



Stanley Fischer, Rudiger Dornbusch, Richard Schmalensee

Introduction to  
**MICROECONOMICS**

Second Edition

# INTRODUCTION TO MICROECONOMICS

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SECOND EDITION

Stanley Fischer  
Rudiger Dornbusch  
Richard Schmalensee

PROFESSORS OF ECONOMICS  
MASSACHUSETTS INSTITUTE  
OF TECHNOLOGY

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**McGRAW-HILL BOOK COMPANY**

New York St. Louis San Francisco Auckland Bogotá  
Caracas Colorado Springs Hamburg Lisbon London  
Madrid Mexico Milan Montreal New Delhi  
Oklahoma City Panama Paris San Juan São Paulo  
Singapore Sydney Tokyo Toronto

## **INTRODUCTION TO MICROECONOMICS**

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234567890 HALHAL 8921098

**ISBN 0-07-021009-8**

This book was set in Clearface Regular by Better Graphics, Inc.  
The editors were Elisa Adams, Scott D. Stratford, and Larry Goldberg;  
the designer was Hermann Strohbach;  
the production supervisor was Salvador Gonzales.  
Drawings were done by Fine Line Illustrations, Inc.  
Cover photograph was provided by David F. Hughes, © 1982.  
Arcata Graphics/Halliday was printer and binder.

### **Library of Congress Cataloging-in-Publication Data**

Fischer, Stanley.

Introduction to microeconomics.

Includes bibliographical references and index.

I. Microeconomics. I. Dornbusch, Rudiger.

II. Schmalensee, Richard. III. Title.

HB172.F48 1988 338.5 87-29666

ISBN 0-07-021009-8

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#### ABOUT THE AUTHORS

**Stanley Fischer** (*right*) was an undergraduate at the London School of Economics and has a Ph.D. from MIT. He taught at the University of Chicago while Rudi Dornbusch was a student there, starting a long friendship and collaboration. Since 1973 he has taught at MIT and spent several leaves at the Hebrew University in Jerusalem. His main research interests are in monetary theory, macroeconomic policy, and economic growth and development. He has published widely in these areas and participates regularly in scholarly meetings. He is the editor of the *NBER Macroeconomics Annual*, initiated by the National Bureau of Economic Research to bridge the gap between theory and policy in the macroeconomic area.

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**Richard Schmalensee** (*left*) was born in Belleville, Illinois, where he attended the public schools. He was an undergraduate at MIT, from which he also holds a Ph.D. He has taught at the University of California, San Diego, and, since 1977, at MIT and has held visiting appointments at the University of Louvain in Belgium. His main research interests are in microeconomics, with special emphasis on imperfect competition, regulation, and antitrust policy. His many publications include *The Economics of Advertising* and *The Control of Natural Monopolies*, and he is coeditor of *The Handbook of Industrial Organization*. He consults regularly on regulatory and antitrust issues.

**TO: MICHAEL, DAVID, AND JONATHAN**

**SERGIO**

**ALEXANDER AND NICHOLAS**

# Preface

Our aim in the second edition of *Introduction to Microeconomics* is to present the essential core of the field in a way that enables students to use economics to understand the world in which we live. After this course, students can expect both to have learned the basic facts about markets and the microeconomic role of government and to have mastered principles they can use to understand many of the economic changes, controversies, and policy debates they will encounter throughout their lives.

This edition follows the first edition in broad outline and approach, emphasizing the basics and applications throughout. However, it has been totally rewritten. Chapters have been moved, added, and removed; material has been moved among chapters and within chapters; and each chapter has undergone a complete revision.

## Overview

The four introductory chapters in Part 1 present essential material on the nature of economics (Chapter 1); the use of graphs, data, and models in economic analysis (Chapter 2); the basic model of market supply and demand (Chapter 3); and—in an essentially new chapter (Chapter 4)—the role of government in the economy. Chapter 4 reviews how governments actually affect the economy, what economic theory says about the ideal role of government, and how governments in practice make decisions.

By the end of these first four chapters, the student should have a good idea of what economics is about, know how to read diagrams and use data, understand how markets work, and know the facts about the mixed economy. By tying the operation of markets in Chapter 3 to the economy's solution of its fundamental "how," "what," and "for whom" problems, we quickly introduce the student to the extraordinary power of markets. By describing the potential role of the government in dealing with externalities and affecting the distribution of income in Chapter 4, we alert students to the fact that

market solutions are not necessarily optimal; by describing the political economy of government decision making, we make the student aware that government solutions may also be far from optimal.

After this general introduction, we switch to microeconomics, starting with the basic material and going on to more applied areas. By starting with and emphasizing the basics and avoiding gimmicks, we ensure that the student is well equipped to handle and, we hope, enjoy the applications. We develop the competitive model fully in Part 2 and move on to imperfect competition and regulation in Part 3, the factor markets in Part 4, and the microeconomics of government in Part 5. We conclude in Part 6 with a chapter on the gains from trade and the problems of trade, thus providing an introduction to the increasingly important issues surrounding the role of the United States in the world economy.

## In More Detail

We start Part 2 with Chapter 5, which develops the definitions and uses of the price and income elasticities of demand, along with cross elasticities. Here, as elsewhere in the book, we draw frequently on real-world data and examples—from oil to medical care to sporting goods—to clarify concepts and make sure that students know the material is useful. Chapter 6 goes behind the demand curve to show how market demand curves are built up from individual demand curves and how utility theory can be used to derive the properties of demand curves. The idea of consumer's surplus is developed, and an appendix presents indifference curve analysis.

Chapters 7 through 9 deal with business organization and accounting and with the supply side of the market. Here we have improved the order of the material by presenting Chapter 9, which deals with supply in a competitive industry, before introducing imperfect competition. We now allow the student to develop a thorough understanding of the competitive model of the firm and market before encountering the varieties and ambiguities of imperfect competition. Chapter 10, on competi-

tion and economic efficiency, shows why competitive markets are efficient and equips the student to understand the distortions caused by imperfect competition. By simplifying the material, we have been able to present it earlier, enabling the student to develop a far deeper understanding of the problems of monopoly than was possible in the first edition.

In Part 3 we cover both imperfect competition and the government policies that deal with it. We start in Chapter 11 with the polar case of monopoly, giving examples of monopolies, discussing their origins and effects, and introducing the natural monopoly problem. In Chapter 12, we move on to oligopoly and other forms of imperfect competition. Chapter 13 provides an overview of government regulation, and Chapter 14 discusses government's role in dealing with monopoly. These two chapters stress both the principles determining the role government could play in improving the allocation of resources and its actual role. We illustrate the principles throughout with real-world examples, describing the origins and operation of regulatory agencies, the effects of airline deregulation, the government's merger guidelines, the partial deregulation of the telephone industry, and more.

Part 4, covering Chapters 15 to 20, deals with the factor markets, starting with a short chapter on the principles of derived demand. This new chapter allows students to see the principles of factor demand more clearly. Even here, we draw on real-world data on capital-labor ratios to illustrate factor substitution.

Chapters 16 and 17 discuss labor markets, examining labor supply and demand and wage determination and then considering human capital and labor unions, using plentiful data and examples. The labor markets are of special interest to students, who are preparing to enter them. We have found in our teaching that the material on human capital in Chapter 17 is of particular interest to students; they will appreciate the calculations involved in deciding whether to pursue an education and can also be relied on to challenge the view that only pecuniary returns matter.

The economics of capital and land presented in Chapter 18 is also fascinating. Present-value calculations (already introduced in Chapter 17 in discussing human capital) and discussions of when an investment is worthwhile come easily to students. By building the theory of

capital around present-value calculations, we present capital theory in a way that is logical, manageable, and intuitively understandable. We extend the discussion to consider uncertainty in Chapter 19. This important area is not generally covered in introductory texts, but it is entirely accessible and extremely interesting to students because the problems of insurance and the prospects of investing in the stock market are familiar to many.

We conclude the section on factor markets with a discussion of the distribution of income, poverty, and discrimination in the United States in Chapter 20. We define the Lorenz curve and present facts on the distribution of income and wealth, the incidence of poverty, and the extent of discrimination. Although this chapter is largely descriptive, we use the theory of the factor markets developed in Part 4 to discuss the effects of changes in labor supply on wages and the distribution of income.

The two chapters in Part 5 examine the role of government both in taxing and producing and purchasing goods and services (Chapter 21) and in making transfer payments that are intended, among other things, to alleviate poverty (Chapter 22). The discussion is again a combination of description and analysis, including a careful evaluation of the current debate about the effects of welfare programs and possible reforms.

In Chapter 23 (Part 6) we turn briefly to the international economy, examining the potential gains from trade—surely one of the highlights of an introductory course—and the reasons why trade appears in practice to be as much a problem as a benefit for the economy. This chapter provides students with a good introduction to the microeconomics of trade and protection and should give them guidance through the continuing controversies over free trade and open markets that dominate the headlines today and will continue to do so for years to come.

## Special Features

### *Stressing the Fundamentals*

The teachers we remember most fondly gave us conceptual tools that we could use on our own after the course was over—along with the confidence and understanding necessary to use those tools well. We try to emulate those

teachers here by developing microeconomics cumulatively, making sure that the student understands the core material before moving on to more advanced topics. For instance, we make sure that the student understands supply and demand thoroughly before we discuss non-competitive market structures. Similarly, we set out the principles of derived demand before going on to more detailed examinations of the factor markets.

We want the student who uses this book to be able to *do* economics, that is, to use the principles presented here effectively to analyze new problems. That is why we emphasize mastery of fundamental material so heavily and why we keep recent developments—such as game theory and public choice—in perspective rather than seeking to recast economics into a new framework. That is also why we shy away from all but the briefest of biographical details about economists, dead or alive.

### *Data and Applications*

Economics is not studied for the logical beauty of its theory but rather for what it can tell us about the real world. From the start we emphasize that economics is motivated by and can be used to understand and analyze the world in which students live. We thus present a blend of theory, applications, and policy discussions that brings economics across as the relevant and live social science that it is.

Whenever possible—and it is almost always possible—we illustrate the usefulness of the principles developed in each chapter by applying them to an example from the U.S. economy or the economy of a foreign country. For example, in discussing the mixed economy in Chapter 4, we draw on data from a wide range of countries. In discussing protection in Chapter 23, we can unfortunately draw on many recent examples, from textiles to automobiles, and we do.

We not only discuss examples to illustrate theory but also present a good deal of data from the United States and abroad to make sure that the student has an idea of the basic facts of economic life: How unequal is the distribution of income? How concentrated are U.S. industries? We discuss critical measurement problems and empirical uncertainties rather than pretending omniscience and stress the dual roles of theory and empirical

analysis in resolving controversies and determining desirable policy.

### *Comparative International Data*

Our data and examples are drawn from abroad as well as from the United States. By opening up the foreign dimensions we give students a broader perspective—quite appropriate in the increasingly integrated world economy—and give the teacher an opportunity to draw on a far wider set of data and experiences to illustrate the principles he or she is developing.

### *Boxes*

There is a box or two in most chapters, presenting either case studies or material that is of interest but not necessarily in the main line of development of the chapter.

### *The Bottom Line*

We conclude the text of each chapter with a single paragraph that succinctly summarizes its central theme, points the way to the next chapter, or both. In addition, we present a detailed summary at the end of each chapter.

### *Glossary*

We warn students in Chapter 1 that economics has a language of its own that uses familiar words in precise but unfamiliar ways. To help them master this language, the most important definitions are collected in a glossary at the end of the book.

### *Additional Material*

#### *Instructor's Manual, Test Bank, and Study Guide*

Professor Michael Morgan of the College of Charleston has prepared a comprehensive instructor's manual to accompany the text, an expanded test bank, and a very useful study guide.

Also available from your McGraw-Hill representative or from the Economics Editor, College Division—27th



Floor, McGraw-Hill, 1221 Avenue of the Americas, New York, NY 10020, are overhead masters, overhead transparencies, and a computerized graphics-based tutorial that reviews fundamental microeconomic and macroeconomic concepts.

## Acknowledgments

In writing this book we have been helped by friends and colleagues, by many professors who read through earlier drafts and the first edition of the book and through their advice gave us the benefit of their own teaching experiences, by the McGraw-Hill team, and by our assistants.

We owe special thanks to colleagues who were willing to provide us with information and with feedback. We would like to mention especially David Begg, Eliana Cardoso, Henry Farber, Kathleen Feldstein, Martin Feldstein, Nan Friedlaender, Zvi Griliches, Jerry Hausman, Paul Joskow, Thomas Moore, Michael Morgan, Robert Pindyck, James Poterba, and Yoram Weiss.

Our acknowledgments to the many professors who offered advice and suggestions for improving the manuscript of both the first and second editions appear on pages xxv–xxvii. These individuals will recognize the major differences that have resulted from their comments. For their suggestions, we would like to thank also Jeff Rigsby, Robert Shaw, Mike Tamada, Alice Tufel, and Jean Therese Wenzel.

We were fortunate to have the assistance of Susan Collins, Donald Deere, Mike Gavin, Andy Kaufman, Betty

Krier, Jeff Miron, and Alex Zanello. Tere Bautista, Carol McIntire, and Elizabeth Walb helped type the first edition, and Brian Corbin and Lisa Funaro managed the second.

For this second edition we want to acknowledge the members of the McGraw-Hill team, especially Elisa Adams, whose professionalism, thoroughness, and good humor have kept us going. Larry Goldberg managed the book through the press with impressive efficiency. This book is much the better for their help and for the help of the many others we have mentioned and thanked above.

Finally, we should make it clear that we are each fully and equally implicated in the virtues and faults of this book and the companion volumes, *Economics* and *Introduction to Macroeconomics*.

Stanley Fischer  
Rudiger Dornbusch  
Richard Schmalensee

## Postscript

With this edition we have been fortunate to add Richard Schmalensee as a third author. Dick's touch, insights, and experience are evident throughout the book, but especially in the microeconomics sections. It has been a pleasure for us to work with him.

Rudiger Dornbusch  
Stanley Fischer

## To the Student

Welcome! We wrote this book to help *you* learn the fundamental principles on which all economics is built. You can use these principles to understand the changing economic world in which you will live the rest of your life. This book introduces theories, facts, and examples that will help you think systematically about economic issues and problems that you read about and encounter directly every day.

Microeconomics is not a field in which there is always an argument in favor of every possible viewpoint. There *are* right and wrong answers to some questions, but there is uncertainty about others. One of our aims is to show why economists understand some issues and to explain the disagreements about others. In choosing the examples and applications, and especially in policy discussions of often controversial topics, we have tried to develop this perspective, first making the issue clear and then analyzing the different viewpoints, not hesitating to say which of them do not make sense. For instance, our discussion of protection in Chapter 23 shows that there are some—very few, to be sure—economic arguments that do favor protection of domestic industry against foreign competition; it also shows that many of the most common arguments cannot be supported by logic or evidence.

We hope that by the end of the course you will understand how economists analyze policy issues and problems and that you will be able to analyze economic controversies on your own. Fortunately, the fundamental economic principles presented in this text generally give the essentially correct answers to most economic problems. More advanced material in economics usually refines but does not reverse the conclusions that are reached on the basis of basic principles.

### How to Study

There is a world of difference between reading about economics and actually *doing* and understanding economics. Doing economics means using the theories and

facts you have learned to answer for yourself questions about the economy that you encounter in your daily life, in reading, and in thinking about the economy around you. We hope that by the end of the course you will be able to use economics by yourself to understand the real world.

To do economics, you have to learn *actively*. Reading is not enough. Question the text at every step. If we say, “Thus X must be true,” be sure you see why. If the text makes three points, be sure after reaching the third that you remember the first. Above all, when we apply theory, follow the application with care: The applications reinforce the text both by taking you through the theory again and by showing how it relates to the real world.

In learning actively, put in some of your own input. When a line is drawn one way, ask why. See whether it can be drawn differently and what happens when it is. Solve the problems at the end of each chapter. At the end of each section ask yourself what the point was and what you have learned. To make sure, you may want to jump ahead to the chapter summary.

### Study Guide

Professor Michael Morgan of the College of Charleston has prepared an excellent *Study Guide* that accompanies the textbook. It briefly reviews each chapter and then provides many questions that reinforce the material of the chapter and help you learn it actively. The questions in the *Study Guide* in effect take you through the analysis of the chapter step by step.

Anyone who works through the *Study Guide* in conjunction with the text can be sure that she or he understands the material in this book.

Dig in and enjoy!

Stanley Fischer  
Rudiger Dornbusch  
Richard Schmalensee

# Acknowledgments

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