

## Microeconomics 4th Edition GOOLSBEE PDF

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# MICROECONOMICS

Fourth Edition



Goolsbee • Levitt • Syverson

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# Microeconomics

FOURTH EDITION

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worth publishers

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Composition: Lumina Datamatics, Inc.

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ISBN 978-1-319-52743-3 (ePUB)

Library of Congress Control Number: 2023930794

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Worth Publishers

120 Broadway

New York, NY 10271

[www.macmillanlearning.com](http://www.macmillanlearning.com)

**From Austan**

*To Aden, Addison, and Emmett*

**From Steve**

*To the next generation of economists, whose wisdom will shape the future*

**From Chad**

*To my wife Genaya and my children Claire, Adam, Victoria, and Gabrielle*

**From all**

*And to the University of Chicago, where people don't just study economics, they live it, breathe it, eat it, and sleep it. The world of economics would never be the same without you, and neither would we.*

## Engaging Every Student. Supporting Every Instructor. Proven Success. Continued Enhancement.

Macmillan Learning's **Achieve for Microeconomics** sets the standard for integrating **activities, assessments, and analytics** into your teaching. It brings together all of the features that instructors and students need—an e-book with interactive graphing, LearningCurve adaptive quizzing, and other instructional and application activities, assessments, and extensive instructor resources—in a powerful platform that offers:

- Deep platform integration with all LMS providers.
- Powerful assessment and adaptive quizzing.
- A fully integrated iClicker classroom response system.
- Exciting, enhanced, interactive graphing tools.

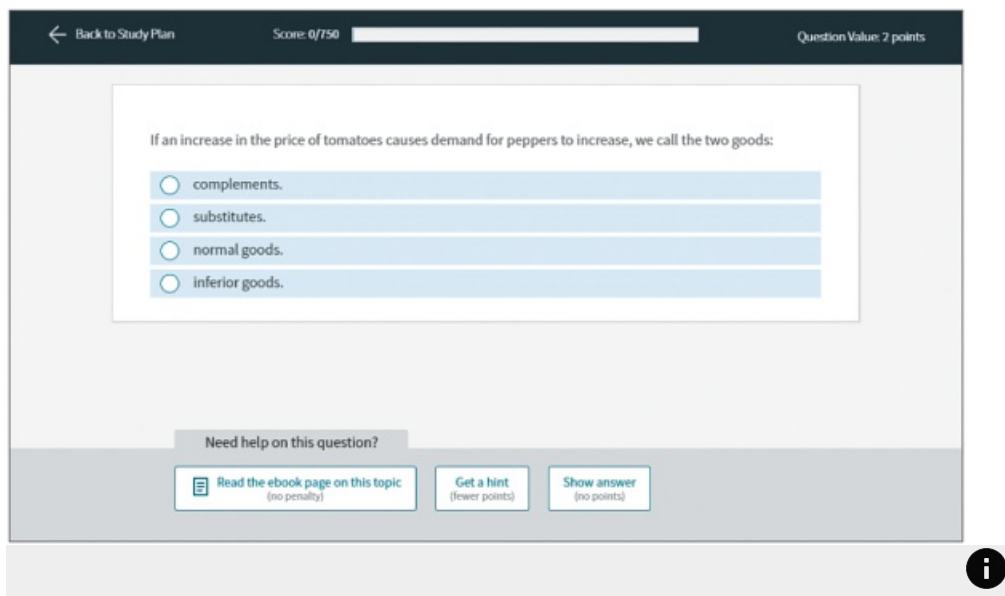
Our resources were **co-designed with instructors and students**, using a foundation of **learning research** and rigorous testing. The result is pedagogically superior content, organization, and functionality. Achieve's pre-built assignments engage students both *inside* and *outside* of class. And Achieve is effective for students of *all levels* of motivation and preparedness, whether they are high achievers or need extra support.

Macmillan Learning offers **deep platform integration** of Achieve with all LMS providers, including Blackboard, Brightspace, Canvas, and Moodle. With integration, students can access course content and their grades through one sign-in. And you can pair Achieve with course tools from your LMS, such as discussion boards and chat and Gradebook functionality. LMS integration is also available with Inclusive Access. For more information, visit [MacmillanLearning.com/College/US/Solutions/LMS-Integration](https://www.macmillanlearning.com/College/US/Solutions/LMS-Integration) or talk to your local sales representative.

Achieve was built with **accessibility** in mind. Macmillan Learning strives to create products that are usable by all learners and meet universally applied accessibility standards. In addition to addressing product compatibility with assistive technologies such as screen reader software, alternative keyboard devices, and voice recognition products, we are working to ensure that the content and platforms we provide are fully accessible. For more information visit <https://www.macmillanlearning.com/college/us/our-story/accessibility>.

## LearningCurve Adaptive Quizzing

With a game-like interface, this popular and effective quizzing engine offers students a low-stakes way to brush up on concepts and help identify knowledge gaps. Questions are linked to relevant e-book sections, providing both the incentive to read and a framework for an efficient reading experience.



## Enhanced E-Book

The Achieve e-book offers highlighting, bookmarking, and note-taking. Students can download the e-book to read offline or to have it read aloud to them. Achieve allows instructors to assign chapter sections as homework.

# ACTIVITIES

## Math and Graphing Review Tutorials

The math and graphing video tutorials are a helpful tool for students to review basic mathematical concepts and how to apply them. Additionally, there are tutorials that cover more advanced math and graphing concepts specific to intermediate microeconomics. These tutorials contain video explanations, as well as multiple-choice assessments to help students apply the concepts learned in the videos.


**Math and Graphing Review — Unconstrained Optimization**  
*Pre-test Question*

Suppose you own a small woodworking company that makes bookshelves. When you make  $x$  bookshelves your profit is as follows.

$$f(x) = 200x - (150x + 5x^2)$$

To get the most profit, how many bookshelves should you make?

$x =$



## Freakonomics Activity Guides

These in-class activities are based on the unique examples in the text's signature *Freakonomics* feature. Authored by Andrea Valenzuela, this activity uses the *Freakonomics* feature as a way to practically apply the text's concepts and to bring the conversation into the classroom. These PowerPoint decks include multiple-choice, open-response, and graph-based questions to engage students as they apply these interesting examples.

## Figure It Out

These problems expand on the text's popular feature of the same name and guide students through the process of applying economic analysis and using math to solve select Figure It Out problems found in the text. These detailed, worked-out problems will better prepare students to complete the end-of-chapter exercises and questions found on quizzes and exams. These tutorials include thorough feedback and video

explanations, providing students with interactive assistance for each step of the problem.

**Market Equilibrium — Figure It Out**

Suppose that the supply of lemonade is represented by  $Q^S = 40P$ , where  $Q$  is measured in pints and  $P$  is measured in cents per pint.

$Q^S = 40P$        $Q^D = 5,000 - 10P$

$40P = 5,000 - 10P$

$50P = 5,000$

$P = 100$  cents

0:59 | 1:41

i

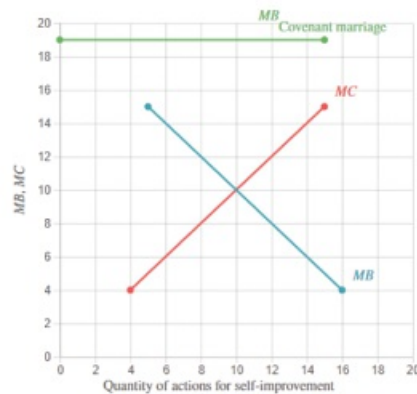
## ASSESSMENTS

### End-of-Chapter Questions

Developed by economists active in the classroom, these multistep problems are paired with rich feedback for incorrect and correct responses that guide students through the process of problem solving. These questions also feature our user-friendly graphing tool, designed so students focus entirely on economics and not on how to use the application.

### Asymmetric Information — End of Chapter Problem

Harry is dating Sally. Because he is devastated at the thought of being dumped, he spends considerable resources making himself attractive to her: expensive haircuts, ballroom dancing classes, a gym membership, and so on. Harry's marginal cost of making himself attractive to Sally is given by  $MC$  in the graph below. Sally, of course, appreciates his efforts: The marginal benefit Harry receives from his efforts (which account for the probability of being dumped) is shown as  $MB$ .



a. On the graph, the optimal amount of resources Harry should expend making himself more attractive to Sally is  .



## Homework

Curated homework problems feature randomly sampled variables and our user-friendly graphing tool. These problems are multistep with a variety of answer inputs—each with detailed and targeted feedback specific to that answer.

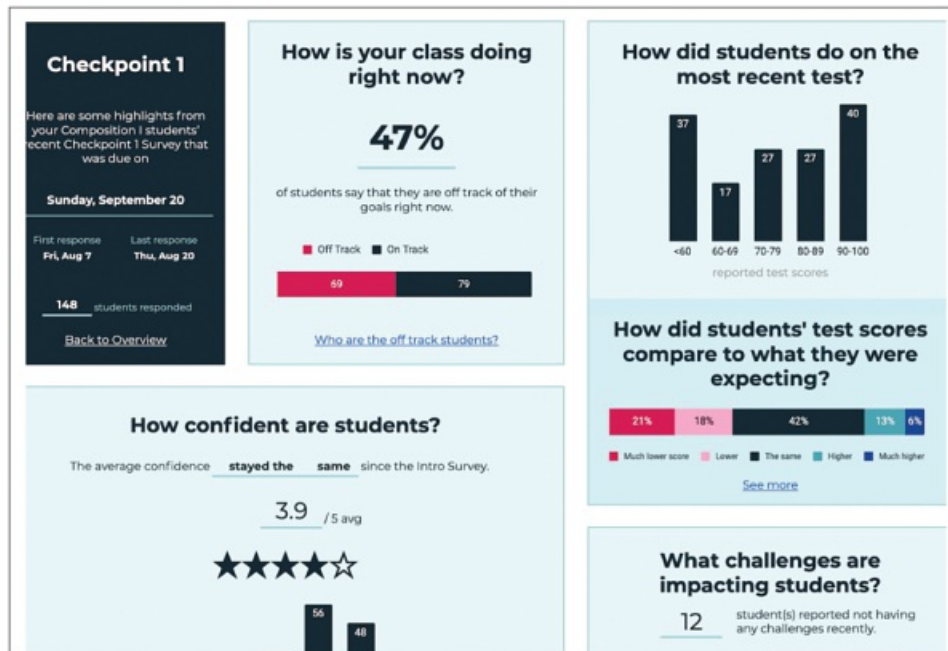
## Practice Quizzes

Designed to be used as a study tool, these quizzes feature multiple-choice questions and allow for multiple attempts as students familiarize themselves with content.

## ANALYTICS

### Learning Objectives, Reports, and Insights

Every asset you can assign in Achieve is tagged to specific Learning Objectives. Reporting within Achieve helps students see how they are performing against objectives, and it helps instructors determine if any student, group of students, or the class as a whole needs extra help in specific areas. This enables more efficient and effective instructor interventions.



Achieve provides reports on student activities, assignments, and assessments at the course level, unit level, subunit level, and individual student level, so instructors can identify trouble spots and adjust their efforts accordingly. Within Reports, the Insights section offers snapshots with high-level data on student performance and behavior, to answer such questions as:

- What are the top Learning Objectives to review in this unit?
- What are the top assignments to review?
- What's the range of performance on a particular assignment?
- How many students aren't logging in?

## Powerful Support for Instructors

### Test Bank

This comprehensive Test Bank contains multiple-choice questions, numerical problems, and short-answer questions to help instructors assess students' comprehension, interpretation, and ability to synthesize. Additionally, there is a separate bank of calculus questions to accompany each appendix chapter.

### Lecture Slides

These brief, interactive, and visually interesting slides are designed to hold students' attention in class with graphics and animations demonstrating key concepts and real-world examples.

## Clicker Slides

These slides contain questions to incorporate active learning in the classroom. Students can participate by using the iClicker app on their smartphone or laptop.

## iClicker Integration

With Achieve's seamless integration with iClicker, you can help any student participate—in the classroom or virtually. iClicker's attendance feature gets students in class, then instructors can choose from flexible polling and quizzing options to engage, check understanding, and get feedback from students in real time. iClicker also allows students to participate using laptops, mobile devices, or iClicker remotes—whichever each student prefers. Additionally, we offer Instructor Activity Guides and book-specific iClicker question slides within Achieve to make the most out of your class time. It's no surprise that over a decade after being founded by educators, iClicker still leads the market. And thousands of instructors continue to give every student a voice with our simple, award-winning student engagement solutions.

## Instructor's Resource Manual

The Instructor's Resource Manual offers instructors teaching materials and tips to enhance the classroom experience, along with detailed lecture outlines, and additional Figure It Outs.

## Gradebook

Assignment scores are collected into a comprehensive Gradebook providing instructors reporting on individuals and overall course performance.

## Customer Support

Our Achieve Client Success Specialist Team—dedicated platform experts—provides collaboration, software expertise, and consulting to tailor each course to fit your instructional goals and student needs. Start with a demo at a time that works for you to learn more about how to set up your customized course. Talk to your sales representative or visit <https://www.macmillanlearning.com/college/us/contact-us/training-and-demos> for more information.

**Pricing and bundling options are available at the [Macmillan student store](#).**

# The Story of *Microeconomics*

**The overwhelming majority of instructors and students use Achieve online courseware for *Microeconomics*. The new edition offers significant improvements to Achieve, including:**

- **New homework assignments available in Achieve.** Reimagined assessment offers targeted feedback for use in class and as homework assignments. Designed so that students learn by doing the economics, these problems contain multiple question types, including our innovative and intuitive graphing tool that assesses students' understanding of economics and not their use of graphing software. Each chapter offers a new set of assignable, multi-step problems that complement online, auto-graded versions of the end-of-chapter problems.

**The fourth edition of the text has new coverage and updates throughout. In particular:**

# Chapter 1

- *Application: Rideshare Driving the Microeconomics Way* has been updated with references to Uber and Lyft drivers' costs, potential investment in electric vehicles, and mention of option to drive for UberEats instead of passenger service.

## Chapter 2

- A new chapter opening example is about the market for office space in the wake of the Covid-19 pandemic.
- *Application: Supply Shifts and the Classic Video Game Crash* includes updated figures on video game sales.
- The Elasticities and Time Horizons section includes new references to remote work options.
- The Income Elasticity of Demand section has been reorganized to present normal goods first, followed by luxury goods and then inferior goods, with new examples for each.

## Chapter 3

- The Distribution of Gains and Losses from Changes in Market Conditions section includes a new sugar shock in Thailand example.
- The section on taxes has been revised throughout with new running/integrated example on cars-for-hire at two Chicago airports.

## Chapter 4

- The Quantity Limits section includes a new example related to toilet paper shortage during the Covid-19 pandemic.

## Chapter 5

- *Application: Engle Curves and Restaurants* has been revised to cover the disruption of the dining industry due to Covid-19 pandemic and the notion that new restaurants may predict (rather than reflect) future gentrification.
- New *Application: What the Pandemic Taught Us about Movies* is an examination of the impact of the Covid-19 pandemic on movie consumption habits, data on how the industry was impacted, and details on the growth of streaming.

## Chapter 6

- The opening to the chapter and The Basics of Production section include updated examples of intermediate goods and final goods.
- *Freakonomics: Why Fishers in India Love Their Cell Phones (It's not Instagram)* has been revised for updated language and technological developments.
- *Application: Technological Change in U.S. Manufacturing* has been updated with new data and examples.

# Chapter 7

- The discussion of Bitcoin mining has been updated.
- *Application: Sunk Costs on the Silver Screen: Why Studios Release Movies That They Know Will Lose Money* has been updated with new examples from the Covid-19 pandemic.
- *Freakonomics: 3D Printers and Manufacturing Cost* has been updated with new examples as well as updated prices and costs for 3D printed items.
- The new *Application: Are Rooftop Solar Panels Driving Up the Cost of Electricity?* compares the cost per kWh of rooftop solar versus large solar farms.

## Chapter 8

- The *Application: Do Firms Always Maximize Profits?* has been revised to include new mention of corporate whistleblowers and fraud at the now-defunct firm Theranos.
- The *If Profit Is Negative, Should a Firm Shut Down?* section includes new discussion of restaurants grappling with the shutdown during Covid-19 pandemic.
- *Freakonomics: The Not-So-Simple Economics of Corporate Espionage* has been updated with new details on thieves' attempt to sell the Coca-Cola secret recipe to Pepsi.

## Chapter 9

- The Switching Costs section includes a new example of the costs involved in changing from one mobile carrier to another.
- The Government Regulation section includes updated information on the new agreement between Uber and NYC Medallion Taxi industry.
- A new *Freakonomics: The Power of Market Power* explores the effects of the Russian invasion of Ukraine on the European natural gas market.
- Added examples include antitrust investigations into Apple and Amazon's practices as well the proposed (and subsequently abandoned) merger between McGraw-Hill and Cengage.
- New pharmaceutical examples include a discussion of the market for insulin and the development of Covid-19 vaccines as part of Operation Warp Speed.

## Chapter 10

- New *Freakonomics: Is There a Pink Tax?*
- The discussion of price discrimination by past purchase behavior has been updated with a new example of switching costs (mobile service).
- The discussion of price discrimination over time includes updated prices and discussion of the paperback versus hardcover book market, and introduces “early adopters” and “holdouts” language to describe two groups of consumers who enter the market at different times.

# Chapter 11

- Language related to oligopolistic markets, market clearing price, and Cournot competition has been clarified.
- The *Application: Cartel Bots?* has been revised for clearer discussion of AI and algorithmic pricing strategy.

## Chapter 12

- The opening example has been updated to reflect changes in e-book market and related technology.
- The discussion of competing players has been updated to focus on DC and Marvel superhero franchise films.
- *Application: Vines and Vanity Projects: Wine Making for the Mega-Rich* has been updated.

## Chapter 13

- The Supply in a Perfectly Competitive Factor Market section includes changes in the labor market during and after the Covid-19 pandemic.
- There is a new *Application: Electric Vehicles and Lithium*.
- *Application: Longshore Workers' Wage Premium* has been revised with updated wages, statistics, and references to supply chain disruptions during and after the Covid-19 pandemic.

## Chapter 14

- A new chapter opening story is about the founding and growth of Chobani yogurt.

# Chapter 15

- *Freakonomics: How What's in Your Closet Affects What's on Your Plate* has been revised.
- The explanation of pareto efficiency has been updated to improve clarity.
- *Markets, Efficiency, and the Welfare Theorems* has been updated to reflect potential reforms in Venezuela.

## Chapter 16

- The Moral Hazard section has been updated with references to one-time student loan forgiveness and one-time tax holiday for repatriated corporate profits.
- Asymmetric Information in Principle–Agent Relationships has been updated to cover incentives like tips and remote work.
- The Signaling to Solve Asymmetric Information Problems section has been updated to acknowledge opportunity cost of college and to include students who finish their degrees more quickly to save money.

## Chapter 17

- Discussion of pollution in chapter opening story has been expanded to include Canada as well as the United States.
- New examples of negative externalities include overprescribing of antibiotics.
- *Application: Would Higher Driving Taxes Make Us Happier Commuters?* now includes stress and road rage as externalities, with a clarified description of how driving taxes work and updated details on congestion taxes.

## Chapter 18

- Discussion of behavioral economics has been updated to reflect its growing status in the field.
- Discussion of *overconfidence* and the *endowment effect* has been updated and improved, with an added emphasis on the use of scientific methods for testing behavior, including the importance of randomized testing in experimental economics.
- Revised *Freakonomics* feature includes new reference to WEIRD cultures.

## About the Authors



**Austan Goolsbee** is the Robert P. Gwinn Professor of Economics at the University of Chicago Booth School of Business, where he joined the faculty in 1995. From 2009 to 2011, he served in Washington as a Member and then Chairman of the Council of Economic Advisers and the youngest member of the President’s Cabinet. He is a past Alfred P. Sloan Fellow and Fulbright Scholar. He earned bachelor’s and master’s degrees from Yale University and a PhD in economics from Massachusetts Institute of Technology.



**Steven Levitt** is the William B. Ogden Distinguished Service Professor of Economics at the University of Chicago, where he directs the Becker Center on Chicago Price Theory. He earned a bachelor’s degree from Harvard University and his PhD from Massachusetts Institute of Technology. He has taught at the University of Chicago since 1997. In 2004, Levitt was awarded the John Bates Clark Medal, and in 2006, he was named one of *Time* magazine’s “100 People Who Shape Our World.” He co-authored a

series of books on popular economics starting with *Freakonomics* and hosts the podcast *People I Mostly Admire*.



**Chad Syverson** is the George C. Tiao Distinguished Service Professor of Economics at the University of Chicago Booth School of Business. He joined the Chicago faculty in 2001. His research spans several topics, with a particular focus on the interactions of firm structure, market structure, and productivity. He has been an editor of the *Journal of Political Economy* and *RAND Journal of Economics*, has served on multiple National Academies committees, is a research associate of the National Bureau of Economic Research, and is a Fellow of the Econometric Society. He earned bachelor's degrees in economics and mechanical engineering from the University of North Dakota, and a PhD in economics from the University of Maryland.

# The Story of Microeconomics: Our Vision

**We believe that microeconomics should inspire and excite students with its elegance and usefulness, and that a textbook combined with powerful assessment and resources in Achieve should support this goal.**

The three of us have been friends for a long time. So why would we risk that friendship to embark on such a difficult task as writing a textbook together? We wanted to bring a different perspective to the presentation of intermediate microeconomics. We teach in economics departments and in business schools, and we are active empirical microeconomics researchers. Our experiences made us want to write a textbook that could show students how realistic theory can be if used in practical settings and make clear how economists use data and empirical analysis to test and refine theories.

For all four editions we've provided a visual cue to our approach to microeconomics: We put a Swiss Army knife on the cover of the book. The Swiss Army knife contains many tools that you can use to accomplish many varied tasks. This is how we view microeconomics:

- It introduces tools that are **fundamental** to all forms and extensions of economics, and
- It is extremely **useful** for making decisions in business, government, and everyday life.

We want to help each student grow from someone who has learned some economic principles to someone who can apply the tools of economic analysis to real situations, as economists do. And in envisioning and writing this book we wanted to deal effectively with two questions we hear regularly from students about the micro course:

***Do people and firms really act as theory suggests?***

All microeconomics texts present the standard tools and theory of economics, and all

have examples. However, they often expect students to take on faith that these theories work. They do not always show effectively that these theories can be used in specific and practical ways.

Furthermore, continued reductions in the cost of collecting and analyzing data have led to a radical shift in microeconomics, and current texts have not fully kept up with the dramatic rise of empirical work in applied microeconomics research.

Undergraduates and business school students will find microeconomics compelling if it not only explains the theory, but also demonstrates how to use it, and provides real-world data to back it up. We show students the reality behind the theory in our plentiful and up-to-date examples. We have developed and selected events, topics, and empirical studies with a clear eye toward *how* economists use real data to test and refine ideas.

## ***How can someone use microeconomic theory in a practical way?***

Students often view the intermediate microeconomics course as abstract and theoretical. Because this course requires a high degree of effort from students, they should know why and how the material they learn will be useful. Without that knowledge, they will be bored and unmotivated. So we wanted to write a book of **useful economics**. When done the right way, economics *is* extremely useful: useful for business, useful for policy, useful for life. Our book shows students how to take the tools they learn and *do* something with them.

## **Real World, Real Life**


*Microeconomics* provides examples that offer unusual perspectives on the seemingly ordinary. We have been gratified by the overwhelmingly positive response to the many ways in which we integrated real-life, up-to-date, and, above all, interesting examples and *Applications* into our presentation. Instructors especially appreciated our extensive inclusion of empirical examples. All told, we have over 200 examples (20% of them new in this edition), *Applications*, and *Freakonomics* boxes that illustrate how useful the

microeconomic toolbox is in illuminating and understanding all aspects of economics and life.

Our *Freakonomics* boxes, in particular, show how (in often surprising ways) economic analysis can illuminate not only common phenomena but also things not normally thought to be within the economist's purview.

## Helping Students Succeed

### Figure It Out exercises

**figure it out 6.3**

A firm employs 100 workers ( $W = \$15/\text{hour}$ ) and 50 units of capital ( $R = \$30/\text{hour}$ ). At the firm's current input use, the marginal product of labor is 45 and the marginal product of capital is 60. Is the firm producing its current level of output at the minimum cost, or is there a way for the firm to do better? Explain.

**Solution:**

The cost-minimizing input choice occurs when  $MP_L/W = MP_K/R$ . We need to determine if this is the case for this firm:

$MP_L = 45$  and  $W = 15$ , so  $MP_L/W = 45/15 = 3$   
 $MP_K = 60$  and  $R = 30$ , so  $MP_K/R = 60/30 = 2$

Therefore,  $MP_L/W > MP_K/R$ . The firm is not currently minimizing its cost.

Because  $MP_L/W > MP_K/R$ , \$1 spent on labor yields a greater marginal product (i.e., more output) than \$1 spent on capital. The firm would do better by reducing its use of capital and increasing its use of labor. Note that as the firm reduces capital, the marginal product of capital will rise. Likewise, as the firm hires additional labor, the marginal product of labor will fall. Ultimately, the firm will reach its cost-minimizing input choice where  $MP_L/W = MP_K/R$ .

We have been especially pleased with the overwhelmingly positive responses from instructors *and* students alike to our efforts to help students hone and improve their problem-solving abilities. Students often have difficulty translating what they have learned into the ability to solve problems *using* what they have learned. To address this problem, each chapter has several *Figure It Out* exercises. These detailed, worked-out problems patiently and completely walk students through analyzing exactly what a problem asks them to do, identifying what tools they need to solve the problem, and using those tools to arrive at an answer.

### Make the Grade Essays

*Make the Grade* essays point out common pitfalls that students may encounter, help

them navigate through the finer points of microeconomic theory, and present practical advice on topics that frequently trip up students during homework and tests.

## How We Deal with Math

Math is a powerful tool for economic analysis, and we want students of every skill level to be able to use it effectively. We have provided a text that will work for a diverse population of students and encourage them to use their math skills to unlock the potential of economic analysis. Our versatile text and its accompanying resources will allow you to use our book in a course with a standard algebraic and geometric focus or in one that relies more on calculus.

Our clear, accessible verbal and graphical presentations are supported by thorough, step-by-step explanations. The whys and wherefores of each step in the mathematical development of concepts are always clearly explained, and allow even math-shy students to easily understand how the use of math can enhance and simplify economic analysis. The main text uses algebra and geometry, but our in-text and online calculus appendices and accompanying resources allow calculus to be integrated easily into our book's presentation of theory, practice, and application.

## Math Review

Most students entering this course will benefit from a math review, whether it is a review of basic algebra or of calculus. A *Math Review* at the back of the book provides the review necessary to prepare students for the math they will use throughout the text.

## Calculus

The calculus is presented in appendices that employ the same conversational tone and intuitive approach as the text and include examples and *Figure It Out* problems (which are often the same as the algebra-based ones in the chapter). In this way, students can see how the calculus analysis buttresses the algebraic analysis. To give students an opportunity to practice what they have learned, each appendix includes problems that

require the use of calculus.

To connect the material presented in the chapter with that in the calculus appendices, we have placed marginal notes in the chapter. These notes direct students to the appropriate appendix, and explain specifically how calculus will be used to understand the concepts. We hope these notes will encourage students familiar with calculus to utilize it on their own.

## Calculus Appendices

*2A: The Calculus of Equilibrium and Elasticities*

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*3A: The Calculus of Consumer and Producer Surplus*

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*4A: The Calculus of Utility Maximization and Expenditure Minimization*

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*4B: The Mathematics of Utility Functions*

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*5A: The Calculus of Income and Substitution Effects*

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*5B: The Calculus of Demand*

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*6A: The Calculus of Cost Minimization*

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*6B: The Calculus of Production Functions and Input Demands*

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*7A: The Calculus of a Firm's Cost Structure*

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*7B: The Calculus of a Firm's Cost Structure Expanded*

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*8A: The Calculus of Long-Run Competitive Equilibria*

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*9A: The Calculus of Profit Maximization*

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*10A: The Calculus of Pricing Strategies*

---

*11A: The Calculus of Cournot and Differentiated Bertrand Competition Equilibria*

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*12A: The Mathematics of Mixed Strategies in Game Theory*

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# How Our Book Is Organized

Here is a brief snapshot of the chapters in the book with a bit of discussion on particular subjects that received some special attention or might be different from what you would find in other books. We consider [Chapters 1–11](#) the core chapters that most instructors will teach. The remaining chapters, [12–18](#), can be taught independently of one another.

# Chapter 1, Adventures in Microeconomics:

We open the book with a brief introductory chapter and a story about the markets for making and for buying coffee to entice and excite students about the study of microeconomics. Through an *Application*, a *Make the Grade* essay, and a *Freakonomics* box, we show students right away how microeconomic tools are useful, not just in the study of economics and business, but in everyday life.

## Chapter 2, Supply and Demand:

In [Chapters 2](#) and [3](#), we lay a solid foundation by going deeply into supply and demand before moving on to consumer and producer behavior. Most microeconomics texts separate the presentation and the application of this simple yet powerful model. Presenting the entire model at the beginning makes logical sense, and we (and those who have used our book) have experienced success with this approach in classes.

[Chapter 2](#) presents the basics of the supply-and-demand model. Of particular note is the section Key Assumptions of the Supply and Demand Model, which exemplifies the care and clarity with which we develop and explain microeconomic theory.

## Chapter 3, Using Supply and Demand to Analyze Markets:

In [Chapter 3](#), we use the supply-and-demand model to analyze extensively consumer and producer surplus, price and quantity regulations, and taxes and subsidies. We believe that the earlier these concepts are introduced and the more completely they are explained, the easier it is to use them throughout the course. [Chapter 3](#) is designed to be flexible: You can pick and choose which topics to cover and emphasize.

## Chapter 4, Consumer Behavior:

How do consumers decide what and how much to consume given the enormous variety of goods and services available to them? We begin this crucial chapter by clearly laying out, in one section, the assumptions we make about consumer behavior. Actual tests among professors consistently showed this approach as being especially helpful for their students.

## Chapter 5, Individual and Market Demand:

Here we show how consumer preferences are used to derive market demand. [Section 5.3](#), Consumer Responses to Price Changes: Substitution and Income Effects, takes extra care in explaining this topic, which students often find challenging. Abundant applications and a discussion of pitfalls to avoid make this material particularly accessible and interesting.

## Chapter 6, Producer Behavior:

How do companies decide which combination of inputs to use in production, and how does this decision affect production costs? We begin this chapter by clearly laying out the Simplifying Assumptions about Firms' Production Behavior. Later in the chapter, we devote a complete section to the role technological change plays in firms' productivity over time. Several applications and examples bring this material alive for students.

## Chapter 7, Costs:

Cost curves illustrate how costs change with a firm's output level and are crucial in deriving market supply. Because opportunity costs and sunk costs are often difficult concepts for students to master, we take extra care at the start of [Chapter 7](#) to distinguish these concepts and illustrate the role they play in decision making. Our examples engage students so that they can better understand the often challenging concepts in this chapter.

## **Chapter 8, Supply in a Competitive Market:**

This chapter begins our coverage of market structure, and it uses real-life industries such as the Texas electricity industry to explain how competitive markets work. We clearly, carefully, and patiently explain a firm's shutdown decision, a topic that students often find confusing.

## Chapter 9, Market Power and Monopoly:

This chapter begins with a thorough discussion of the origins of market power and how having such power affects a firm's production and pricing decisions. We bring the concept of monopolistic market power to life using examples of real firms with near-monopoly power, such as Durkee-Mower, Inc.; the firm that makes Marshmallow Fluff; and Dr. Brown's, a manufacturer of specialty sodas. Abundant applications further engage students' interest.

## **Chapter 10, Pricing Strategies for Firms with Market Power:**

This practical chapter will appeal especially to business students. We thoroughly discuss the many ways in which a firm can take advantage of pricing power, and we clearly describe which pricing strategies are useful in which situations.