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微观经济学原理

Principles of Microeconomics Fifth Edition

[美] 罗伯特·H. 弗兰克 (Robert H. Frank) 著
本·S. 伯南克 (Ben S. Bernanke)

第 5 版

清华大学出版社

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Fifth Edition

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Principles of Microeconomics, 5e

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出 版 说 明

为了适应经济全球化的发展趋势，满足国内广大读者了解、学习和借鉴国外先进的管理经验和掌握经济理论的前沿动态，清华大学出版社与国外著名出版公司合作影印出版一系列英文版经济管理方面的图书。我们所选择的图书，基本上是已再版多次、在国外深受欢迎、并被广泛采用的优秀教材，绝大部分是该领域中较具权威性的经典之作。在本书的审阅过程中，我们得到了清华大学李明志老师的支持、帮助和鼓励，在此表示谢意！

我们根据国内的教学实际，删去了原书第 11 章“信息经济学”、第 13 章“环境、健康和安全”和第 14 章“公共品和税收政策”。为了便于读者对原书进行索引，我们对原版图书进行删节的同时仍采用了原书的页码，因此读者在阅读过程中可能会发现有跳页的现象，而且文中提到的页码或内容有可能已被删掉而无法找到。由此给读者带来的诸多不便，我们深表歉意。

由于原作者所处国家的政治、经济和文化背景等与我国不同，对书中所持观点，敬请广大读者在阅读过程中注意加以分析和鉴别。

我们期望这套影印书的出版对我国经济科学的发展能有所帮助，对我国经济管理专业的教学能有所促进。

欢迎广大读者给我们提出宝贵的意见和建议；同时也欢迎有关的专业人士向我们推荐您所接触到的国外优秀图书。

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世纪之交,中国与世界的发展呈现最显著的两大趋势——以网络为代表的信息技术的突飞猛进,以及经济全球化的激烈挑战。无论是无远弗界的互联网,还是日益密切的政治、经济、文化等方面的国际合作,都标示着 21 世纪的中国是一个更加开放的中国,也面临着一个更加开放的世界。

教育,特别是管理教育总是扮演着学习与合作的先行者的角色。改革开放以来,尤其是 20 世纪 90 年代之后,为了探寻中国国情与国际上一切优秀的管理教育思想、方法和手段的完美结合,为了更好地培养高层次的“面向国际市场竞争、具备国际经营头脑”的管理者,我国的教育机构与美国、欧洲、澳洲以及亚洲一些国家和地区的大量的著名管理学院和顶尖跨国企业建立了长期密切的合作关系。以清华大学经济管理学院为例,2000 年,学院顾问委员会成立,并于 10 月举行了第一次会议,2001 年 4 月又举行了第二次会议。这个顾问委员会包括了世界上最大的一些跨国公司和中国几家顶尖企业的最高领导人,其阵容之大、层次之高,超过了世界上任何一所商学院。在这样高层次、多样化、重实效的管理教育国际合作中,教师和学生与国外的交流机会大幅度增加,越来越深刻地融入到全球性的教育、文化和思想观念的时代变革中,我们的管理教育工作者和经济管理学习者,更加真切地体验到这个世界正发生着深刻的变化,也更主动地探寻和把握着世界经济发展和跨国企业运作的脉搏。

我国管理教育的发展,闭关锁国、闭门造车是绝对不行的,必须同国际接轨,按照国际一流的水准来要求自己。正如朱镕基同志在清华大学经济管理学院成立十周年时所发的贺信中指出的那样:“建设有中国特色的社会主义,需要一大批掌握市场经济的一般规律,熟悉其运行规则,而又了解中国企业实情的经济管理人才。清华大学经济管理学院就要敢于借鉴、引进世界上一切优秀的经济管理学院的教学内容、方法和手段,结合中国的国情,办成世界第一流的经管学院。”作为达到世界一流的一个重要基础,朱镕基同志多次建议清华的 MBA 教育要加强英语教学。我体会,这不仅因为英语是当今世界交往中重要的语言工具,是连接中国与世界的重要桥梁和媒介,而且更是中国经济管理人才参与国际竞争,加强国际合作,实现中国企业的国际战略的基石。推动和实行英文教学并不是目的,真正的目的在于培养学生——这些未来的企业家——能够具备同国际竞争对手、合作伙伴沟通和对抗的能力。按照这一要求,清华大学经济管理学院正在不断推动英语教学的步伐,使得英语不仅是一门需要学习的核心课程,而且渗透到各门专业课程的学习当中。

课堂讲授之外,课前课后的大量英文原版著作、案例的阅读对于提高学生的英文水平也是非常关键的。这不仅是积累相当的专业词汇的重要手段,而且是对学习者思维方式的有效训练。

我们知道,就阅读而言,学习和借鉴国外先进的管理经验和掌握经济理论动态,或是阅读翻译作品,或是阅读原著。前者属于间接阅读,后者属于直接阅读。直接阅读取决于读者的外文阅读能

力，有较高外语水平的读者当然喜欢直接阅读原著，这样不仅可以避免因译者的疏忽或水平所限而造成的纰漏，同时也可以尽享原作者思想的真实表达。而对于那些有一定外语基础，但又不能完全独立阅读国外原著的读者来说，外文的阅读能力是需要加强培养和训练的，尤其是专业外语的阅读能力更是如此。如果一个人永远不接触专业外版图书，他在获得国外学术信息方面就永远会比别人差半年甚至一年的时间，他就会在无形中减弱自己的竞争能力。因此，我们认为，有一定外语基础的读者，都应该尝试一下阅读外文原版，只要努力并坚持，就一定能过了这道关，到那时就能体验到直接阅读的妙处了。

在掌握大量术语的同时，我们更看重读者在阅读英文原版著作时对于西方管理者或研究者的思维方式的学习和体会。我认为，原汁原味的世界级大师富有特色的表达方式背后，反映了思维习惯，反映了思想精髓，反映了文化特征，也反映了战略偏好。知己知彼，对于跨文化的管理思想、方法的学习，一定要熟悉这些思想、方法所孕育、成长的文化土壤，这样，有朝一日才能真正“具备国际战略头脑”。

以往，普通读者购买和阅读英文原版还有一个书价的障碍。一本外版书少则几十美元，多则上百美元，一般读者只能望书兴叹。随着全球经济合作步伐的加快，目前在出版行业有了一种新的合作出版的方式，即外文影印版，其价格几乎与国内同类图书持平。这样一来，读者可以不必再为书价发愁。清华大学出版社这些年在这方面一直以独特的优势领先于同行。早在 1997 年，清华大学出版社敢为人先，在国内最早推出一批优秀商学英文版教材，规模宏大，在企业界和管理教育界引起不小的轰动，更使国内莘莘学子受益良多。

为了配合清华大学经济管理学院推动英文授课的急需，也为了向全国更多的 MBA 试点院校和更多的经济管理学院的教师和学生提供学习上的支持，清华大学出版社再次隆重推出与世界著名出版集团合作的英文原版影印商学教科书，也使广大工商界人士、经济管理类学生享用到最新最好质优价廉的国际教材。

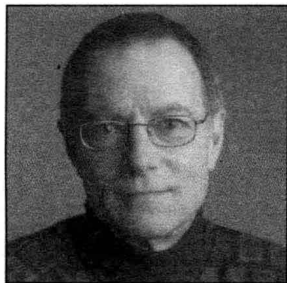
祝愿我国的管理教育事业在社会各界的大力支持和关心下不断发展、日进日新；祝愿我国的经济建设在不断涌现的大批高层次的面向国际市场竞争、具备国际经营头脑的管理者的勉力经营下早日中兴。

赵纯钧

清华大学教授

ABOUT THE AUTHORS

ROBERT H. FRANK



Professor Frank is the Henrietta Johnson Louis Professor of Management and Professor of Economics at the Johnson Graduate School of Management at Cornell University, where he has taught since 1972. His “Economic View” column appears regularly in *The New York Times*.

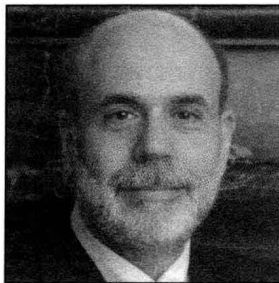
After receiving his B.S. from

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. 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 (1992–93), Professor of American Civilization at l’École des Hautes Études en Sciences Sociales in Paris (2000–01), and the Peter and Charlotte Schoenfeld Visiting Faculty Fellow at the NYU Stern School of Business in 2008–09.

Professor Frank is the author of a best-selling intermediate economics textbook—*Microeconomics and Behavior*, Eighth Edition (Irwin/McGraw-Hill, 2010). 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), and *The Darwin Economy* (Princeton, 2011), which have been translated into 22 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 Education 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 and 2010 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 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 expires January 31, 2014. Professor Bernanke also serves as Chairman of the Federal Open Market Committee, the Fed’s principal monetary policymaking body. He was appointed as a member of the Board to a full 14-year term, which expires January 31, 2020. Before his appointment as Chairman, Professor Bernanke was 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*, Seventh Edition (Addison-Wesley, 2011), is a best seller in its field. He has authored more than 50 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. In July 2001, he was appointed 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.

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 economic 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. Many instructors ask themselves, “How much can I cover today?” when instead they should be asking, “How much can my students absorb?”

Our textbook grew out of 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 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 substitute 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 (www.youtube.com/watch?v=QalNVxeIKEE) or search “Authors@Google: Robert Frank”.

KEY THEMES AND FEATURES

An 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 assures 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:** Having more of one good thing usually means having less of another.
- **The Cost-Benefit Principle:** Take no action unless its marginal benefit is at least as great as its marginal cost.
- **The Incentive Principle:** Cost-benefit comparisons are relevant not only for identifying the decisions that rational people should make, but also for predicting the actual decisions they do make.
- **The Principle of Comparative Advantage:** Everyone does best when each concentrates on the activity for which he or she is relatively most productive.
- **The Principle of Increasing Opportunity Cost:** Use the resources with the lowest opportunity cost before turning to those with higher opportunity costs.
- **The Efficiency Principle:** Efficiency is an important social goal because when the economic pie grows larger, everyone can have a larger slice.

- **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:

- Why do movie theatres 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?

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 core concepts. Experience with earlier editions confirms that this approach really does prepare students to apply basic economic principles to solve economic puzzles drawn from the real world.

Modern Microeconomics

- **Economic surplus**, introduced in Chapter 1 and employed repeatedly thereafter, 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.
- **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 early in Chapter 1 and invoked 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, 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 Chapter 10 we show how such devices function to minimize misallocations that result from externalities.

ORGANIZATION OF THE FIFTH EDITION

- **More and clearer emphasis on 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 among market equilibrium and efficiency, the cost of preventing price adjustments, economic profit, and the Invisible Hand theory.
- **Using economics to help make policy decisions:** Chapters 12 and 13 feature important policy decisions and uses economics to sort out the best options. Health care, environmental regulation, international trade, and income redistribution are all discussed.

CHANGES IN THE FIFTH EDITION

Changes Common to all Chapters

In all chapters, the narrative has been tightened and shortened slightly. 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 and Exercises from the previous edition have been redesigned to provide more clarity and ease of use. Data has been updated throughout.

Chapter-by-Chapter Changes

- **Chapters 1–6:** Content and data updates have been made as needed.
- **Chapter 7:** Chapters 7 and 8 from the previous edition have been combined to form this new chapter, entitled “Efficiency, Exchange, and the Invisible Hand in Action.”
- **Chapter 8:** This is Chapter 9 from the previous edition. Content and data updates have been added as needed.
- **Chapter 9:** This is Chapter 10 from the previous edition. Content and data updates have been added as needed.
- **Chapter 10:** This is Chapter 11 from the previous edition. Content and data updates have been added as needed.
- **Chapter 11:** This is Chapter 12 from the previous edition. Content and data updates have been added as needed.
- **Chapter 12:** This is Chapter 13 from the previous edition. Content and data updates have been added as needed.
- **Chapter 13:** This is Chapter 14 from the previous edition. The section on health care provision has been revised to include details on the Affordable Care Act of 2010. A new section on policy choices related to climate change has also been included.
- **Chapter 14:** This is Chapter 15 from the previous edition. Content and data updates have been added as needed.

ORGANIZED LEARNING IN THE FIFTH 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.

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 Microeconomics, 5/e* is designed specifically to support your assurance of learning initiatives with a simple, yet powerful, solution.

You can use our test bank software, EZ Test, to easily query for learning objectives that directly relate to the objectives for your course. You can then use the reporting features of EZ Test 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 AACSB International. Recognizing the importance and value of AACSB accreditation, the authors of *Principles of Microeconomics, 5/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 Microeconomics, 5/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 the fifth edition.

Fortunately, we were able to enlist the aid of Louis D. Johnston of the College of Saint Benedict | Saint John’s University to take the lead in creating the macro portion of the fifth edition. Ben Bernanke and Robert Frank express their deep gratitude to Louis for the energy and creativity he has brought to his work on the book. He has created a great tool for students and professors.

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Finally, our sincere thanks to the following teachers and colleagues, whose thorough reviews and thoughtful suggestions led to innumerable substantive improvements to *Principles of Microeconomics, 5/e*.

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PEDAGOGICAL FEATURES

CHAPTER OPENER

Each chapter begins with a brief narrative of a realistic scenario illustrating the concepts to be learned in the upcoming chapter.

LEARNING OBJECTIVES

Approximately four to seven learning objectives are presented at the beginning of each chapter and are referenced again in the summary, among the end-of-chapter review questions, and problems to which they relate. The learning objectives (LOs) serve as a quick introduction to the material and concepts to be mastered before moving to the next chapter.

CHAPTER 2

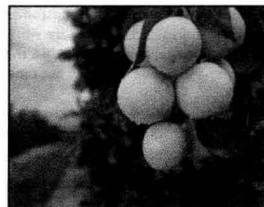
Comparative Advantage

During a stint as a Peace Corps volunteer in rural Nepal, a young economic naturalist employed a cook named Birkhaman, who came from a remote Himalayan village in neighboring Bhutan. Although Birkhaman had virtually no formal education, he was spectacularly resourceful. His primary duties, to prepare food and maintain the kitchen, he performed extremely well. But he also had other skills. He could thatch a roof, butcher a goat, and repair shoes.

An able tinsmith and a good carpenter, he could sew and fix a broken alarm clock, as well as plaster walls. And he was a local authority on home remedies.

Birkhaman's range of skills was broad even in Nepal, where the least-skilled villager could perform a wide range of services that most Americans hire others to perform. Why this difference in skills and employment?

One might be tempted to answer that the Nepalese are simply too poor to hire others to perform these services. Nepal is indeed a poor country, whose income per person is less than one one-fortieth that of the United States. Few



Always pick the low-hanging fruit first.

LEARNING OBJECTIVES

After reading this chapter, you should be able to:

- LO1 Explain and apply the Principle of Comparative Advantage.
- LO2 Explain and apply the Principle of Increasing Opportunity Cost (also called the Low-Hanging-Fruit Principle). Use a production possibilities curve to illustrate opportunity cost and comparative advantage.
- LO3 Identify factors that shift the menu of production possibilities.

average cost the total cost of undertaking n units of an activity divided by n

average benefit the total benefit of undertaking n units of an activity divided by n

To discover whether the advice makes economic sense, we must compare the marginal cost of a launch to its marginal benefit. The professor's estimates, however, tell us only the **average cost** and **average benefit** of the program. These are, respectively, the total cost of the program divided by the number of launches and the total benefit divided by the number of launches. Knowing the average benefit and average cost per launch for all shuttles launched thus far is simply not useful for deciding whether to expand the program. Of course, the average cost of the launches undertaken so far *might* be the same as the cost of adding another launch. But it also might be either higher or lower than the marginal cost of a launch. The same holds true regarding average and marginal benefits.

KEY TERMS

Key terms are indicated in bold and defined in the margin the first time each term is used. They are also listed among the end-of-chapter material. A glossary is available at the back of the book for quick reference.

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.

CONCEPT CHECK 1.5

Should a basketball team's best player take all the team's shots?

A professional basketball team has a new assistant coach. The assistant notices that one player scores on a higher percentage of his shots than other players. Based on this information, the assistant suggests to the head coach that the star player should take *all* the shots. That way, the assistant reasons, the team will score more points and win more games.

On hearing this suggestion, the head coach fires his assistant for incompetence. What was wrong with the assistant's idea?

SEVEN CORE PRINCIPLES REFERENCES

There are seven Core Principles that this text focuses on almost exclusively 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.

Incentive

more, the number of apartments actually available *declines* by 1 million units per month.

If the housing market were completely unregulated, the immediate response to such a high level of excess demand would be for rents to rise sharply. But here the law prevents them from rising above \$800. Many other ways exist, however, in which market participants can respond to the pressures of excess demand. For instance, owners will quickly learn that they are free to spend less on maintaining their rental units. After all, if there are scores of renters knocking at the door of each vacant apartment, a landlord has considerable room to maneuver. Leaking pipes, peeling paint, broken furnaces, and other problems are less likely to receive prompt attention—or, indeed, any attention at all—when rents are set well below market-clearing levels.

Nor are reduced availability of apartments and poorer maintenance of existing apartments the only difficulties. With an offering of only 1 million apartments per month, we see in Figure 3.8 that there are renters who'd be willing to pay as much as \$2,400 per month for an apartment. As the Incentive Principle suggests, this pressure will almost always find ways, legal or illegal, of expressing itself. In New York City, for example, it is not uncommon to see "finder's fees" or "key deposits" as high as several

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.

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 each feature of their economic landscape as the reflection of one or more of the Core Principles.

NUMBERED EXAMPLES

Throughout the text, numbered and titled examples are referenced and called out to further illustrate concepts. With our use of engaging questions and examples from everyday life to apply economic concepts, the ultimate goal is to see that each human action is a result of an implicit or explicit cost-benefit calculation.

EXAMPLE 2.5

Specialization

How costly is failure to specialize?

Suppose that in Example 2.4 Susan and Tom had divided their time so that each person's output consisted of half nuts and half coffee. How much of each good would Tom and Susan have been able to consume? How much could they have consumed if each had specialized in the activity for which he or she enjoyed a comparative advantage?

Since Tom can produce twice as many pounds of nuts in an hour as pounds of coffee, to produce equal quantities of each, he must spend 2 hours picking coffee for every hour he devotes to gathering nuts. And since he works a 6-hour day, that means spending 2 hours gathering nuts and 4 hours picking coffee. Dividing his time in this way, he'll end up with 8 pounds of coffee per day and 8 pounds of nuts.

RECAP	MARKET EQUILIBRIUM
<p><i>Market equilibrium</i>, the situation in which all buyers and sellers are satisfied with their respective quantities at the market price, occurs at the intersection of the supply and demand curves. The corresponding price and quantity are called the <i>equilibrium price</i> and the <i>equilibrium quantity</i>.</p> <p>Unless prevented by regulation, prices and quantities are driven toward their equilibrium values by the actions of buyers and sellers. If the price is initially too high, so that there is excess supply, frustrated sellers will cut their price in order to sell more. If the price is initially too low, so that there is excess demand, competition among buyers drives the price upward. This process continues until equilibrium is reached.</p>	

RECAP

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

END OF CHAPTER FEATURES

SUMMARY

Each chapter ends with a summary that reviews the key points and learning objectives to provide closure to the chapter.

■ SUMMARY ■

- The demand curve is a downward-sloping line that tells what quantity buyers will demand at any given price. The supply curve is an upward-sloping line that tells what quantity sellers will offer at any given price. (LO1)
- Alfred Marshall's model of supply and demand explains why neither cost of production nor value to the purchaser (as measured by willingness to pay) is, by itself, sufficient to explain why some goods are cheap and others are expensive. To explain variations in price, we must examine the interaction of cost and willingness to pay. As we've seen in this chapter, goods differ in price because of differences in their respective supply and demand curves. (LO2)
- Market equilibrium occurs when the quantity buyers demand at the market price is exactly the same as the quantity that sellers offer. The equilibrium price-quantity pair is the one at which the demand and supply curves intersect. In equilibrium, market price measures both the value of the last unit sold
- 3. An increase in supply will lead to a reduction in equilibrium price and an increase in equilibrium quantity.
- 4. A decrease in supply will lead to an increase in equilibrium price and a reduction in equilibrium quantity. (LO3)
- Incomes, tastes, population, expectations, and the prices of substitutes and complements are among the factors that shift demand schedules. Supply schedules, in turn, are primarily governed by such factors as technology, input prices, expectations, the number of sellers, and, especially for agricultural products, the weather. (LO3)
- The efficiency of markets in allocating resources does not eliminate social concerns about how goods and services are distributed among different people. For example, we often lament the fact many buyers enter the market with too little income to buy even the most basic goods and services. Concern for the well-being of the poor has motivated many govern-

■ REVIEW QUESTIONS ■

1. Explain the distinction between the horizontal and vertical interpretations of the demand curve. (LO1)
2. Why isn't knowing the cost of producing a good sufficient to predict its market price? (LO2)
3. In recent years, a government official proposed that gasoline price controls be imposed to protect the poor from rising gasoline prices. What evidence could you consult to discover whether this proposal was enacted? (LO2)
4. Distinguish between the meaning of the expressions "change in demand" and "change in the quantity demanded." (LO3)
5. Give an example of behavior you have observed that could be described as "smart for one but dumb for all." (LO4)

■ PROBLEMS ■

1. How would each of the following affect the U.S. market supply curve for corn? (LO1)
 - a. A new and improved crop rotation technique is discovered.
 - b. The price of fertilizer falls.
 - c. The government offers new tax breaks to farmers.
 - d. A tornado sweeps through Iowa.



REVIEW QUESTIONS AND PROBLEMS

Approximately five review questions appear at the end of each chapter to test understanding of the logic behind economic concepts. The problems are crafted to help students internalize and extend core concepts. Learning objectives are also referenced at the end of each question and problem to reiterate the particular goal that is being examined.

SUPPLEMENTS FOR THE INSTRUCTOR

The following ancillaries are available for quick download and convenient access via the textbook's website at www.mhhe.com/fb5e and are password protected for security.

Instructor's Manual

Prepared by Per Norander of Missouri State University, this expanded manual features general topics such as Using the Website, Economic Education Resources, and Innovative Ideas. Additionally, each chapter will also include: an Overview, Concepts Students Should Master, Teaching Tips/Student Stumbling Blocks, Additional Economic Naturalist Examples, In-Class and Web Activities, and an Annotated Chapter Outline.

Solutions Manual

Also prepared by Per Norander, Missouri State University, this manual provides detailed answers to the end-of-chapter questions.

Test Banks

Prepared by Kate Krause of the University of New Mexico this manual contains questions categorized by chapter learning objectives, AACSB learning categories, Bloom's Taxonomy objectives, and level of difficulty.

Computerized Test Bank

McGraw-Hill's EZ Test is a flexible and easy-to-use electronic testing program. The program allows you to create tests from book-specific items. It accommodates a wide range of question types and you can add your own questions. Multiple versions of the test can be created and any test can be exported for use with course management systems such as WebCT, Blackboard or pageOut. EZ Test Online is a new service and gives you a place to easily administer your EZ Test-created exams and quizzes online. The program is available for Windows and Macintosh environments.

PowerPoints

Prepared by Nora Underwood of the University of Central Florida, these 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 and PowerPoints

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, are available for instructors 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. Also available is a complete set of richly illustrated PowerPoint files to accompany these lecture notes. Instructors are also welcome to customize these files as they wish.