## Principles of Microeconomics

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During my 20-year career as a student, the course that excited me most was the two-semester sequence on the principles of economics that I took during my freshman year in college. It is no exaggeration to say that it changed my life. I had grown up in a family that often discussed politics over the dinner table. The pros and cons of various solutions to society’s problems generated fervent debate. But in school, I had been drawn to the sciences. Whereas politics seemed vague, rambling, and subjective, science was analytic, systematic, and objective. While political debate continued without end, science made progress. My freshman course on the principles of economics opened my eyes to a new way of thinking. Economics combines the virtues of politics and science. It is, truly, a social science. Its subject matter is society—how people choose to lead their lives and how they interact with one another—but it approaches the subject with the dispassion of a science. By bringing the methods of science to the questions of politics, economics tries to make progress on the challenges that all societies face. I was drawn to write this book in the hope that I could convey some of the excitement about economics that I felt as a student in my first economics course. Economics is a subject in which a little knowledge goes a long way. (The same cannot be said, for instance, of the study of physics or the Chinese language.) Economists have a unique way of viewing the world, much of which can be taught in one or two semesters. My goal in this book is to transmit this way of thinking to the widest possible audience and to convince readers that it illuminates much about the world around them. I believe that everyone should study the fundamental ideas that economics has to offer. One purpose of general education is to inform people about the world and thereby make them better citizens. The study of economics, as much as any discipline, serves this goal. Writing an economics textbook is, therefore, a great honor and a great responsibility. It is one way that economists can help promote better government and a more prosperous future. As the great economist Paul Samuelson put it, “I don’t care who writes a nation’s laws, or crafts its advanced treaties, if I can write its economics textbooks.”

What’s New in the Ninth Edition?  
Economics is fundamentally about understanding the world in which we live. Most chapters of this book include Case Studies illustrating how the principles of economics can be applied. In addition, In the News boxes offer excerpts from newspapers, magazines, and online news sources showing how economic ideas shed light on current issues facing society. After students finish their first course in economics, they should think about news stories from a new perspective and with greater insight. To keep the study of economics fresh and relevant for each new cohort of students, I update each edition of this text to keep pace with the ever-changing world. The new applications in this ninth edition are too numerous to list in their entirety, but here is a sample of the topics covered (and the chapters in which they appear):

• Technology companies are increasingly using economists to better run their businesses. (Chapter 2) • The hit Broadway show Hamilton has brought renewed attention to the issue of ticket reselling. (Chapter 7) • President Trump has taken a new and controversial approach to international trade. (Chapter 9) • A carbon tax and dividend plan has become a focal policy in the debate about global climate change. (Chapter 10) • Social media share many features, along with many of the problems, associated with common resources. (Chapter 11) • The Supreme Court hears a case about international price discrimination. (Chapter 15) • Amazon looks like it might be the next target for antitrust regulators. (Chapter 17) • The winners and losers from immigration have become a major issue in the political debate. (Chapter 18) • Research on tax data shows by how much the super-rich have gotten even richer. (Chapter 20) • Some economists suggest that, despite little change in the official poverty rate, we are winning the war on poverty. (Chapter 20) In addition to updating the book, I have refined its coverage and pedagogy with input from many users of the previous edition. There are numerous changes, large and small, aimed at making the book clearer and more student-friendly. All the changes that I made, and the many others that I considered, were evaluated in light of the benefits of brevity. Like most things that we study in economics, a student’s time is a scarce resource. I always keep in mind a dictum from the great novelist Robertson Davies: “One of the most important things about writing is to boil it down and not bore the hell out of everybody.”

How Is This Book Organized?

The organization of this book was designed to make economics as student-friendly as possible. What follows is a whirlwind tour of this text. The tour will, I hope, give instructors some sense of how the pieces fit together.

Introductory Material

Chapter 1, “Ten Principles of Economics,” introduces students to the economist’s view of the world. It previews some of the big ideas that recur throughout economics, such as opportunity cost, marginal decision making, the role of incentives, the gains from trade, and the efficiency of market allocations. Throughout the book, I refer regularly to the Ten Principles of Economics introduced in Chapter 1 to remind students that these ideas are the foundation for all economics.

Chapter 2, “Thinking Like an Economist,” examines how economists approach their field of study. It discusses the role of assumptions in developing a theory and introduces the concept of an economic model. It also explores the role of economists in making policy. This chapter’s appendix offers a brief refresher course on how graphs are used, as well as how they can be abused. Chapter 3, “Interdependence and the Gains from Trade,” presents the theory of comparative advantage. This theory explains why individuals trade with their neighbors, as well as why nations trade with other nations. Much of economics is about how market forces coordinate many individual production and consumption decisions. As a starting point for this analysis, students see in this chapter why specialization, interdependence, and trade can benefit everyone.

The Fundamental Tools of Supply and Demand

The next three chapters introduce the basic tools of supply and demand. Chapter 4, “The Market Forces of Supply and Demand,” develops the supply curve, the demand curve, and the notion of market equilibrium. Chapter 5, “Elasticity and Its Application,” introduces the concept of elasticity and uses it to analyze events in three different markets. Chapter 6, “Supply, Demand, and Government Policies,” uses these tools to examine price controls, such as rent-control and minimum-wage laws, and tax incidence. Chapter 7, “Consumers, Producers, and the Efficiency of Markets,” extends the analysis of supply and demand using the concepts of consumer surplus and producer surplus. It begins by developing the link between consumers’ willingness to pay and the demand curve and the link between producers’ costs of production and the supply curve. It then shows that the market equilibrium maximizes the sum of the producer and consumer surplus. Thus, students learn early about the efficiency of market allocations. The next two chapters apply the concepts of producer and consumer surplus to questions of policy. Chapter 8, “Application: The Costs of Taxation,” shows why taxation results in deadweight losses and what determines the size of those losses. Chapter 9, “Application: International Trade,” considers who wins and who loses from international trade and presents the debate over protectionist trade policies.

More Microeconomics

Having examined why market allocations are often desirable, the book then considers how the government can sometimes improve on them. Chapter 10, “Externalities,” explains how external effects such as pollution can render market outcomes inefficient and discusses the possible public and private solutions to those inefficiencies. Chapter 11, “Public Goods and Common Resources,” considers the problems that arise when goods, such as national defense, have no market price. Chapter 12, “The Design of the Tax System,” describes how the government raises the revenue necessary to pay for public goods. It presents some institutional background about the U.S. tax system and then discusses how the goals of efficiency and equity come into play when designing a tax system. The next five chapters examine firm behavior and industrial organization. Chapter 13, “The Costs of Production,” discusses what to include in a firm’s costs, and it introduces cost curves. Chapter 14, “Firms in Competitive Markets,” analyzes the behavior of price-taking firms and derives the market supply curve. Chapter 15, “Monopoly,” discusses the behavior of a firm that is the sole seller in its market. It examines the inefficiency of monopoly pricing, the possible policyresponses, and the attempts by monopolies to price discriminate. Chapter 16, “Monopolistic Competition,” looks at behavior in a market in which many sellers offer similar but differentiated products. It also discusses the debate over the effects of advertising. Chapter 17, “Oligopoly,” covers markets in which there are only a few sellers, using the prisoners’ dilemma as the model for examining strategic interaction. The next three chapters present issues related to labor markets. Chapter 18, “The Markets for the Factors of Production,” emphasizes the link between factor prices and marginal productivity. Chapter 19, “Earnings and Discrimination,” discusses the determinants of equilibrium wages, including compensating differentials, human capital, and discrimination. Chapter 20, “Income Inequality and Poverty,” examines the degree of inequality in U.S. society, alternative views about the government’s role in changing the distribution of income, and various policies aimed at helping society’s poorest members. The next two chapters present optional material. Chapter 21, “The Theory of Consumer Choice,” analyzes individual decision making using budget constraints and indifference curves. Chapter 22, “Frontiers of Microeconomics,” introduces the topics of asymmetric information, political economy, and behavioral economics. Some instructors may skip all or some of this material, but these chapters are useful in motivating and preparing students for future courses in microeconomics. Instructors who cover these topics may assign these chapters earlier than they are presented in the book, and I have written them to facilitate this flexibility.

Ten Principles of Economics

The word economy comes from the Greek word oikonomos, which means “one who manages a household.” At first, this origin might seem peculiar. But in fact, households and economies have much in common. A household faces many decisions. It must decide which household members do which tasks and what each member receives in return: Who cooks dinner? Who does the laundry? Who gets the extra dessert at dinner? Who gets to drive the car? In short, a household must allocate its scarce resources (time, dessert, car mileage) among its various members, taking into account each member’s abilities, efforts, and desires. Like a household, a society faces many decisions. It must find some way to decide what jobs will be done and who will do them. It needs some people to grow food, other people to make clothing, and still others to design computer software. Once society has allocated people (as well as land, buildings, and machines) to various jobs, it must also allocate the goods and services they produce. It must decide who will eat caviar and who will eat potatoes. It must decide who will drive a Ferrari and who will take the bus. The management of society’s resources is important because resources are scarce. Scarcity means that society has limited resources and therefore cannot produce all the goods and services people wish to have. Just as each member of a household cannot get everything she wants, each individual in a society cannot attain the highest standard of living to which she might aspire. Economics is the study of how society manages its scarce resources. In most societies, resources are allocated not by an all-powerful dictator but through the combined choices of millions of households and firms. Economists therefore study how people make decisions: how much they work, what they buy, how much they save, and how they invest their savings. Economists also study how people interact with one another. For instance, they examine how the many buyers and sellers of a good together determine the price at which the good is sold and the quantity that is sold. Finally, economists analyze the forces and trends that affect the economy as a whole, including the growth in average income, the fraction of the population that cannot find work, and the rate at which prices are rising. The study of economics has many facets, but it is unified by several central ideas. In this chapter, we look at Ten Principles of Economics. Don’t worry if you don’t understand them all at first or if you aren’t completely convinced. We explore these ideas more fully in later chapters. The ten principles are introduced here to give you a sense of what economics is all about. Consider this chapter a “preview of coming attractions.”