Sixth Edition

PRINCIPLES OF MICROECONOMICS

Edwin Mansfield

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EDWIN MANSFIELD

DIRECTOR / CENTER FOR ECONOMICS AND TECHNOLOGY / UNIVERSITY OF PENNSYLVANIA

SIXTH EDITION

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To Edward Deering Mansfield (1801–1880)
and his brother-in-law Charles Davies (1798–1876)
neither of whom should be held responsible
for the views expressed here.

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SIXTH EDITION

PREFACE

The American economy, while basically strong and vibrant, is beset by a number of problems which must be faced in the next decade. With the students of a new decade in mind, a major thrust of this revision has been to devote space to these central economic problems. Major new sections, each two or more pages long, have been added on the following "Economic Issues of the 1990s": (1) Can American Firms Compete? (2) Corporate Takeovers: Boon or Problem? (3) The AIDS Epidemic and Who Will Pay, (4) Should the Minimum Wage Go Up? Each of these new sections indicates how economic analysis can help to illuminate these central public issues. Based on my own classroom experience, this new feature of this text should be of great use in whetting the interest of students and in helping them to thread their way through complex contemporary issues.

Many of these "Economic Issues of the 1990s" are concerned with the international competitiveness of American industry and international economic relationships. Reflecting their continued growth in importance to the American economy, this new edition places much more emphasis on these topics. The principle of comparative advantage is presented in Chapter 2. The treatment of international trade, including a new insert on strategic trade policy, is found in Chapter 18.

The organization of the book has been changed in other major ways as well. The discussion of government expenditures and taxation is now placed later (in Chapters 16 and 17), thus permitting a fuller analysis of these important topics. The re-positioning of these chapters has the important advantage as well of allowing us to get to the heart of microeconomics more quickly: the coverage now begins in Chapter 5. Also, Chapter 4 contains a new insert on the stock market crash of 1987, as well as a boxed example dealing with another Wall Street market: a hot dog vendor. The examination of consumer behavior in Chapter 6 now begins with a recent study of the finances of a Jacksonville, Florida, family. Chapter 11 includes a boxed example on "The End of the Cozy Milk Oligopoly in New York," as well as new material on the prisoner's dilemma and "tit for tat." Chapter 15 contains a new insert on "Equal Pay for Work of Comparable Worth." Chapter 16 deals with Sematech, the Pentagon-financed R and D consortium in the semiconductor industry. Chapter 19 provides a new section on Mikhail Gorbachev's economic reforms in the Soviet Union.

Besides adding new features and material, this edition builds on and extends some unique features of the previous edition. To help students see (and remember) the forest, as distinct from a hodgepodge of trees, a relatively small number of Basic Ideas (one or two per chapter) are highlighted. In this edition, these basic ideas have been sharpened and reduced in number, and each is accompanied by an example. One can reasonably expect these Basic Ideas to stick with students; and if so, their time will have been well spent because these ideas really constitute the heart of elementary economics, stripped of frills and details.

Most textbooks do not encourage the student to get involved in the subject. They simply lay out the material, leaving the student to absorb it passively. In previous editions, I have invited students to *do* economics in order to understand it better. Scores of examples were provided, each describing a real (or realistic) situation and then calling on the student to work through the solution. Also, in each chapter there were two problem sets, both designated "Test Yourself" that enabled students to check their comprehension of what they had just read. The reaction of instructors and students was very favorable, and the emphasis on doing economics is maintained in this Sixth Edition.

All of the empirical and policy-oriented chapters have been updated. Since a text should reflect current conditions and concerns, the government policies in all the major economic areas—farm, energy, environmental, antitrust, and international—are reviewed in depth. The latest data available have been incorporated in the tables, diagrams, and discussions, while revisions in sections on economic forecasting, Social Security, and a variety of other topics have brought them into line with current developments.

As supplements to this text, I have prepared both a book of readings and a study guide containing problems and exercises. The book of readings, *Principles of Microeconomics: Readings, Issues, and Cases,* Fourth Edition, provides a substantial set of supplementary articles, carefully correlated with the text for instructors who want to introduce their students to the writings of major contemporary economists. It is designed to acquaint the student with a wide range of economic analysis, spanning the spectrum from the classics to the present-day radicals. The emphasis, as in the text, is on integrating theory, measurement, and applications.

The *Study Guide,* Sixth Edition, contains, in addition to problems, review questions, and tests, a large number of cases that require the student to work with quantitative material in applying concepts to practical situations. Both students and instructors have reported that such cases are important in motivating students and illuminating economic theory.

An *Instructor's Manual* has been prepared by Michael Claudon of Middlebury College to accompany the text. A *Test Item File,* prepared by Herbert Gishlick of Rider College, is available both in printed form and on computer tape. *Transparency Masters* are also available to instructors who adopt the text.

Finally, it is a pleasure to acknowledge the debts that I owe to the many teachers at various colleges and universities who have commented in detail on various parts of the manuscript. The first, second, and third editions benefited greatly from the advice I received from the following distinguished economists, none of whom is responsible, of course, for the outcome: Wallace Atherton, California State University at Long Beach; Bela Balassa, Johns Hopkins; Robert Baldwin, University of Wisconsin (Madison); Arthur Benavie, North Carolina; Lee Biggs, Montgomery College; Donald Billings, Boise State; William Branson, Princeton; Martin Bronfenbrenner, Duke; Edward Budd, Penn State; Phillip Burstein, Purdue; Wade Chio, U.S. Air Force Academy; Michael Claudon, Middlebury; Warren Coates. Federal Reserve; Rich-

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Philadelphia, 1988. E.M.

PART ONE

INTRODUCTION TO ECONOMICS

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C H A P T E R 1

ECONOMIC PROBLEMS AND ANALYSIS

SAUL BELLOW, THE AMERICAN NOVELIST, has written that true power is the ability to inflict boredom. If so, many economics textbooks are among the most powerful books on earth. Economics need not be boring. Let's look at a sample of the major problems economists deal with; you'll find that each of them could have a big effect on your own life.

ECONOMIC PROBLEMS: A SAMPLER

Unemployment and Inflation

The history of the American economy is for the most part a story of growth. Our output—the amount of goods and services we produce annually—has grown rapidly over the years, giving us a standard of living that could not have been imagined a century ago. For example, output per person in the United States was about $18,000 in 1987; in 1900, it was about $3,000. Nonetheless, the growth of output has not been steady or uninterrupted; instead, our output has tended to fluctuate—and so has unemployment. In periods when output has fallen, thousands, even millions, of people have been thrown out of work. In the Great Depression of the 1930s over 20 percent of the labor force was unemployed (see Figure 1.1). Unemployment on this scale results in enormous economic waste and social misery.

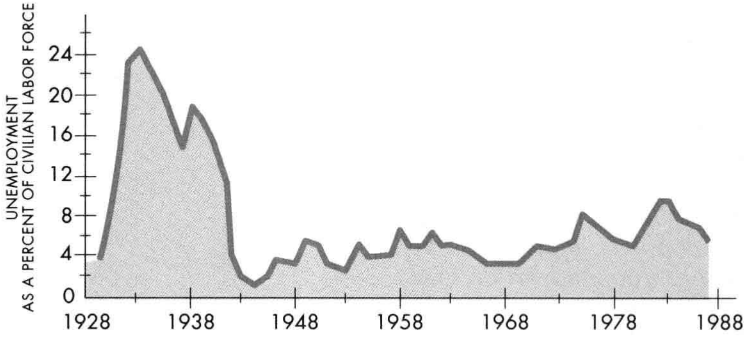

Figure 1.1
Unemployment Rates, United States, 1929–87
The unemployment rate has varied substantially from year to year. In the Great Depression, it reached a high of over 24 percent. In 1987, it exceeded 6 percent.

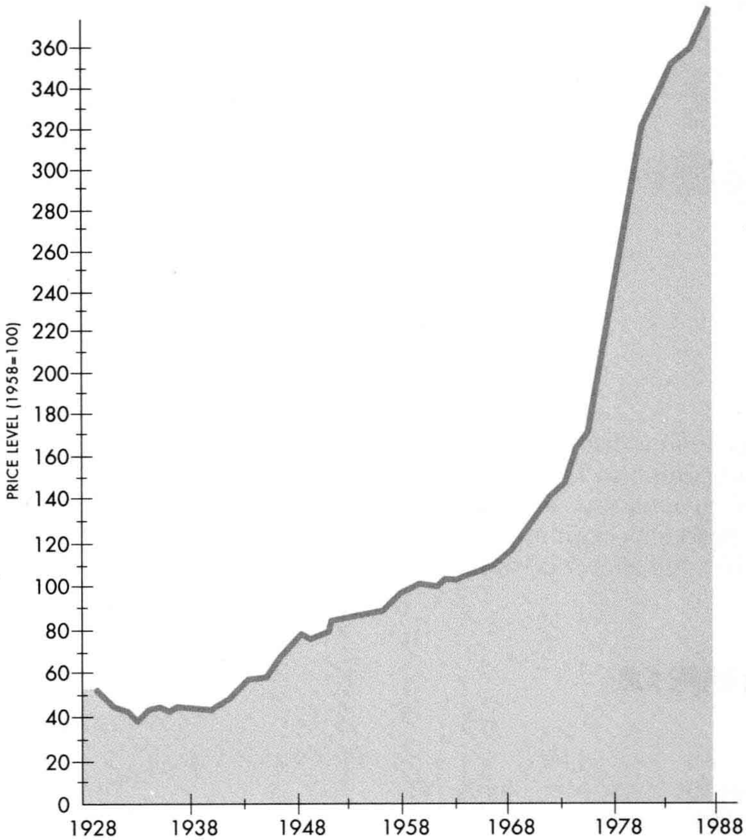

Figure 1.2
Changes in Price Level, United States, 1929–87
The price level has increased steadily since the 1930s, and is now over nine times as high as it was in 1933.

The first of our sample of economic problems is: *What determines the extent of unemployment in the American economy; and what can be done to reduce it?* This problem is complicated by a related phenomenon: The level of prices may rise when we reduce the level of unemployment. In other words, inflation may occur. Thus the problem is not only to curb unemployment, but to do this without producing an inflation so ruinous to the nation's economic health that the cure proves more dangerous than the ailment. Consequently, another major accompanying question is: *What determines the rate of inflation, and how can it be reduced?* As Figure 1.2 shows, we have experienced considerable inflation since 1929; the dollar has lost over four-fifths of its purchasing power during this period. Moreover, in the 1970s and early 1980s, our economy often was bedeviled by "stagflation": a combination of high unemployment and high inflation.

Economics is divided into two parts: microeconomics and macroeconomics. ***Microeconomics*** *deals with the economic behavior of individual units like consumers, firms, and resource owners, while* ***macroeconomics*** *deals with the behavior of economic aggregates like national output, the price level, and the level of unemployment.* This volume is concerned primarily with microeconomics, but since one must know some macroeconomics to understand microeconomics, we

THE PRESSING PROBLEMS OF AMERICAN MANUFACTURING

The following passage,[1] taken from a recent publication of the National Research Council, describes how leading American scientists and engineers view the current problems of U.S. manufacturing. While manufacturing is only one segment of the American economy, this statement makes interesting reading. In subsequent chapters, we will examine many of the relevant issues.

"For U.S. manufacturing, an extended period of world dominance in manufacturing innovation, process engineering, productivity, and market share has ended. Other countries have become leaders in certain industries, the U.S. market is being flooded by manufactured imports, and U.S. manufacturers are faced with relatively low levels of capacity utilization and declining employment. The reasons for this fundamental change are complex. Improved capabilities and competence of foreign manufacturers are partly responsible. Either government interference or the lack of government support has been blamed. Cultural disadvantages are often cited. Many economists explain the relative decline of U.S. manufacturing simply as economic evolution, with the United States moving toward a service economy. These and other factors have been held responsible for the relative decline of U.S. manufacturing, and all are legitimate partial explanations. The truth remains, however, that U.S. manufacturing is not performing as well as that of many foreign competitors and has lost competitiveness in many industries. Regardless of why the environment has changed, the managerial practices, strategies, and organizational designs applied by U.S. manufacturers have not adapted sufficiently to the changed competitive environment, and, consequently, U.S. manufacturing has not been as successful as that of other countries.

"These changes in relative manufacturing strength are occurring at the same time that many technological innovations promise to revolutionize products and processes in manufacturing. Just as major technological breakthroughs spurred industrial development in the mid-eighteenth century (steam power, new engine-driven machinery) and the development of the modern factory system in the late nineteenth century (electricity, the telephone, and mass production techniques), current breakthroughs in electronics, materials, and communications are creating another revolution in manufacturing. Just as earlier changes forced new directions in manufacturing management, production strategies, and national policies for maximizing competitiveness, the competitive and technological changes affecting manufacturing today should create new goals, new priorities, and new expectations in U.S. industry. Many manufacturing managers and national policymakers, however, have been slow to recognize the implications of these developments. U.S. manufacturing is in danger of being unprepared to compete in the coming age, a failure that would cause rapid erosion of the nation's manufacturing base."

[1] National Research Council, *Toward a New Era in Manufacturing,* Washington, D.C.: National Academy Press, 1986, pp. 5–7.

include some macroeconomics as well. However, the economic problem cited in this section is too purely macroeconomic in nature to be taken up in detail here. For a more intensive discussion of this sort of problem, see the companion volume to this one, *Principles of Macroeconomics.*