Economic Research (NBER) and as a member of the NBER's Business Cycle Dating Committee. From 2001–2004, he served as editor of the *American Economic Review*. Professor Bernanke's work with civic and professional groups includes having served two terms as a member of the Montgomery Township (N.J.) Board of Education. Visit Professor Bernanke's blog at www.brookings.edu/blogs/ben-bernanke.

KATE ANTONOVICS

Professor Antonovics received her B.A. from Brown University in 1993 and her Ph.D. in economics from the University of Wisconsin in 2000. Shortly thereafter, she joined the faculty in the Economics Department at the University of California, San Diego (UCSD), where she has been ever since.

Professor Antonovics is known for her excellence in teaching and her innovative use of technology in the classroom. Her popular introductory-level microeconomics course regularly enrolls more than 900 students each fall. She also teaches labor economics at both the undergraduate and graduate level. She has received numerous teaching awards, including the UCSD Department of Economics award for Best Undergraduate Teaching, the UCSD Academic Senate Distinguished Teaching Award, and the UCSD Chancellor's Associates Faculty Excellence Award in Undergraduate Teaching.

Professor Antonovics's research has focused on racial discrimination, gender discrimination, affirmative action, intergenerational income mobility, learning, and wage dynamics. Her papers have appeared in the *American Economic Review,* the *Review of Economics and Statistics,* the *Journal of Labor Economics,* and the *Journal of Human Resources*. She is a member of both the American Economic Association and the Society of Labor Economists.

ORI HEFFETZ

Professor Heffetz received his B.A. in physics and philosophy from Tel Aviv University in 1999 and his Ph.D. in economics from Princeton University in 2005. He is an Associate Professor of Economics at the Samuel Curtis Johnson Graduate School of Management at Cornell University, and at the Economics Department at the Hebrew University of Jerusalem.

Bringing the real world into the classroom, Professor Heffetz has created a unique macroeconomics course that introduces basic concepts and tools from economic theory and applies them to current news and global events. His popular classes are taken by hundreds of students every year on Cornell's Ithaca and New York city campuses and via live videoconferencing in dozens of cities across the United States, Canada, and Latin America.

Professor Heffetz's research studies the social and cultural aspects of economic behavior, focusing on the mechanisms that drive consumers' choices and on the links among economic choices, individual well-being, and policymaking. He has published scholarly work on household consumption patterns, individual economic decision making, and survey methodology and measurement. He was a visiting researcher at the Bank of Israel during 2011, is currently a Research Associate at the National Bureau of Economic Research (NBER), and serves on the editorial board of *Social Choice and Welfare*.

PREFACE

Although many millions of dollars are spent each year on introductory economics instruction in American colleges and universities, the return on this investment has been disturbingly low. Studies have shown, for example, that several months after having taken a principles of economics course, former students are no better able to answer simple economics questions than others who never even took the course. Most students, it seems, leave our introductory courses without having learned even the most important basic economic principles.

The problem, in our view, is that these courses almost always try to teach students far too much. In the process, really important ideas get little more coverage than minor ones, and everything ends up going by in a blur. The human brain tends to ignore new information unless it comes up repeatedly. That's hardly surprising since only a tiny fraction of the terabytes of information that bombard us each day is likely to be relevant for anything we care about. Only when something comes up a third or fourth time does the brain start laying down new circuits for dealing with it.

Yet when planning their lectures, many instructors ask themselves, "How much can I cover today?" And because modern electronic media enable them to click through upwards of 100 PowerPoint slides in an hour, they feel they better serve their students when they put more information before them. But that's not the way learning works. Professors should instead be asking, "How much can my students absorb?"

Our approach to this text was inspired by our conviction that students will learn far more if we attempt to cover much less. Our basic premise is that a small number of basic principles do most of the heavy lifting in economics, and that if we focus narrowly and repeatedly on those principles, students can actually master them in just a single semester.

The enthusiastic reactions of users of previous editions of our textbook affirm the validity of this premise. Avoiding excessive reliance on formal mathematical derivations, we present concepts intuitively through examples drawn from familiar contexts. We rely throughout on a well-articulated list of seven Core Principles, which we reinforce repeatedly by illustrating and applying each principle in numerous contexts. We ask students periodically to apply these principles themselves to answer related questions, exercises, and problems.

Throughout this process, we encourage students to become "economic naturalists," people who employ basic economic principles to understand and explain what they observe in the world around them. An economic naturalist understands, for example, that infant safety seats are

required in cars but not in airplanes because the marginal cost of space to accommodate these seats is typically zero in cars but often hundreds of dollars in airplanes. Scores of such examples are sprinkled throughout the book. Each one, we believe, poses a question that should make any curious person eager to learn the answer. These examples stimulate interest while teaching students to see each feature of their economic landscape as the reflection of one or more of the Core Principles. Students talk about these examples with their friends and families. Learning economics is like learning a language. In each case, there is no substitution for actually speaking. By inducing students to speak economics, the Economic Naturalist examples serve this purpose.

For those who would like to learn more about the role of examples in learning economics, Bob Frank's lecture on this topic is posted on YouTube's "Authors@Google" series (https://www.youtube.com/watch?v=QaINVxelKEE, or search "Authors@Google Robert Frank").

KEY THEMES AND FEATURES

Emphasis on Seven Core Principles

As noted, a few Core Principles do most of the work in economics. By focusing almost exclusively on these principles, the text ensures that students leave the course with a deep mastery of them. In contrast, traditional encyclopedic texts so overwhelm students with detail that they often leave the course with little useful working knowledge at all.

- **The Scarcity Principle:** Although we have boundless needs and wants, the resources available to us are limited. So having more of one good thing usually means having less of another.
- **The Cost-Benefit Principle:** An individual (or a firm or a society) should take an action if, and only if, the extra benefits from taking the action are at least as great as the extra costs.
- **The Incentive Principle:** A person (or a firm or a society) is more likely to take an action if its benefit rises, and less likely to take it if its cost rises. In short, incentives matter.
- **The Principle of Comparative Advantage:** Everyone does best when each concentrates on the activity for which his or her opportunity cost is lowest.
- **The Principle of Increasing Opportunity Cost:** In expanding the production of any good, first employ those resources with the lowest opportunity cost, and only afterward turn to resources with higher opportunity costs.
- **The Efficiency Principle:** Efficiency is an important social goal because when the economic pie grows larger,
- **The Equilibrium Principle:** A market in equilibrium leaves no unexploited opportunities for individuals but may not exploit all gains achievable through collective action.

Economic Naturalism

Our ultimate goal is to produce economic naturalists—people who see each human action as the result of an implicit or explicit cost-benefit calculation. The economic naturalist sees mundane details of ordinary existence in a new light and becomes actively engaged in the attempt to understand them. Some representative examples:

In Micro:

- Why do movie theaters offer discount tickets to students?
- Why do we often see convenience stores located on adjacent street corners?
- Why do supermarket checkout lines all tend to be roughly the same length?

In Macro:

- Why has investment in computers increased so much in recent decades?
- Why does news of inflation hurt the stock market?
- Why do almost all countries provide free public education?

Economic Naturalist Video Series: We are very excited to offer for the first time an entire video series based on Economic Naturalist examples. A series of videos covering some of our favorite micro- and macro-focused examples can be used as part of classroom presentations or assigned for homework within McGraw-Hill Connect®. These fascinating, fun, and thought-provoking applications of economics in everyday life encourage students to think like an economist.

Active Learning Stressed

The only way to learn to hit an overhead smash in tennis is through repeated practice. The same is true for learning economics. Accordingly, we consistently introduce new ideas in the context of simple examples and then follow them with applications showing how they work in familiar settings. At frequent intervals, we pose concept checks that both test and reinforce the understanding of these ideas. The end-of-chapter questions and problems are carefully crafted to help students internalize and extend basic concepts and are available within Connect as assignable content so that instructors can require students to engage with this material. Experience with earlier editions confirms that this approach really does prepare students to apply basic economic principles to solve

Learning Glass Lecture Videos: A series of three- to five-minute lecture videos featuring the authors and utilizing learning glass technology provide students with an overview of important concepts. These videos, with accompanying questions, can be assigned within Connect or used as part of classroom discussion.

Modern Microeconomics

- *Economic surplus* is more fully developed here than in any other text. This concept underlies the argument for economic efficiency as an important social goal. Rather than speak of trade-offs between efficiency and other goals, we stress that maximizing economic surplus facilitates the achievement of *all* goals.
- One of the biggest hurdles to the fruitful application of cost-benefit thinking is to recognize and measure the relevant costs and benefits. *Common decision pitfalls* identified by 2002 Nobel Laureate Daniel Kahneman and others—such as the tendency to ignore implicit costs, the tendency not to ignore sunk costs, and the tendency to confuse average and marginal costs and benefits—are introduced in Chapter 1, *Thinking Like an Economist,* and discussed repeatedly in subsequent chapters.
- There is perhaps no more exciting toolkit for the economic naturalist than a few *principles of elementary game theory*. In Chapter 9, *Games and Strategic Behavior,* we show how these principles enable students to answer a variety of strategic questions that arise in the marketplace and everyday life. We believe that the insights of the Nobel Laureate Ronald Coase are indispensable for understanding a host of familiar laws, customs, and social norms. In new Chapter 10, *Introduction to Behavioral Economics,* we discuss the psychology of decision making. In Chapter 11, *Externalities, Property Rights, and the Environment,* we show how such devices function to minimize misallocations that result from externalities.

Modern Macroeconomics

The Great Recession has renewed interest in cyclical fluctuations without challenging the importance of such long-run issues as growth, productivity, the evolution of real wages, and capital formation. Our treatment of these issues is organized as follows:

- A five-chapter treatment of *long-run issues*, followed by a modern treatment of *short-term fluctuations and stabilization policy,* emphasizes the important distinction between short- and long-run behavior of the economy.
- *Designed to allow for flexible treatment of topics,* (Chapters 24–27) can be used before long-run material (Chapters 19–23) with no loss of continuity.
- The analysis of aggregate demand and aggregate supply relates output to inflation, rather than to the price level, sidestepping the necessity of a separate derivation of the link between the output gap and inflation.
- This book places a heavy emphasis on *globalization,* starting with an analysis of its effects on real wage inequality and progressing to such issues as the costs and benefits of trade, the causes and effects of protectionism, the role of capital flows in domestic capital formation, the link between exchange rates and monetary policy, and the sources of speculative attacks on currencies.

ORGANIZATION OF THE SEVENTH EDITION

In Microeconomics

- **More and clearer emphasis on and repetition of the Core Principles:** If we asked a thousand economists to provide their own versions of the most important economic principles, we'd get a thousand different lists. Yet to dwell on their differences would be to miss their essential similarities. It is less important to have exactly the best short list of principles than it is to use some well-thought-out list of this sort.
- **Outsourcing discussion supports comparative advantage material:** In Chapter 2, students will see a full-spectrum view of production possibilities and the realities economies face considering outsourcing decisions.
- **Strong connection drawn between core concepts:** Chapter 7 makes strong connections between market equilibrium and efficiency, the cost of preventing price adjustments, economic profit, and the invisible hand theory.
- **Introduction to behavioral economics:** New to this edition, Chapter 10 provides an introduction to the study of behavioral economics. Theoretical and empirical developments in economics and psychology have challenged traditional core assumptions of decision making. These challenges are explained and dissected in this chapter.
- **Using economics to help make policy decisions:** Chapters 11–13 use economic reasoning to help inform real-world policy decisions. Insurance, environmental regulation, and income redistribution are all discussed.
- **Early chapter on international trade:** Chapter 15 builds upon the comparative advantage material introduced in Chapter 2 as a basis for trade. Because international trade involves important micro principles and policy issues, this chapter is presented earlier in the book and

In Macroeconomics

- **A preview of key macroeconomic material:** Chapter 16 is new to this edition and serves to provide an overview of core macroeconomic concepts that are to be discussed in further detail.
- **Flexible presentation:** Part 6, "Macroeconomics: Issues and Data," (Chapters 16–18) is a self-contained group of chapters that cover definition and measurement issues. This allows instructors to proceed to a discussion of either long-run concepts as discussed in Part 7 (Chapters 19–23) or short-run concepts as covered in Part 8 (Chapters 24–27) with no loss of continuity.
- **Thorough discussion of labor markets:** Trends in employment, wages, and unemployment are covered together in Chapter 20 to help students understand and distinguish between long-term trends and short-term fluctuations in the labor market.
- **Strong connection drawn between financial markets and money:** Chapter 23 brings together information on financial intermediaries, bond and stock markets, and international capital markets so that students can make the connections among stock markets, bond markets, international capital flows.
- **The simple Keynesian model:** We present the simple Keynesian model through examples that are developed both graphically and numerically.
- **Modular presentation of money and monetary policy:** Chapter 22 introduces students to the concept of money, which can be covered separately or in direct conjunction with the discussion of monetary policy in Chapter 26.
- **The presentation of aggregate demand and aggregate supply:** Chapter 27 has been completely rewritten. The *AD–AS* model is developed systematically (based on concepts introduced in Chapters 24–26) using a graphical approach, allowing students to better understand the link among economic theory, real-world macroeconomic behavior, and macroeconomic policymaking.
- **Flexible coverage of international economics:** Chapter 28 is a self-contained discussion of exchange rates that can be used whenever an instructor thinks it best to introduce this important subject.

CHANGES IN THE SEVENTH EDITION

Changes Common to All Chapters

In all chapters, the narrative has been tightened. Many of the examples have been updated, with a focus on examples that connect to current events such as the financial crisis of 2008 and the Great Recession of 2007–2009. The examples, concept checks, and end-of-chapter material from the previous edition have been redesigned to provide more clarity and ease of use. Several numbered examples in the macro portion of the book have been turned back into Economic Naturalist examples as they were originally intended. Data have been updated throughout.

Chapter-by-Chapter Changes

- **Chapter 1:** Examples 1.5 and 1.6 have been updated to SpaceX scenarios.
- **Chapter 2:** An additional end-of-chapter problem has been added.
- **Chapter 3:** Minor adjustments made some of the end-of-chapter problems.
- **Chapter 4:** Added some additional end-of-chapter problems.
- **Chapter 5:** Added an indifference curves appendix back into the book to follow this chapter.
- **Chapter 6:** Refinements made to some end-of-chapter problems, and a small adjustment was made to the wording of LO3.
- **Chapter 7:** Refinements made to some end-of-chapter problems.
- **Chapter 8:** Previous LO2 has been split into two learning objectives, with the "Economies of Scale and the Importance of Start-Up Costs" heading now promoted to a first-level head.
- **Chapter 9:** Slight rewording of LO1 and LO4. A new review question has been added along with some minor adjustments to the end-of-chapter problems.
- **Chapter 10:** New to this edition, this chapter serves as an introduction to behavioral economics for those who wish to incorporate this thought-provoking material.
- **Chapter 11:** This was previously Chapter 10. The "Using Price Incentives in Environmental Regulations" section was added here from what was previously, and now deleted, Chapter 13 (*The Environment, Health, and Safety*). Significant updates were added to the discussion of climate change. Additional end-of-chapter problems were added, and one was removed.
- **Chapter 12:** This was previously Chapter 11. The health care material from what was previously, and now deleted, Chapter 13 (*The Environment, Health, and*

Safety) has been moved here and has been rewritten in a new section named "Insurance."

- **Chapter 13:** This was previously Chapter 12.
- **Chapter 14:** Content and data updates have been added as needed.
- **Chapter 15:** Builds upon the comparative advantage as a basis for trade material introduced in Chapter 2. This chapter discusses production and consumption possibilities and the benefits of trade, a supply and demand perspective on trade, and protectionism. It also emphasizes that unless policymakers act to compensate those who lose from trade, the potential losers from trade may quite rationally be opposed to it.
- **Chapter 16:** New to this edition, this chapter serves to provide a preview to the upcoming macroeconomic material that is to follow.
- **Chapter 17:** This was previously Chapter 15 (*Spending, Income, and GDP*) with unemployment rate material from what was previously Chapter 17 (*Wages and Unemployment*) added here. In assessing the level of economic activity in a country, economists look at a variety of data, among those being real GDP and the unemployment rate. As such, this material was moved back up into this chapter as it had originally appeared. An extra Orchardia example has been added, along with women's labor force participation material. A discussion of circular flow diagrams has also been added.
- **Chapter 18:** This was previously Chapter 16. Figure 16.1 and Economic Naturalist 16.1 have been deleted. A new Economic Naturalist example explains why Congress periodically raises the minimum wage.
- **Chapter 19:** This was previously Chapter 18. More analysis of the rise in the labor force participation rate and the share of the population with jobs has been incorporated. Example 18.4 has been changed to appear as Economic Naturalist 19.1. Similarly, Example 18.6 has been changed to appear as Economic Naturalist 19.2 and has been updated. "The Costs of Economic Growth" section was moved ahead of the "Promoting Economic Growth" section (LO4 and LO5 have thus been switched and rephrased). The "Are There Limits to Growth" subsection was promoted to a first-level head. Examples 18.8 and 18.9 were deleted entirely.
- **Chapter 20:** This was previously Chapter 17. Two labor market trends related to employment and unemployment have been added back into this chapter. The "Unemployment and the Unemployment Rate" section that appeared in this chapter previously has been moved to current Chapter 17. The "Impediments to Full Employment" section has been rewritten, and the subsections on minimum wage laws and unions have been deleted.
- **Chapter 21:** This was previously Chapter 19, with the bond and stock material now moved to Chapter 23. The "Why Do People Save" and "National Saving and Its Components" sections have been switched (LO2 and LO3 have thus been switched). A new Economic Naturalist example on why Chinese households save so much has been added. Examples 19.3 and 19.7 were changed to Economic Naturalist examples as they were originally intended. A new subsection, "Is Low Household Saving a Problem?" has been added to examine this question using both a microeconomic and macroeconomic perspective.
- **Chapter 22:** This was previously Chapter 20 with the financial intermediaries discussion now moved to Chapter 23. The Federal Reserve System discussion has been moved to appear in this chapter from what was previously Chapter 23. Example 23.1 has been changed to appear as Economic Naturalist 22.2. Example 20.2 was changed to Economic Naturalist 22.1 along with data updates to the Bitcoin material.
- **Chapter 23:** Combining material from previous Chapters 19, 20, and 26, this new chapter is entitled *Financial Markets and International Capital Flows*. We start with a discussion of the banking system and the allocation of saving from the previous Chapter 20. A new Economic Naturalist example has been added that discusses what happens to national economies during banking crises (the previous Japanese banking crisis example has been deleted). We then turn to the bond and stock material from the previous Chapter 19. A new Economic Naturalist example that examines the U.S. stock market is featured. We finish the chapter with a discussion of trade balance and international capital flows from the previous Chapter 26.
- **Chapter 24:** This was previously Chapter 21. A new Economic Naturalist example added to the introduction examines the effect of economic fluctuations on presidential elections and outcomes. A number of examples have been changed to Economic Naturalist examples. The Economic Naturalist example on Coca-Cola machines has been deleted.
- **Chapter 25:** This was previously Chapter 22. Example 22.1 was changed to Economic Naturalist 25.1 and has been revised to include Uber and Lyft. A number of examples throughout this chapter have been changed to Economic Naturalist examples with updates for currency.

- **Chapter 26:** Constructed from a rearranged version of previous Chapter 23, this chapter has been renamed *Stabilizing the Economy: The Role of the Fed*. We start with a discussion of the Federal Reserve and interest rates, which features new Examples 26.1 and 26.2 along with a new concept check. The section on how the Fed controls the money supply has been substantially revised. A new subsection answers the question, "Do interest rates always move together?"; it helps students understand what the Fed has been doing "unconventionally" since 2008. Material on the zero lower bound, quantitative easing, forward guidance, and interest on reserves and monetary-policy normalization has been added. Some of the narrative in "The Fed Fights a Recession" section has been drawn out as a numbered example. Example 23.4 has been changed to Economic Naturalist 26.2. Example 23.5 has been changed to Economic Naturalist 26.3. The section "Should the Federal Reserve Respond to Changes in Asset Prices" has been changed back to an Economic Naturalist example. A discussion of the Fed's policy reaction function and the Taylor rule has been added along with a discussion on excess reserves.
- **Chapter 27:** This chapter was previously Chapter 24 and has been rewritten. Now entitled *Inflation and Aggregate Supply,* we revert back to the way this material was presented in earlier editions.
- **Chapter 28:** This chapter was previously Chapter 26 with the international capital flows and balance of trade material moved to Chapter 23. The section on exchange rate determination in the long run has been moved toward the beginning of the chapter, with the real exchange rate material now appearing as part of the first section on exchange rates. We then move to a discussion of exchange rate determination in the short run, followed by monetary policy and the exchange rate. A new section on fixed exchange rates with material on speculative attacks and how monetary policy can be used to influence exchange rates has been added. A number of new Economic Naturalist examples have been added throughout.

ORGANIZED LEARNING IN THE SEVENTH EDITION

Chapter Learning Objectives

Students and professors can be confident that the organization of each chapter surrounds common themes outlined by four to seven learning objectives listed on the first page of each chapter. These objectives, along with AACSB and Bloom's Taxonomy Learning Categories, are connected to all test bank questions and end-of-chapter material to offer a comprehensive, thorough teaching and learning experience. Reports available within Connect allow instructors to easily output data related to student performance across chapter learning objectives, AACSB criteria, and Bloom's categories.

Assurance of Learning Ready

Many educational institutions today are focused on the notion of assurance of learning, an important element of some accreditation standards. *Principles of Economics,* 7/e, is designed specifically to support your assurance of learning initiatives with a simple, yet powerful, solution.

Instructors can use Connect to easily query for learning objectives that directly relate to the objectives of the course and then use the reporting features of Connect to aggregate student results in a similar fashion, making the collection and presentation of assurance of learning data simple and easy.

AACSB Statement

McGraw-Hill Education is a proud corporate member of AACSB International. Recognizing the importance and value of AACSB accreditation, the authors of *Principles of Economics,* 7/e, have sought to recognize the curricula guidelines detailed in AACSB standards for business accreditation by connecting questions in the test bank and end-of-chapter material to the general knowledge and skill guidelines found in AACSB standards. It is important to note that the statements contained in *Principles of Economics,* 7/e, are provided only as a guide for the users of this text.

A NOTE ON THE WRITING OF THIS EDITION

Ben Bernanke was sworn in on February 1, 2006, as Chairman and a member of the Board of Governors of the Federal Reserve System, a position to which he was reappointed in January 2010. From June 2005 until January 2006, he served as chairman of the President's Council of Economic Advisers. These positions have allowed him to play an active role in making U.S. economic policy, but the rules of government service have restricted his ability to participate in the preparation of previous editions. Now that his second term as Chairman of the Federal Reserve is complete, we are happy to announce that Ben has been actively involved in the revision of the macro portion of the seventh edition.

ACKNOWLEDGMENTS

Our thanks first and foremost go to our brand manager, Katie Hoenicke, and our product developer, Christina Kouvelis. Katie encouraged us to think deeply about how to improve the book and helped us transform our ideas into concrete changes. Christina shepherded us through the revision process with intelligence, sound advice, and good humor. We are grateful as well to the production team, whose professionalism (and patience) was outstanding: Harvey Yep, content project manager; Bruce Gin, assessment project manager; Matt Diamond, lead designer; and all of those who worked on the production team to turn our manuscript into the text you see now. Finally, we also thank Bobby Pearson, marketing manager, for getting our message into the wider world.

Special thanks to Per Norander, University of North Carolina at Charlotte, for his energy, creativity, and help in refining the assessment material in Connect; Sukanya Kemp, University of Akron, for her detailed accuracy check of the learning glass and economic naturalist videos; Alvin Angeles and team at the University of California, San Diego, for their efforts in the production and editing of the learning glass videos; and Kevin Bertotti and the team at ITVK for their creativity in transforming Economic Naturalist examples into dynamic and engaging video vignettes.

Finally, our sincere thanks to the following teachers and colleagues, whose thorough reviews and thoughtful suggestions led to innumerable substantive improvements to *Principles of Economics, 7/e*.

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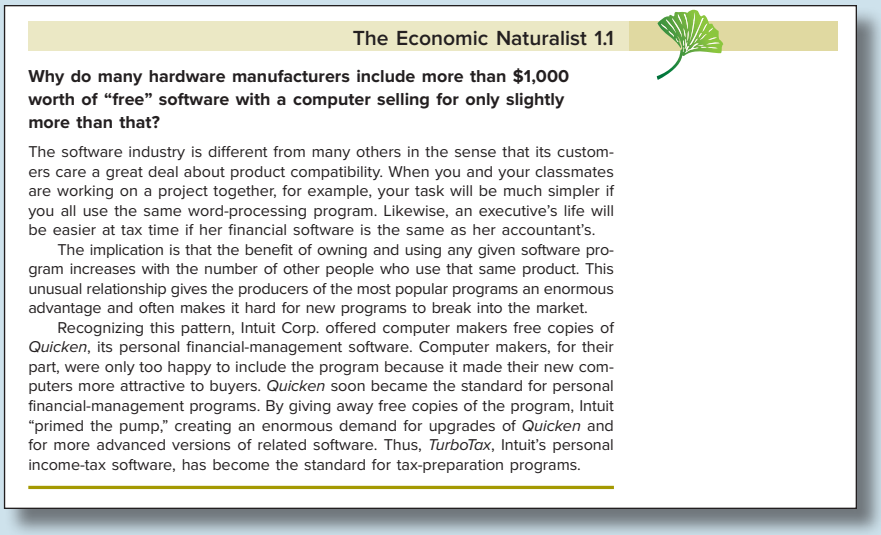
DISTINGUISHING FEATURES

ECONOMIC NATURALIST EXAMPLES

Each Economic Naturalist example starts with a question to spark interest in learning an answer. These examples fuel interest while teaching students to see economics in the world around them. Videos of select and new Economic Naturalist examples can be found within Connect. A full list of economic naturalist examples can be found following the table of contents.



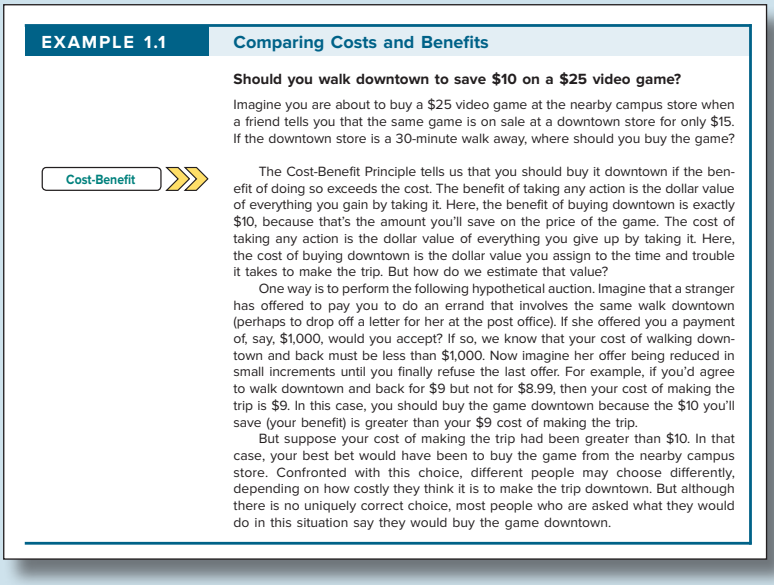
The Economic Naturalist 1.1

Why do many hardware manufacturers include more than $1,000 worth of "free" software with a computer selling for only slightly more than that?

The software industry is different from many others in the sense that its customers care a great deal about product compatibility. When you and your classmates are working on a project together, for example, your task will be much simpler if you all use the same word-processing program. Likewise, an executive's life will be easier at tax time if her financial software is the same as her accountant's.

The implication is that the benefit of owning and using any given software program increases with the number of other people who use that same product. This unusual relationship gives the producers of the most popular programs an enormous advantage and often makes it hard for new programs to break into the market.

Recognizing this pattern, Intuit Corp. offered computer makers free copies of *Quicken*, its personal financial-management software. Computer makers, for their part, were only too happy to include the program because it made their new computers more attractive to buyers. *Quicken* soon became the standard for personal financial-management programs. By giving away free copies of the program, Intuit "primed the pump," creating an enormous demand for upgrades of *Quicken* and for more advanced versions of related software. Thus, *TurboTax*, Intuit's personal income-tax software, has become the standard for tax-preparation programs.



EXAMPLE 1.1 **Comparing Costs and Benefits**

Should you walk downtown to save $10 on a $25 video game?

Imagine you are about to buy a $25 video game at the nearby campus store when a friend tells you that the same game is on sale at a downtown store for only $15. If the downtown store is a 30-minute walk away, where should you buy the game?

Cost-Benefit

The Cost-Benefit Principle tells us that you should buy it downtown if the benefit of doing so exceeds the cost. The benefit of taking any action is the dollar value of everything you gain by taking it. Here, the benefit of buying downtown is exactly $10, because that's the amount you'll save on the price of the game. The cost of taking any action is the dollar value of everything you give up by taking it. Here, the cost of buying downtown is the dollar value you assign to the time and trouble it takes to make the trip. But how do we estimate that value?

One way is to perform the following hypothetical auction. Imagine that a stranger has offered to pay you to do an errand that involves the same walk downtown (perhaps to drop off a letter for her at the post office). If she offered you a payment of, say, $1,000, would you accept? If so, we know that your cost of walking downtown and back must be less than $1,000. Now imagine her offer being reduced in small increments until you finally refuse the last offer. For example, if you'd agree to walk downtown and back for $9 but not for $8.99, then your cost of making the trip is $9. In this case, you should buy the game downtown because the $10 you'll save (your benefit) is greater than your $9 cost of making the trip.

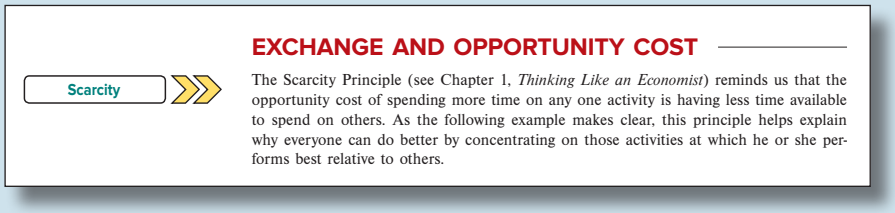
But suppose your cost of making the trip had been greater than $10. In that case, your best bet would have been to buy the game from the nearby campus store. Confronted with this choice, different people may choose differently, depending on how costly they think it is to make the trip downtown. But although there is no uniquely correct choice, most people who are asked what they would do in this situation say they would buy the game downtown.

NUMBERED EXAMPLES

Throughout the text, numbered and titled examples are referenced and called out to further illustrate concepts. Our engaging questions and examples from everyday life highlight how each human action is the result of an implicit or explicit cost-benefit calculation.

CORE PRINCIPLES

There are seven Core Principles that we focus on to ensure student mastery. Throughout the text, these principles are called out and are denoted by an icon in the margin. Again, the seven Core Principles are: scarcity, cost-benefit, incentive, comparative advantage, increasing opportunity cost, efficiency, and equilibrium.



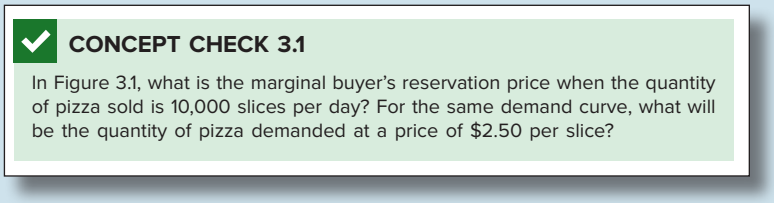
Scarcity

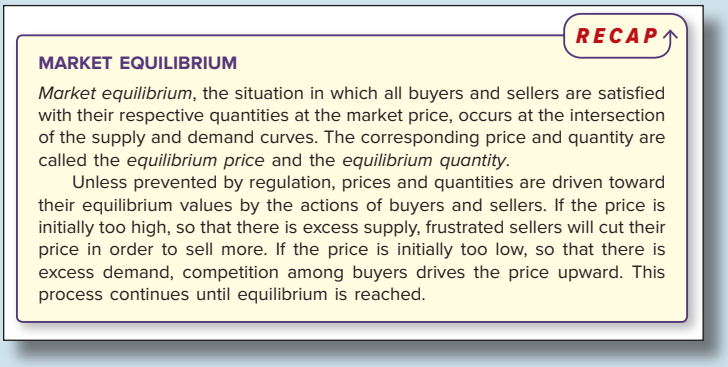
EXCHANGE AND OPPORTUNITY COST

The Scarcity Principle (see Chapter 1, *Thinking Like an Economist*) reminds us that the opportunity cost of spending more time on any one activity is having less time available to spend on others. As the following example makes clear, this principle helps explain why everyone can do better by concentrating on those activities at which he or she performs best relative to others.

CONCEPT CHECKS

These self-test questions in the body of the chapter enable students to determine whether the preceding material has been understood and reinforce understanding before reading further. Detailed answers to Concept Checks are found at the end of each chapter.





RECAP

Sprinkled throuhout each chapter are Recap boxes that underscore and summarize the importance of the preceding material and key concept takeaways.

SUPPLEMENTS

The following ancillaries are available for quick download and convenient access via the Instructor Resource material available through McGraw-Hill Connect®.

Solutions Manual

Prepared by the authors with assistance from Per Norander, University of North Carolina at Charlotte, this manual provides detailed answers to the end-of-chapter review questions and problems.

Test Bank

The test bank has been carefully revised and reviewed for accuracy. Thousands of questions have been categorized by chapter learning objectives, AACSB learning categories, Bloom's Taxonomy objectives, and level of difficulty.

Computerized Test Bank

TestGen is a complete, state-of-the-art test generator and editing application software that allows instructors to quickly and easily select test items from McGraw Hill's test bank content. The instructors can then organize, edit and customize questions and answers to rapidly generate tests for paper or online administration. Questions can include stylized text, symbols, graphics, and equations that are inserted directly into questions using built-in mathematical templates. TestGen's random generator provides the option to display different text or calculated number values each time questions are used. With both quick and simple test creation and flexible and robust editing tools, TestGen is a complete test generator system for today's educators.

PowerPoints

Presentation slides contain a detailed, chapter-by-chapter review of the important ideas presented in the textbook, accompanied by animated graphs and slide notes. You can edit, print, or rearrange the slides to fit the needs of your course.

Customizable Micro Lecture Notes

One of the biggest hurdles to an instructor considering changing textbooks is the prospect of having to prepare new lecture notes and slides. For the microeconomics chapters, this hurdle no longer exists. A full set of lecture notes for Principles of Microeconomics, prepared by Bob Frank for his award-winning introductory microeconomics course at Cornell University, is available as Microsoft Word files that instructors are welcome to customize as they see fit. The challenge for any instructor is to reinforce the lessons of the text in lectures without generating student unrest by merely repeating what's in the book. These lecture notes address that challenge by constructing examples that run parallel to those presented in the book, yet are different from them in interesting contextual ways.

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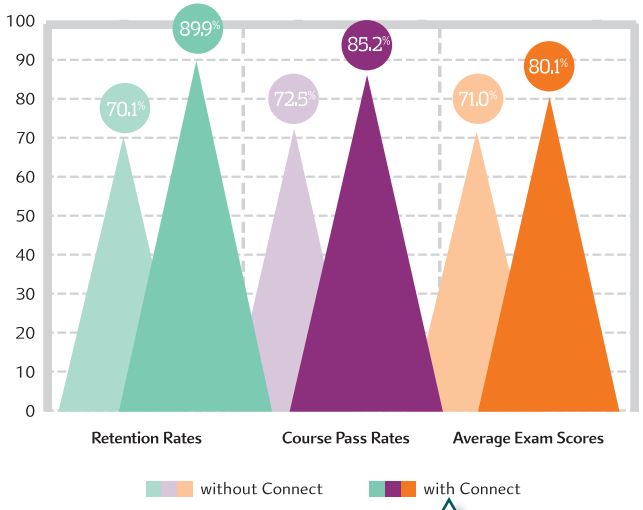

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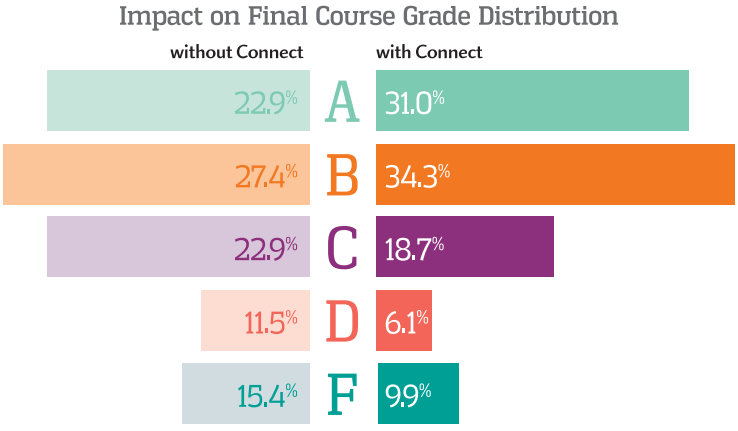

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