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# Microeconomics

PRINCIPLES, PROBLEMS, AND POLICIES

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# THE FOUR VERSIONS OF MCCONNELL, BRUE, FLYNN

Chapter*	Economics	Microeconomics	Macroeconomics	Essentials of Economics
1. Limits, Alternatives, and Choices	x	x	x	x
2. The Market System and the Circular Flow	x	x	x	x
3. Demand, Supply, and Market Equilibrium	x	x	x	x
4. Market Failures: Public Goods and Externalities	x	x	x	x
5. Government's Role and Government Failure	x	x	x	x
6. Elasticity	x	x		x
7. Utility Maximization	x	x		
8. Behavioral Economics	x	x		
9. Businesses and the Costs of Production	x	x		x
10. Pure Competition in the Short Run	x	x		x
11. Pure Competition in the Long Run	x	x		x
12. Pure Monopoly	x	x		x
13. Monopolistic Competition	x	x		x
14. Oligopoly and Strategic Behavior	x	x		x
15. Technology, R&D, and Efficiency (Web Chapter)	x	x		
16. The Demand for Resources	x	x		
17. Wage Determination	x	x		x
18. Rent, Interest, and Profit	x	x		
19. Natural Resource and Energy Economics	x	x		
20. Public Finance: Expenditures and Taxes	x	x		
21. Antitrust Policy and Regulation	x	x		
22. Agriculture: Economics and Policy	x	x		
23. Income Inequality, Poverty, and Discrimination	x	x		x
24. Health Care	x	x		
25. Immigration	x	x		
26. An Introduction to Macroeconomics	x		x	
27. Measuring Domestic Output and National Income	x		x	x
28. Economic Growth	x		x	x
29. Business Cycles, Unemployment, and Inflation	x		x	x
30. Basic Macroeconomic Relationships	x		x	
31. The Aggregate Expenditures Model	x		x	
32. Aggregate Demand and Aggregate Supply	x		x	x
33. Fiscal Policy, Deficits, and Debt	x		x	x
34. Money, Banking, and Financial Institutions	x		x	x
35. Money Creation	x		x	
36. Interest Rates and Monetary Policy	x		x	x
37. Financial Economics	x		x	
38. Extending the Analysis of Aggregate Supply	x		x	
39. Current Issues in Macro Theory and Policy	x		x	
40. International Trade	x	x	x	x
41. The Balance of Payments, Exchange Rates, and Trade Deficits	x	x	x	x
42. The Economics of Developing Countries (Web Chapter)	x		x	

\*Chapter numbers refer to *Economics: Principles, Problems, and Policies*.

A red "X" indicates chapters that combine or consolidate content from two or more *Economics* chapters.



# Microeconomics

PRINCIPLES, PROBLEMS, AND POLICIES

Twenty-First Edition

**Campbell R. McConnell**

*University of Nebraska*

**Stanley L. Brue**

*Pacific Lutheran University*

**Sean M. Flynn**

*Scripps College*





MICROECONOMICS: PRINCIPLES, PROBLEMS, AND POLICIES, TWENTY-FIRST EDITION

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**To Mem and to Terri and Craig, and to past instructors**



## ABOUT THE AUTHORS



**CAMPBELL R. MCCONNELL** earned his Ph.D. from the University of Iowa after receiving degrees from Cornell College and the University of Illinois. He taught at the University of Nebraska–Lincoln from 1953 until his retirement in 1990. He is also coauthor of *Contemporary Labor Economics*, eleventh edition, and *Essentials of Economics*, third edition, and has edited readers for the principles and labor economics courses. He is a recipient of both the University of Nebraska Distinguished Teaching Award and the James A. Lake Academic Freedom Award and is past president of the Midwest Economics Association. Professor McConnell was awarded an honorary Doctor of Laws degree from Cornell College in 1973 and received its Distinguished Achievement Award in 1994. His primary areas of interest are labor economics and economic education. He has an extensive collection of jazz recordings and enjoys reading jazz history.

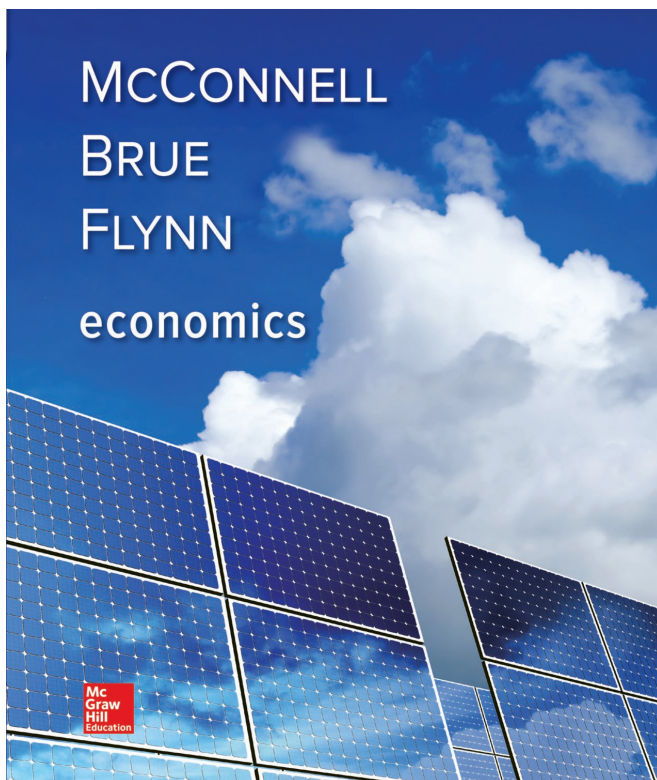


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**SEAN M. FLYNN** did his undergraduate work at the University of Southern California before completing his Ph.D. at U.C. Berkeley, where he served as the Head Graduate Student Instructor for the Department of Economics after receiving the Outstanding Graduate Student Instructor Award. He teaches at Scripps College (of the Claremont Colleges) and is the author of *Economics for Dummies*, second edition (Wiley), and coauthor of *Essentials of Economics*, third edition. His research interests include finance, behavioral economics, and health economics. An accomplished martial artist, he has represented the United States in international aikido tournaments and is the author of *Understanding Shodokan Aikido* (Shodokan Press). Other hobbies include running, traveling, and enjoying ethnic food.

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Welcome to the 21st edition of *Economics*, the best-selling economics textbook in the world. An estimated 15 million students have used *Economics* or its companion editions, *Macroeconomics* and *Microeconomics*. *Economics* has been adapted into Australian and Canadian editions and translated into Italian, Russian, Chinese, French, Spanish, Portuguese, and other languages. We are pleased that *Economics* continues to meet the market test: nearly one out of five U.S. students in principles courses used the 20th edition.

## Fundamental Objectives

We have three main goals for *Economics*:

- Help the beginning student master the principles essential for understanding the economizing problem, specific economic issues, and policy alternatives.
- Help the student understand and apply the economic perspective and reason accurately and objectively about economic matters.
- Promote a lasting student interest in economics and the economy.

## What's New and Improved?

One of the benefits of writing a successful text is the opportunity to revise—to delete the outdated and install the new, to rewrite misleading or ambiguous statements, to introduce more relevant illustrations, to improve the organizational structure, and to enhance the learning aids.

We trust that you will agree that we have used this opportunity wisely and fully. Some of the more significant changes include the following.

### Separate Presentations of Monopolistic Competition and Oligopoly

In response to instructor feedback, we have split the material on monopolistic competition and oligopoly that had together comprised a single chapter in previous editions into two separate chapters. The separated chapters have been made modular so that skipping either or covering both will be equally viable options for instructors. This should be particularly helpful to instructors who want to spend more time on oligopoly.

### Onboarding of Web Chapters and COI Material

Economics is everywhere, so the 21st edition continues our commitment to providing instructors with accessible and intuitive coverage of a wide variety of economic subject areas. To that end, we are happy to report that we have been able to pull material that appeared only online in previous editions into the printed book. That includes what were previously two full-length Web Chapters as well as a large fraction of the material that had been posted online as Content Options for Instructors (COIs).

“Technology, R&D, and Efficiency,” which had previously been a Web Chapter, is now Chapter 15, while “The Economics of Developing Countries,” also previously a Web Chapter, is now Chapter 42. Those chapters as well as the material on “Previous Exchange Rate Systems” that had been posted online as Content Options for Instructors 2 (COI2) are now integrated directly into the printed book, the latter becoming an appendix to Chapter 27 (The Balance of Payments, Exchange Rates, and Trade Deficits). The only online material that was not brought into the book was COI1, “The United States in the Global Economy.” That content largely duplicated material that appeared in other chapters and was not much used, so it will no longer be supported either online or in print.

## Modernized Presentation of Fixed Exchange Rates and Currency Interventions


For this new edition, we have reorganized and rewritten large parts of Chapter 27 (The Balance of Payments, Exchange Rates, and Trade Deficits). The key revision has to do with our presentation of fixed exchange rates. We now show with greater clarity that under a fixed exchange rate regime, changes in the balance of payments generate automatic changes in both foreign exchange reserves and the domestic money supply that then have to be dealt with by a nation's central bank. Our new presentation uses China as an example of these forces and how they often lead to "sterilization" actions on the part of the central banks that are engaged in currency pegs. Our new presentation also clarifies the relationship between trade deficits and foreign exchange reserves under a currency peg.

We have inserted additional examples into our presentation of flexible exchange rates and have introduced a new Last Word on optimal currency areas to give students insight into some of the European Monetary Union's current problems and how they relate to the fact that a monetary union is equivalent to simultaneous multilateral currency pegs. For instructors who wish to give a larger historical perspective, we have created a brief appendix that covers the gold standard era as well as the Bretton Woods period. This material was previously available in Content Options for Instructors 1 (COI2).

## New "Consider This" and "Last Word" Pieces

Our "Consider This" boxes are used to provide analogies, examples, or stories that help drive home central economic

**CONSIDER THIS . . .**



**A Bright Idea**

In sunny areas, a solar panel can make up for the cost of its installation in just a few years by greatly reducing or even eliminating a household's electricity bill. After those years of payback are finished, there will be almost nothing but benefits because the solar panel will continue to provide free electricity at only modest maintenance costs. Consequently, nearly every household in sunny areas could rationally profit from installing solar panels.

Unfortunately, myopia discourages most people from wanting to reap the net benefits. Because people are myopic, they focus too strongly on the upfront costs of installing solar panels while at the same time discounting the long-run benefits from being able to generate their own electricity. The result is major inefficiency as most homeowners end up foregoing solar panels.

A company called Solar City has figured out a way to work with rather than against people's myopia. It does so by offering leasing and financing options that eliminate the need for consumers to pay for the upfront costs of installing a solar system. Instead, Solar City pays for the upfront costs and then makes its money by splitting the resulting savings on monthly electricity bills with consumers.

This arrangement actually benefits from myopia because consumers get to focus on instant savings rather than initial costs. The same strategy can also be used to promote other investments that would normally be discouraged by myopia, such as installing energy-efficient furnaces, air conditioners, and appliances.

Source: © Federico Rostagno/Shutterstock.com

ideas in a student-oriented, real-world manner. For instance, a "Consider This" box titled "McHits and McMisses" illustrates consumer sovereignty through a listing of successful and unsuccessful products. How businesses exploit price discrimination is driven home in a "Consider This" box that explains why ballparks charge different admission prices for adults and children but only one set of prices at their concession stands. These brief

**LAST WORD**


**Antitrust Online**

**The Internet Has Presented Antitrust Authorities with Both Old and New Causes for Concern.**

The Airline Tariff Publishing case was the first important example of how digital communication platforms could be used by businesses to engage in price-fixing. In the late 1980s, U.S. airlines began to post both current and future prices for airline tickets on a centralized computer system known as the Airline Tariff Publishing Company. The system was set up so that travel agents could compare prices for their clients. But the airlines used the system's ability to list start dates and end dates for ticket purchases as a way of colluding.

As an example, suppose that American Airlines and Delta Airlines had both been charging \$200 for a one-way ticket between New York and Chicago. American could then post a higher price of \$250 for the route with the stipulation that nobody could start buying tickets at that price until the next month. Delta could then respond by also saying that it would start selling tickets at the higher price next month. In that way, the two airlines could tacitly coordinate their price setting ahead of time so as to collude on a major price increase.

The antitrust authorities at the U.S. Department of Justice stopped this practice in 1994 by getting the airlines to agree to the behavioral



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The most recent threat to competition spawned by the Internet is the rise of collusion via pieces of software that use pricing algorithms (automatically applied rules for setting prices) to constantly adjust a company's online prices in response to seeing what rival firms are charging for similar products. The problem for regulators

vignettes, each accompanied by a photo, illustrate key points in a lively, colorful, and easy-to-remember way. We have added 10 new "Consider This" boxes in this edition.

Our "Last Word" pieces are lengthier applications or case studies that are placed near the end of each chapter. For example, the "Last Word" section for Chapter 1 (Limits, Alternatives, and Choices) examines pitfalls to sound economic reasoning, while the "Last Word" section for Chapter 4 (Market Failures: Public Goods and Externalities) examines cap-and-trade versus carbon taxes as policy responses to excessive carbon dioxide emissions. There are 7 new "Last Word" sections in this edition.

If you are unfamiliar with *Economics*, we encourage you to thumb through the chapters to take a quick look at these highly visible features.

## Enhanced Coverage of Game Theory and Strategic Behavior

The online economy and the tech sector present students with many high-profile examples of oligopolistic firms and industries. A grasp of strategic behavior is consequently more important than ever for principles students. To that end, the 21st edition features extended coverage of game theory and strategic behavior. The new material covers topics related to sequential games, including backward induction, the game-tree (extensive form) representation of strategic games, and subgame perfect Nash equilibrium.

In previous editions, a substantial portion of our game theory coverage appeared in an appendix to a chapter that covered both monopolistic competition and oligopoly. With the material on monopolistic competition now located in a separate chapter, we have been able to eliminate the appendix and fully integrate the game theory material that had appeared there with the treatment of oligopoly that had appeared in the main body of text. The result is our new Chapter 14, which is titled, "Oligopoly and Strategic Behavior."

This integrated presentation facilitates student comprehension of both game theory and oligopoly because strategic interactions are always presented in an accessible, intuitive context. Students already understand that Google’s actions affect those of rivals like Facebook, and vice versa. So integrating oligopoly with game theory illuminates both sets of material.

## New Discussions of Unconventional Monetary Policy and Interest-Rate Normalization

Our macroeconomics chapters on monetary policy have been rewritten in many places to reflect the historically unprecedented monetary policy regimes that have been instituted by central banks since the Financial Crisis. Thus, for instance, we have included material that will allow students to comprehend the negative interest rates that are now common in Europe. Also necessary was a revised treatment of the federal funds rate to reflect the fact that monetary policy has been implemented in recent years in the United States by means of open-market interventions aimed at quantitative easing rather than open-market interventions aimed at lowering the federal funds rate, which has been stuck near the zero lower bound since the Great Recession.

We have also been sure to include intuitive coverage of the monetary policy tools that the Federal Reserve says it will be using in coming years to “normalize” monetary policy and raise short-term interest rates in the context of massive excess bank reserves. To that end, we have truncated our coverage of the federal funds market because the Fed has stated that it intends to normalize via the repo market and the interest rate that it pays banks on excess reserves (IOER). We cover those mechanisms in detail and explain how the Fed intends to use them in coming years.

## Tested Content for Peer Instruction

*Economics* has been at the forefront of pedagogical innovation since our first edition, when we debuted the first separate student study guide and the first explanations next to each figure so that students could understand what was going on without having to hunt around in the main text for an explanation. Successive editions have brought additional firsts, from being the first with prepared overhead slides to being the first with SmartBook and adaptive-learning technology.

While technology has made learning with *Economics* more efficient for the individual student, we wanted to offer new methods to enhance the effectiveness of the classroom experience as well. We are consequently proud that we are now going to be the first textbook to offer Peer Instruction materials that are highly effective, comprehensive, and classroom-tested.

Peer Instruction was pioneered by Eric Mazur of Harvard University’s Physics Department. It is a student-focused, interactive teaching method that has been shown to massively increase the depth of student understanding across a wide variety of disciplines. It works by having students, in groups, ponder and discuss questions about challenging scenarios before their instructor steps in to clear up any lingering misconceptions. Along the way, students first answer each question individually before voting as a team after a discussion. Those two answers—individual, then group—provided the evidence for the effectiveness of Peer Instruction.

As explained by Harvard psychologist Stephen Pinker, the group discussions lead to a deeper and more intuitive understanding of concepts and theories than can usually be achieved with lecture-based instruction. That is the case because beginners are often better than experts at explaining challenging ideas to other beginners. The problem with experts—that is, instructors like you and me—is that the process of becoming an expert rewires the brain so that the expert can no longer think like a beginner. Our own expertise makes it difficult to see where students are getting confused and it is consequently very useful to unleash the power of Peer Instruction to help beginners tackle new material.

The effectiveness of Peer Instruction depends, however, on the quality of the questions and scenarios that students are asked to ponder. Developing good questions and effective scenarios is highly time intensive and often a matter of experimentation; you just don’t know how well a question or scenario will work until you try it. It is not a surprise, then, that today’s busy instructors often shy away from Peer Instruction because of the high start-up costs and the time required to develop truly effective questions and scenarios.

Fortunately for you, we did all the work. Author Sean Flynn and Todd Fitch of the University of San Francisco have field-tested hundreds of questions and scenarios for effectiveness. So with this 21st edition of McConnell, we are ready to offer a fully supported set of Peer Instruction material tied directly to each of the learning objectives in *Economics*. The questions and scenarios, as well as resources to help organize a Peer Instruction classroom can be found in Connect.

If you have ever been in a situation in which more experienced students helped to teach newer students, you have seen the power of Peer Instruction. Our new materials bring us back to that paradigm. So while we are first once again with Peer Instruction in economics, credit belongs to the pioneering work of dedicated teachers like Eric Mazur and Stephen Pinker for making this method available across disciplines.

## Full Support for Flipped Classroom Teaching Strategies

We have also designed our new Peer Instruction materials to facilitate flipped-classroom teaching strategies, wherein

students learn basic material at home, before lecture, before being challenged in class to reach higher levels of understanding. In K-12 math programs, for example, students study short videos on new content at home before coming to class to work problems. That sequence of learning activities assures that an instructor is present at the stage where students encounter the most difficulties, namely, when they attempt to apply the material. By contrast, the traditional (non-flipped) method for teaching elementary math presents new content in class before sending students home to work problems by themselves. That sequence leaves students without expert help when they are most vulnerable to misunderstandings and errors.

We have designed our new Peer Instruction materials to facilitate the flipped-classroom method by leveraging the adaptive learning materials that are already available in our Connect online learning platform. In particular, students can be assigned new material before lecture via SmartBook, which is an adaptive-learning technology that tutors students through the basic concepts and skills presented in each section of the book. We also recommend that students work before class on end-of-chapter problems and LearnSmart (which also come with adaptive feedback thanks to Connect).

Those pre-class activities will allow students to master the lower levels of Bloom's Taxonomy of learning objectives—things like remembering and understanding—*before* they come to class. They will then be ready to attack the higher levels of Bloom's Taxonomy—things like applying, analyzing, and evaluating. That's where our new Peer Instruction material comes in. Students who have each already worked their way through the lower levels of Bloom's Taxonomy come together in class under the instruction of an expert—their teacher—to work in unison on the higher levels of understanding that are the ultimate goal of economics instruction.

We are consequently happy to be offering students and instructors yet another first, namely, the first high-quality, proven, flipped-classroom package available for principles of economics classes. Not every instructor will choose to use this material, but we are confident that those who do will wish that it had arrived much sooner. For those instructors who are new to either Peer Instruction or the flipped-classroom method, we will be offering extensive complimentary training and support via online seminars and message boards. If you are eager to try these new methods, we will be happy to help you get going and keep going.

## Current Discussions and Examples

The 21st edition of *Economics* refers to and discusses many current topics. Examples include surpluses and shortages of tickets at the Olympics; the myriad impacts of ethanol subsidies; creative destruction; applications of behavioral economics; applications of game theory; the most rapidly

expanding and disappearing U.S. jobs; oil and gasoline prices; cap-and-trade systems and carbon taxes; occupational licensing; state lotteries; consumption versus income inequality; the impact of electronic medical records on health care costs; the surprising fall in illegal immigration after the 2007–2009 recession; conditional and unconditional cash transfers; the difficulty of targeting fiscal stimulus; the rapid rise in college tuition; the slow recovery from the Great Recession; ballooning federal budget deficits and public debt; the long-run funding shortfalls in Social Security and Medicare; the effect of rising dependency ratios on economic growth; innovative Federal Reserve policies, including quantitative easing, the zero interest rate policy, and explicit inflation targets; the massive excess reserves in the banking system; the jump in the size of the Fed's balance sheet; the effect of the zero interest rate policy on savers; regulation of “too big to fail” banks; trade adjustment assistance; the European Union and the Eurozone; changes in exchange rates; and many other current topics.

## Chapter-by-Chapter Changes

Each chapter of *Economics*, 21st edition, contains updated data reflecting the current economy, revised Learning Objectives, and reorganized and expanded end-of-chapter content. Every chapter also contains one or more Quick Review boxes to help students review and solidify content as they are reading along.

Chapter-specific updates include:

**Chapter 1: *Limits, Alternatives, and Choices*** features two refreshed Consider This pieces as well as revised new examples and working improvements to clarify the main concepts.

**Chapter 2: *The Market System and the Circular Flow*** contains updated examples and a brief new introduction to the concept of residual claimant.

**Chapter 3: *Demand, Supply, and Market Equilibrium*** includes a new Last Word on how student lending raises college tuition as well as data updates and updated examples.

**Chapter 4: *Market Failures: Public Goods and Externalities*** features updated examples and a new Key Word on Pigovian taxes.

**Chapter 5: *Government's Role and Government Failure*** has a new Consider This on government agencies violating government laws, several new examples, and wording revisions for increased clarity.

**Chapter 6: *Elasticity*** contains several updated examples.

**Chapter 7: *Utility Maximization*** incorporates updated examples and a new Consider This vignette on consumers applying maximizing behavior to the calorie data that are now printed on restaurant menus.

**Chapter 8: Behavioral Economics** contains a new Consider This piece on the myopia-busting business model employed by Solar City as well as a new Last Word describing the activities of the Behavioral Insights Team.

**Chapter 9: Businesses and the Costs of Production** incorporates a few wording updates to facilitate rapid comprehension.

**Chapter 10: Pure Competition in the Short Run** features several wording changes to improve student understanding of the end-of-chapter questions and problems.

**Chapter 11: Pure Competition in the Long Run** contains several updated examples to keep the content relevant for today's students.

**Chapter 12: Pure Monopoly** has a new Last Word about individualized online price discrimination as well as updated examples.

**Chapter 13: Monopolistic Competition** was previously part of a chapter that covered both monopolistic competition and oligopoly. We have split that chapter into two parts for the 21st edition so that instructors who wish to skip either set of material may easily do so.

**Chapter 14: Oligopoly and Strategic Behavior** was previously part of a chapter that covered both monopolistic competition and oligopoly. The material on oligopoly constitutes the basis for this stand-alone chapter, which also extends the game theory material found in the previous edition. Our extended coverage of game theory and strategic behavior includes extensive-form (game-tree) representations of sequential games and the concept of subgame-perfect Nash equilibrium. As with prior editions, all game theory material is kept concrete by presenting it in the context of strategic behavior among oligopoly firms.

**Chapter 15: Technology, R&D, and Efficiency** was previously a Web Chapter available only online. It has been brought into the main body of the book and contains extensive data updates as well as several new examples.

**Chapter 16: The Demand for Resources** incorporates light data updates as well as an entirely new Last Word on capital-labor substitution. This discussion uses ATM machines as its main example, just as the Last Word in the previous edition did. But an update was required because recent research indicates that the main premise of the old Last Word no longer holds true: ATMs did not in fact replace human tellers in the aggregate, at least not after managers adjusted to the new technology. The new Last Word updates the story.

**Chapter 17: Wage Determination** features extensive data updates, improved wording for clarity, and a new Last Word on how unnecessary occupational licensing requirements are reducing employment opportunities.

**Chapter 18: Rent, Interest, and Profit** incorporates wording improvements, data updates, and a new Consider This on the subject of profits.

**Chapter 19: Natural Resource and Energy Economics** has extensive data updates and a new Consider This boxed piece on how the current limitations of electricity-storage technology stymie the wider adoption of renewable energy sources such as solar and wind power.

**Chapter 20: Public Finance: Expenditures and Taxes** contains extensive data updates and several new examples.

**Chapter 21: Antitrust Policy and Regulation** has a new Last Word that covers both antitrust prosecutions against human managers who intentionally engage in anticompetitive practices as well as the newly evolving area of price-fixing by artificial intelligence algorithms that unintentionally collude to fix prices when they interact with each other.

**Chapter 22: Agriculture: Economics and Policy** features extensive data updates as well as a new section on the Agricultural Act of 2014.

**Chapter 23: Income Inequality, Poverty, and Discrimination** contains a new Consider This about welfare cliffs as well as extensive data updates and several new examples.

**Chapter 24: Health Care** contains many data updates as well as a completely revised Consider This on the problems that have been encountered during the implementation of the Patient Protection and Affordable Care Act.

**Chapter 25: Immigration** contains several new examples about the economic contributions of immigrants as well as comprehensive data updates.

**Chapter 26: International Trade** contains new examples and data updates.

**Chapter 27: The Balance of Payments, Exchange Rates, and Trade Deficits** is heavily revised for this edition. There is an entirely new presentation of fixed exchange rates and how the balance of payments under a fixed exchange rate determines the direction of change of both foreign exchange reserves as well as the domestic money supply. This presentation is illustrated with a new Consider This on China's currency peg as well as a new Last Word on whether common currencies (which are implicit pegs) are a good idea. This chapter also has a new appendix that includes the material on previous (pre-Bretton Woods) exchange rate systems that was previously presented in Content Options for Instructors 2 (COI2).

## Distinguishing Features

**Comprehensive Explanations at an Appropriate Level** *Economics* is comprehensive, analytical, and challenging yet

fully accessible to a wide range of students. The thoroughness and accessibility enable instructors to select topics for special classroom emphasis with confidence that students can read and comprehend other independently assigned material in the book. Where needed, an extra sentence of explanation is provided. Brevity at the expense of clarity is false economy.

**Fundamentals of the Market System** Many economies throughout the world are still making difficult transitions from planning to markets while a handful of other countries such as Venezuela seem to be trying to reestablish government-controlled, centrally planned economies. Our detailed description of the institutions and operation of the market system in Chapter 2 (The Market System and the Circular Flow) is therefore even more relevant than before. We pay particular attention to property rights, entrepreneurship, freedom of enterprise and choice, competition, and the role of profits because these concepts are often misunderstood by beginning students worldwide.

**Extensive Treatment of International Economics** We give the principles and institutions of the global economy extensive treatment. The appendix to Chapter 3 (Demand, Supply, and Market Equilibrium) has an application on exchange rates. Chapter 26 (International Trade) examines key facts of international trade, specialization and comparative advantage, arguments for protectionism, impacts of tariffs and subsidies, and various trade agreements. Chapter 27 (The Balance of Payments, Exchange Rates, and Trade Deficits) discusses the balance of payments, fixed and floating exchange rates, and U.S. trade deficits.

Chapter 26 (International Trade) is constructed such that instructors who want to cover international trade early in the course can assign it immediately after Chapter 3. Chapter 26 requires only a good understanding of production possibilities analysis and supply and demand analysis to comprehend.

International competition, trade flows, and financial flows are integrated throughout the micro and macro sections. “Global Perspective” boxes add to the international flavor of the book.

**Early and Extensive Treatment of Government** The public sector is an integral component of modern capitalism. This book introduces the role of government early. Chapter 4 (Market Failures: Public Goods and Externalities) systematically discusses public goods and government policies toward externalities. Chapter 5 (Government’s Role and Government Failure) details the factors that cause government failure. And Chapter 20 (Public Finance: Expenditures and Taxes) examines taxation and government expenditures in detail. Both the

micro and the macro sections of the text include issue- and policy-oriented chapters.

**Stress on the Theory of the Firm** We have given much attention to microeconomics in general and to the theory of the firm in particular, for two reasons. First, the concepts of microeconomics are difficult for most beginning students; abbreviated expositions usually compound these difficulties by raising more questions than they answer. Second, we wanted to couple analysis of the various market structures with a discussion of the impact of each market arrangement on price, output levels, resource allocation, and the rate of technological advance.

**Emphasis on Technological Change and Economic Growth** This edition continues to emphasize economic growth. Chapter 1 (Limits, Alternatives, and Choices) uses the production possibilities curve to show the basic ingredients of growth. Chapter 15 (Technology, R&D, and Efficiency) provides an explicit and cohesive discussion of the microeconomics of technological advance, including topics such as invention, innovation, and diffusion; start-up firms; R&D decision making; market structure and R&D effort; and creative destruction.

**Focus on Economic Policy and Issues** For many students, the micro chapters on antitrust, agriculture, income inequality, health care, and immigration, along with the macro chapters on fiscal policy and monetary policy, are where the action is centered. We guide that action along logical lines through the application of appropriate analytical tools. In the micro, we favor inclusiveness; instructors can effectively choose two or three chapters from Part 6.

## Organizational Alternatives

Although instructors generally agree on the content of principles of economics courses, they sometimes differ on how to arrange the material. *Economics* includes 11 parts, and thus provides considerable organizational flexibility. We place microeconomics before macroeconomics because this ordering is consistent with how contemporary economists view the direction of linkage between the two components. The introductory material of Parts 1 and 2, however, can be followed immediately by the macro analysis of Parts 7 and 8. Similarly, the two-path macro enables covering the full aggregate expenditures model or advancing directly from the basic macro relationships chapter to the AD-AS model.

Some instructors will prefer to intersperse the microeconomics of Parts 4 and 5 with the issues chapters of Part 6. Chapter 22 on agriculture may follow Chapters 10 and 11 on pure competition; Chapter 21 on antitrust and regulation may



follow Chapters 12, 13, 14, and 15 on imperfect competition models and technological advance. Chapter 25 on immigration may follow Chapter 17 on wages; and Chapter 23 on income inequality may follow Chapters 17 and 18 on distributive shares of national income.

Finally, Chapter 26 on international trade can easily be moved up to immediately after Chapter 3 on supply and demand for instructors who want an early discussion of international trade.

## Pedagogical Aids

*Economics* is highly student-oriented. The 21st edition is also accompanied by a variety of high-quality supplements that help students master the subject and help instructors implement customized courses.

### Digital Tools

**Adaptive Reading Experience.** SmartBook contains the same content as the print book, but actively tailors that content to the needs of the individual through adaptive probing. Instructors can assign SmartBook reading assignments for points to create incentives for students to come to class prepared.

**Extensive Algorithmic and Graphing Assessment.** Robust, auto-gradable question banks for each chapter now include even more questions that make use of the Connect graphing tool. More questions featuring algorithmic variations have also been added.

**Interactive Graphs.** This new assignable resource within Connect helps students see the relevance of subject matter by providing visual displays of real data for students to manipulate. All graphs are accompanied by assignable assessment questions and feedback to guide students through the experience of learning to read and interpret graphs and data.

**Videos** New to this edition are videos that provide support for key economics topics. These short, engaging explanations are presented at the moment students may be struggling to help them connect the dots and grasp challenging concepts.

**Math Preparedness Tutorials.** Our math preparedness assignments have been reworked to help students refresh on important prerequisite topics necessary to be successful in economics.

**Digital Image Library** Every graph and table in the text is available in the Instructor's Resource section in Connect.

**Three Reorganized Test Banks** The *Economics* test banks contain around 14,000 multiple-choice and true-false questions, many of which were written by the text authors. While previous editions grouped these questions into two separate test banks,

this edition uses a consolidated test bank with advanced tagging features that will allow instructors to choose familiar questions from Test Banks I and II or create new assignments from the full variety of questions in each chapter. Each test bank question for *Economics* also maps to a specific learning objective. Randy Grant revised Test Bank I for the 21st edition. Felix Kwan of Maryville University updated Test Bank II. All Test Bank questions are organized by learning objective, topic, AACSB Assurance of Learning, and Bloom's Taxonomy guidelines.

Test Bank III, written by William Walstad, contains more than 600 pages of short-answer questions and problems created in the style of the book's end-of-chapter questions. Test Bank III can be used to construct student assignments or design essay and problem exams. Suggested answers to the essay and problem questions are included. In all, nearly 15,000 questions give instructors maximum testing flexibility while ensuring the fullest possible text correlation.

**Computerized Test Bank Online** 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.

You can use our test bank software, TestGen, or *Connect Economics* to easily query for learning outcomes and objectives that directly relate to the learning objectives for your course. You can then use the reporting features to aggregate student results in a similar fashion, making the collection and presentation of assurance-of-learning data simple and easy.

**AACSB Statement** The McGraw-Hill Companies is a proud corporate member of the Association to Advance Collegiate Schools of Business (AACSB) International. Understanding the importance and value of AACSB accreditation, *Economics* has sought to recognize the curricula guidelines detailed in the AACSB standards for business accreditation by connecting end-of-chapter questions in *Economics* and the accompanying test banks to the general knowledge and skill guidelines found in the AACSB standards.

This AACSB Statement for *Economics* is provided only as a guide for the users of this text. The AACSB leaves content coverage and assessment within the purview of individual schools, their respective missions, and their respective faculty. While *Economics* and its teaching package make no claim of any specific AACSB qualification or evaluation, we

have, within *Economics* labeled selected questions according to the eight general knowledge and skills areas emphasized by AACSB.

## Supplements for Students and Instructors

**Study Guide** One of the world’s leading experts on economic education, William Walstad of the University of Nebraska–Lincoln, prepared the *Study Guide*. Many students find either the printed or digital version indispensable. Each chapter contains an introductory statement, a checklist of behavioral objectives, an outline, a list of important terms, fill-in questions, problems and projects, objective questions, and discussion questions.

The *Guide* comprises a superb “portable tutor” for the principles student. Separate *Study Guides* are available for the macro and micro editions of the text.

**Instructor’s Manual** Shawn Knabb of Western Washington University revised and updated the *Instructor’s Manual* to accompany the 21st edition of the text. The revised *Instructor’s Manual* includes:

- Chapter summaries.
- Listings of “what’s new” in each chapter.
- Teaching tips and suggestions.
- Learning objectives.
- Chapter outlines.
- Extra questions and problems.
- Answers to the end-of-chapter questions and problems, plus correlation guides mapping content to learning objectives.

The *Instructor’s Manual* is available in the Instructor’s Resource section, accessible through the Library tab in Connect.

**PowerPoint Presentations** A dedicated team of instructors updated the PowerPoint presentations for the 21st edition: Stephanie Campbell of Mineral Area College and Amy Chatagner of Mississippi Gulf Coast Community College. Each chapter is accompanied by a concise yet thorough tour of the key concepts. Instructors can use these presentations in the classroom, and students can use them on their computers.

## Digital Solutions

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Getting the most from new technology can be challenging. So McGraw-Hill offers a large suite of complementary support services for faculty using *Economics*. You can contact our Product Specialists 24 hours a day to set up online technology instruction. Or you can contact customer support at any time by either calling **800-331-5094** or by visiting the Customer Experience Group (CXG) Support Center at [www.mhhe.com/support](http://www.mhhe.com/support). They will put you in touch with a Technical Support Analyst familiar with *Economics* and its technology offerings. And, of course, our online knowledge bank of Frequently Asked Questions is always available at the just-mentioned website for instant answers to the most common technology questions.

## Acknowledgments

We give special thanks to Ryan Umbeck, Peter Staples, Peggy Dalton, and Matt McMahon for their hard work updating the questions and problems in *Connect*, as well as the material they created for the additional Connect Problems. Thank you Jody Lotz for her dedicated copy editing of the Connect end-of-chapter material. Laura Maghoney's expert revision of the SmartBook content and consultation on many other elements of this project were invaluable. Thanks to the many dedicated instructors who accuracy-checked the end-of-chapter content, test banks, and Instructor's Manuals: Per Norander, Ribhi Daoud, Gretchen Mester, Erwin Erhardt, and Xavier Whitacre. We offer our deepest gratitude to the amazing Laureen Cantwell for her research assistance. Finally, we thank William Walstad and Tom Barbiero (the coauthor of our Canadian edition) for their helpful ideas and insights.

We are greatly indebted to an all-star group of professionals at McGraw-Hill—in particular James Heine, Virgil Lloyd, Trina Maurer, Harvey Yep, Bruce Gin, Tara McDermott, Adam Huenecke, and Katie Hoenicke—for their publishing and marketing expertise.

The 21st edition has benefited from a number of perceptive formal reviews. The reviewers, listed at the end of the preface, were a rich source of suggestions for this revision. To each of you, and others we may have inadvertently overlooked, thank you for your considerable help in improving *Economics*.

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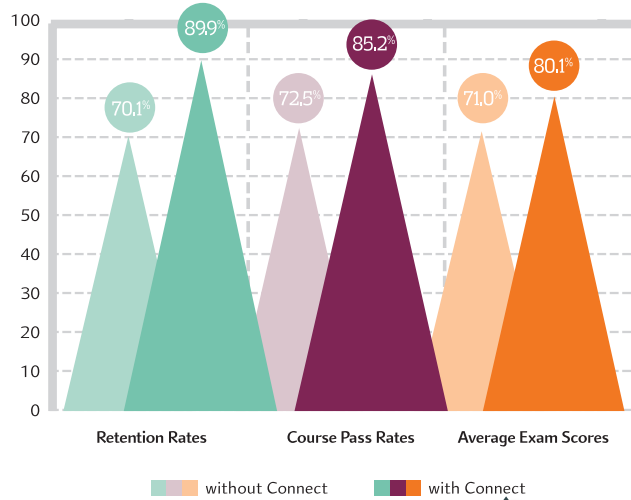
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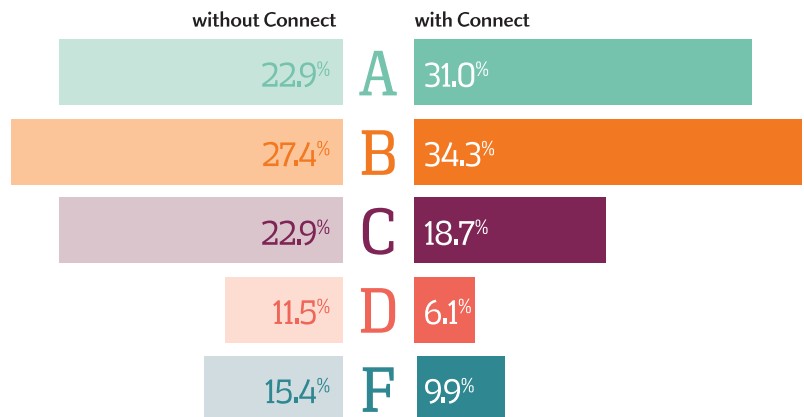
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