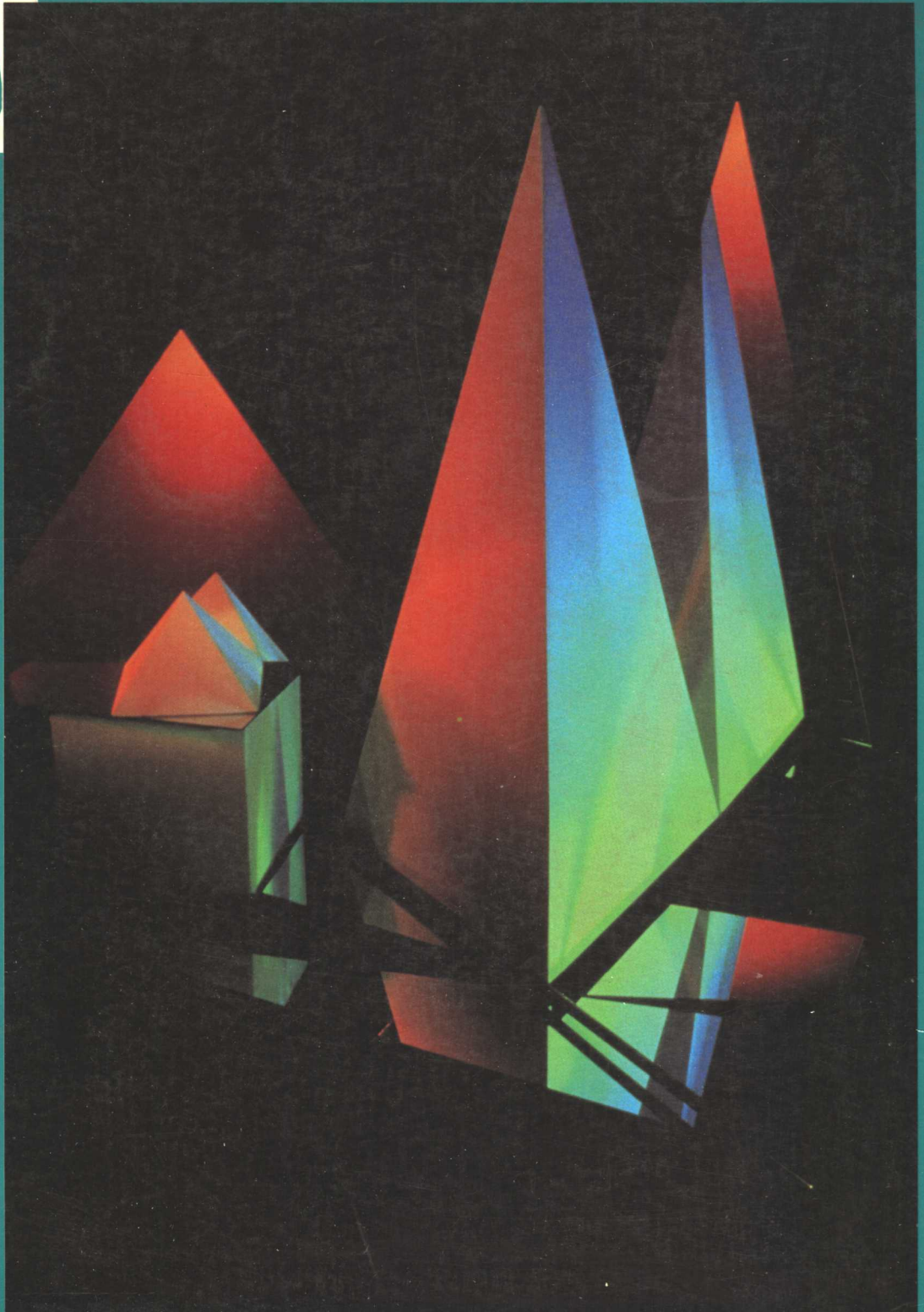


# MACROECONOMICS

*Sixth Edition*



*Dolan &  
Lindsey*

# MACROECONOMICS

*Sixth Edition*

**Edwin G. Dolan**

*Gettysburg College*

**David E. Lindsey**

*Deputy Director, Division of Monetary Affairs  
Board of Governors of the Federal Reserve System*

**The Dryden Press**

Chicago Fort Worth San Francisco Philadelphia  
Montreal Toronto London Sydney Tokyo

Acquisitions Editor: Jan Richardson  
Developmental Editor: Millicent Treloar  
Project Editor: Paula Dempsey/Susan Jansen  
Art and Design Manager: Alan Wendt  
Production Manager: Barb Bahnsen  
Permissions Editor: Cindy Lombardo  
Director of Editing, Design, and Production: Jane Perkins

Copy Editor: Kathy Pruno  
Indexer: Leoni McVey  
Compositor: York Graphic Services, Inc.  
Text Type: 10/12 Plantin Light

---

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

Dolan, Edwin G.  
Macroeconomics / Edwin G. Dolan, David E. Lindsey.—6th ed.  
p. cm.  
ISBN 0-03-032892-6  
I. Macroeconomics. I. Lindsey, David Earl. II. Title.  
HB172.5.D65 1991  
339—dc20

90-3201  
CIP

---

The paper used in this publication meets the minimum requirements  
of American National Standard for Information Sciences—Permanence  
of Paper for Printed Library Materials, ANSI Z39.48-1984.



Printed in the United States of America  
012-032-987654321  
Copyright © 1991, 1988 by The Dryden Press, a division of Holt, Rinehart and Winston, Inc.

All rights reserved. No part of this publication may be  
reproduced or transmitted in any form or by any means, electronic  
or mechanical, including photocopy, recording, or any information  
storage and retrieval system, without permission in writing from  
the publisher.

Requests for permission to make copies of any part of the work  
should be mailed to: Permissions Department, Holt, Rinehart and Winston,  
Inc., 8th Floor, Orlando, FL 32887.

Address orders:  
The Dryden Press  
Orlando, FL 32887

Address editorial correspondence:  
The Dryden Press  
908 N. Elm Street  
Hinsdale, IL 60521

The Dryden Press  
Holt, Rinehart and Winston  
Saunders College Publishing

Cover Source: ©Barbara Kasten, "Diptych I" (left), 1983 Cibachrome, 30" × 40".

## The Dryden Press Series in Economics

- Aronson  
**The Electronic Scorecard**
- Asch and Seneca  
**Government and the Marketplace**  
*Second Edition*
- Breit and Elzinga  
**The Antitrust Casebook:  
Milestones in Economic Regulation**  
*Second Edition*
- Breit and Ransom  
**The Academic Scribblers**  
*Second Edition*
- Campbell, Campbell, and Dolan  
**Money, Banking, and Monetary Policy**
- Dolan and Lindsey  
**Economics**  
*Sixth Edition*
- Dolan and Lindsey  
**Macroeconomics**  
*Sixth Edition*
- Dolan and Lindsey  
**Microeconomics**  
*Sixth Edition*
- Eckert and Leftwich  
**The Price System and Resource Allocation**  
*Tenth Edition*
- Edgmand, Moomaw, and Olson  
**Economics and Contemporary Issues**
- Fort and Lowinger  
**Applications and Exercises in  
Intermediate Microeconomics**
- Gardner  
**Comparative Economic Systems**
- Hyman  
**Public Finance:  
A Contemporary Application of  
Theory to Policy**  
*Third Edition*
- Johnson and Roberts  
**Money and Banking:  
A Market-Oriented Approach**  
*Third Edition*
- Kaufman  
**The Economics of Labor Markets**  
*Third Edition*
- Kidwell and Peterson  
**Financial Institutions, Markets, and Money**  
*Third Edition*
- Kohn  
**Money, Banking, and Financial Markets**
- Landsburg  
**Price Theory and Applications**
- Link, Miller, and Bergman  
**EconoGraph II: Interactive Software for  
Principles of Economics**
- Nicholson  
**Intermediate Microeconomics and Its Application**  
*Fifth Edition*
- Nicholson  
**Microeconomic Theory:  
Basic Principles and Extensions**  
*Fourth Edition*
- Pappas and Hirschey  
**Fundamentals of Managerial Economics**  
*Third Edition*
- Pappas and Hirschey  
**Managerial Economics**  
*Sixth Edition*
- Puth  
**American Economic History**  
*Second Edition*
- Rukstad  
**Macroeconomic Decision Making  
in the World Economy:  
Text and Cases**  
*Second Edition*
- Thomas  
**Economics: Principles and Applications**
- Thomas  
**Macroeconomics: Principles and Applications**
- Thomas  
**Microeconomics: Principles and Applications**
- Welch and Welch  
**Economics: Theory and Practice**  
*Third Edition*
- Yarbrough and Yarbrough  
**The World Economy: Trade and Finance**  
*Second Edition*

# Preface

## Change Is the Only Constant

It has been almost two decades since the authors first collaborated on an economics text. Those years have shown that in economics, change is the only constant.

Since our first effort to set forth the principles of economics for beginning students, economists have gained a better understanding of both the world at large and their own discipline. In macroeconomics, more is known about the dynamics of inflation and disinflation, the role of expectations in shaping economic behavior, and the interaction of the domestic economy with the world economy. In microeconomics, the contributions of public choice theory have lent a new perspective to many policy issues; neo-institutionalists have provided new insights on transaction costs, property rights, and the role of information in the economy; the work of the modern Austrian school has brought new emphasis to the role of entrepreneurship; and long-established fields of economics such as antitrust policy, human resources, and income distribution have taken on new life.

But the economy has not stood still in the face of economists' improved understanding. Events have continued to pose new questions. Economists still disagree on such matters as the effects of the federal deficit, the proper strategy for monetary policy, the sources of volatility in securities prices and exchange rates, the reasons for differences in men's and women's average pay, and the effects of antipoverty policies, to name just a few areas of controversy.

The rapid pace of change in economic theory and reality makes teaching economics a challenge. Meeting that challenge requires a textbook that changes too. First, the book must bring the latest policy issues and theoretical topics into the classroom and explain them clearly. Second, the book must emphasize the ways of thinking that all economists use to attack new problems, even where they do not ultimately agree. Finally, the book must reflect ongoing innovation in pedagogical techniques so that the complexities of economics are made accessible to the beginning student.

This sixth edition of *Economics*, like earlier editions, is available in a one-volume hard-cover edition and also separate paperback editions, entitled *Macroeconomics* and *Microeconomics*. Both the hard-cover and paperback versions respond to the need for change with these major features:

**1. Feature: Integrated international economics.** Topics in international theory and policy are covered in special sections of chapters that discuss related domestic theory and policy—for example, balance of payments accounts together with national income accounts and foreign exchange operations of the Fed together with its domestic open market operations. For maximum flexibility, these sections are self-contained so that those who wish to follow the traditional option of a single international unit at the end of the course may still do so. The special international sections are designated by a world map logo.

**Purpose:** To show how domestic economic events and policy can best be understood in the context of an integrated world economy.

**Benefit:** Crucial international issues are no longer crowded into the last days before the final exam.

**2. Feature: One-model macro option.** The macro chapters offer a one-model option for teaching the theory of income determination. This permits Keynesian and classical theory, fiscal and monetary policy, and the dynamics of inflation and unemployment all to be taught in an aggregate supply and demand framework. The income-expenditure model is covered in an optional chapter, Chapter 9, and an optional section of Chapter 10 for those who prefer to follow the traditional two-model approach. The accelerationist model of inflation, using inflation-adjusted Phillips curves, is found in Chapter 16, which is self-contained and also optional.

**Purpose:** To unify the teaching of macroeconomics within a single theoretical framework.

**Benefit:** Less time spent developing models, more time spent on issues and applications, including international topics.

**3. Feature: Focus on new microeconomics.** A special section of four microeconomic chapters looks at the “new microeconomics”—a set of extensions and modifications of traditional neoclassical analysis that have received wide attention in recent years. The first of these chapters, “Inside the Firm,” covers transaction cost theory and the control of agents by their principals, and applies these ideas to the organization of firms and the market in corporate takeovers. The second chapter in the section, “Economics of Information and Uncertainty,” covers asymmetric information, risk, speculation, insurance, and auctions. The third chapter in the section, “Entrepreneurship and the Market Process,” discusses modern Austrian and other views on entrepreneurship and innovation. The fourth chapter, “Economics of Public Choice,” covers resource allocation under democratic government, bureaucracy, and privatization.

**Purpose:** To keep the microeconomics course lively and up-to-date through coverage of modern extensions of traditional neoclassical theory.

**Benefit:** Because the “new microeconomics” topics are covered immediately after the traditional neoclassical models, they can be applied in the policy-oriented chapters that follow. Areas in which transaction cost theory, economics of information, entrepreneurship, and public choice theory are applied include antitrust and regulation, environmental policy, labor market policy, poverty, international trade, and Soviet economic reform.

**4. Feature: Focus on objectives, constraints on opportunities, and rational choice.** A new chapter at the beginning of the microeconomics section introduces objectives, constraints on opportunities, and rational choice as the basic elements underlying economic theories and models. These elements are stressed again and again throughout the micro chapters, whether the discussion concerns the effect of market structure on the constraints of the profit-maximizing firms,

the effect of labor-market discrimination on choices made by workers, or the effect of economic regulation on choices made by firms and households.

**Purpose:** To show that all of the principal problems of microeconomics have a common underlying structure.

**Benefit:** Unifies the relatively abstract “core theory” chapters (consumer choice, perfect competition, and so on) with the “new economics” chapters and the applied chapters.

**5. Feature: State-of-the-art pedagogy.** Enhanced teaching and learning aids and a new generic organization of boxed cases mean that the sixth edition of *Economics*, like past editions, defines the state of the art in pedagogy.

**Purpose:** To help students see the forest as well as the trees.

**Benefit:** Students who understand economics as a way of thinking rather than just a grab bag of models retain more of what they learn in the principles of economics course.

Keeping a textbook like this up-to-date is not simply a matter of adding new material; the presentation of old material must be revised and reorganized so that each new edition is a harmonious whole. In the sixth edition, this has meant a complete reorganization of the introductory chapters that are common to both the macro and the micro courses:

- A single chapter entitled “The Economic Way of Thinking” introduces basic concepts such as scarcity and choice, markets, and the use of models.
- The appendix on the use of graphs in economics has been substantially expanded and now provides the most thorough coverage of this topic to be found in any text.
- The chapter on elasticity now appears as the third of three chapters common to both the macro and microeconomics courses. Covering elasticity before the macroeconomics chapters permits a more thorough treatment of the microeconomic foundations of macroeconomic models.
- In addition to the streamlined three-chapter introductory section common to both halves of the course, the macro and micro sections each now have an introductory chapter of their own. The macro introduction, “In Search of Stability and Prosperity,” discusses the goals of price stability, full employment, and economic growth. The micro introduction, “Economic Theory, Markets, and Government” covers rational choice, objectives and constraints, market failure, and the role of government.

The following pages outline the approach of this book to the changing world of economics in more detail.

## Organization of the Book

### *Macroeconomics*

**Integration of International Economics.** The traditional structure of the macro course calls for teaching fiscal and monetary theory in a closed-economy

context and then adding international topics at the end as time permits. In terms of the logic of step-by-step model building, this approach has some appeal. However, it also has a drawback: Increasingly, any newspaper article or TV news report that mentions monetary policy or the budget deficit is likely to mention the balance of payments and exchange rates in the same breath.

If an instructor wants to bring international policy issues into the course from the beginning, the student needs an early introduction to the linkages between the domestic economy and the rest of the world. Five of the chapters in the hard-cover *Economics* and paperback *Macroeconomics* contain special sections that serve this aim. A section in Chapter 5, "The Circular Flow of Income and Product," uses the circular flow model to show the basic linkages between the domestic and world economies. A section in Chapter 6, "Measuring National Income and Product," outlines the balance of payments accounts as a natural extension of the domestic national income accounts. Chapter 9, "The Income-Expenditure Model," includes a section on the net export component of planned expenditure and shows how imports affect the expenditure multiplier. Chapter 12, "Central Banking and Money Creation," adds a section on the Fed's foreign exchange market operations as a follow-up to the usual discussion of its open market operations. A section of Chapter 14, "An Integrated View of Monetary and Fiscal Policy" discusses international implications of fiscal policy and the "twin deficits" phenomenon. These sections provide a series of stepping-stones to Chapter 19, "Foreign Exchange Markets and International Monetary Policy."

Some instructors may, of course, prefer the traditional sequence in which international topics are covered at the end of the macro course. For this reason, the international sections of the various macro chapters are self-contained and clearly identified by a world map logo placed in the margin. It is possible to skip over these sections as the chapters are covered with no loss of continuity. The whole set can then be covered as a unit after Chapter 18 and before proceeding to Chapter 19.

**The One-Model Option.** For many years, textbooks relied on a single model for determining the level of real income: the Keynesian income-expenditure model, also known as the "Keynesian cross" or the "45° model." When the issue of inflation rose to importance in the 1970s, it became popular to supplement the income-expenditure model with a flexible-price aggregate supply and demand (AS/AD) model. The Lindsey/Dolan *Basic Macroeconomics* of 1974 was one of the first principles texts to do this. But today an increasing number of instructors take the view that two models for determining real income is one too many. For one thing, it is difficult to give a clean reconciliation of the two models at the principles level. Also, time spent teaching a second income determination model is time taken away from other course objectives, such as integrating international economics more closely into the course.

Unfortunately, almost all texts to date have been written in such a way that the instructor has no choice but to use both models. Not so with this text. Since its fifth edition, this text has taken the logical next step in the evolution of the principles course *by using AS/AD as the core model for macro theory while treating the income-expenditure model as an optional supplement.*

A full-chapter introduction to the aggregate supply and demand model is provided in Chapter 7. The basic income-expenditure model is presented in an optional chapter, Chapter 9. This chapter first presents the standard fixed-price



version of the model and then allows prices to vary in order to show the relationship of the income-expenditure and AS/AD models. In addition, an optional section of Chapter 10 applies the income-expenditure model to fiscal policy. In both cases, the income-expenditure material is entirely self-contained. It can be taught in sequence as it appears, preserving the traditional course outline, or omitted without loss of continuity.

But what about the historical importance of Keynes and his work? Taking the one-model option in no way downplays Keynes's contributions to macroeconomic theory and policy. Quite the contrary. Chapter 8 provides a fuller discussion of the Keynesian and classical views of economic stabilization than is given in any competing text. This discussion, presented in the framework of the AS/AD model, presents Keynes's ideas as set forth in his *General Theory* more accurately than the conventional approach used in other texts. By the time students have completed Chapter 8 they will have all the tools they need, including an understanding of the expenditure multiplier, to move directly to the discussion of fiscal policy in Chapter 10.

**Continuing Features.** Not everything in the macroeconomics chapters is new. Many features that found favor with users of previous editions remain. One is the use of the circular flow model to introduce key macroeconomic concepts and relationships (Chapter 5). Another is the blending of monetary theory, financial institutions, and practical policy issues in Chapters 11 through 14. Still another is the optional, chapter-length treatment of the accelerationist model of inflation (Chapter 16 in this edition). Along the way, many favorite case studies have been retained and a number of new ones added.

### *Microeconomics*

**Focus on objectives, constraints on opportunities, and rational choice.** The microeconomics section of the text has an all-new introductory chapter that focuses on objectives, constraints on opportunities, and rational choice as unifying elements of microeconomic theory. This introduction serves as a framework for a thorough revision and reorganization of the seven "core theory" chapters that introduce traditional neoclassical price theory.

Each of these seven core chapters now begins by explicitly setting forth the objectives and constraints on opportunities faced by decision makers in firms and households and then proceeds to show how rational choice leads to certain market outcomes. Several topics not covered in previous editions have been added to these chapters, for example, the effects of sunk costs on firms' profit-maximizing choices, long-run equilibrium under monopoly for various assumptions regarding potential competition and competition from substitute products, and allocation over time of nonrenewable natural resources. The organization of the text is tightened by grouping the chapters on pricing in resource markets and markets for capital and natural resources together with the other core theory chapters.

**The New Microeconomics.** As this text evolved over its previous five editions, more and more elements of the "new microeconomics" found their way into it. Terms such as transaction costs, political rent seeking, and entrepreneurship will be familiar to users of those editions. In preparing this sixth edition, it became clear that it was time to pull these topics together in a more systematic

way so that their relation to one another would be made clear and so that they could be applied to a wider variety of policy issues. The result is a four-chapter section that immediately follows the core theory chapters.

The first two chapters are entirely new to this edition. "Inside the Firm" explores the insights of such writers as Ronald Coase and Oliver Williamson regarding transaction costs, opportunism, principal-agent relationships, and the structure of firms. These insights are then applied to current controversies related to takeovers and corporate restructuring. The second of the new chapters deals with the economics of information and uncertainty. Topics covered include the nature of uncertainty, asymmetric information, speculation, hedging, insurance, adverse selection and moral hazard, the "lemons" problem, auctions, and the winner's curse.

The remaining two chapters appeared in a somewhat different form in the fifth edition. One deals with entrepreneurship and market process, emphasizing the contributions of the modern Austrian school. The other covers public choice economics. This chapter appears earlier than in the fifth edition, so that the contributions of public choice theory can be applied to a broader range of policy issues. Also, the chapter has been expanded with new sections on constitutional choice, the median voter theory, and bureaucracy.

**Applied Chapters.** As in previous editions, a representative range of applied micro topics are covered in the remaining chapters. The chapter on antitrust policy incorporates new material on public choice and modern Austrian perspectives. The chapters on environmental policy and labor-market policy also contain extensive applications of "new economics" topics. The chapter on poverty is completely restructured. In addition to new empirical material on poverty trends, the sections on poverty policy are rewritten to emphasize the importance of constraints on opportunities and choices in determining the economic status of poor households. The chapter on international trade policy covers the latest controversies over competitiveness and protectionism. Finally, the last chapter in the book, which covers Soviet economic reform, is heavily revised to reflect the progress and problems of *perestroika*.

## **Pedagogy**

Many innovative features of earlier editions of *Economics* have become industry standards. An example is multilevel vocabulary reinforcement, with boldface terms, marginal definitions, and an end-of-book glossary. The process of innovation and refinement continues in this new edition of Dolan and Lindsey.

## **Bracketing**

One of the most solidly established techniques of effective pedagogy is that of *bracketing*. Every good classroom lecturer uses bracketing in the form of "Here's what we are going to say; here it is in detail; here is what we just said." The textbook equivalent is chapter preview and review. Sheer volume of preview and review material counts for less than do the care with which the two are tied together and what comes between. Here are the key bracketing techniques used in *Economics*:

- Each chapter opens with a set of *learning objectives* posed in the form of issues to be addressed in the chapter. These are then used in question form to organize the *chapter summary*.
- A list of *key terms from previous chapters* appears at the beginning of each chapter. This is balanced by a list of *newly introduced terms* at the end of the chapter.
- Each chapter begins with a *lead-off case* and ends with a *case for discussion*. The first item in the *problems and topics for discussion* at the end of the chapter asks students to apply what they have learned to issues raised in the lead-off case. The case for discussion is followed by its own set of questions. (Answers to these questions are given in the *Instructor's Manual*.)

### **Generic Organization of Boxed Cases**

Since its first edition, *Economics* has been a leader in the use of case studies as a teaching and learning tool. In addition to the lead-off cases and cases for discussion used to bracket each chapter, numerous *boxed cases* appear within each chapter. A distinctive feature of this text is the organization of these cases into three generic categories, each with a specific purpose:

1. **Economics in the News.** Illustrates an abstract concept raised in the chapter with an actual quoted or paraphrased news item. Example: “Cookie Stores Feel the Bite as Market Shifts.”
2. **Applying Economic Ideas.** Uses a tool learned in the chapter for solving a problem drawn from real life. Example: “The Opportunity Cost of a College Education.”
3. **Who Said It? Who Did It?** Highlights the contribution of an economist of the past or present to a key idea discussed in the chapter. Example: “Adam Smith on the Invisible Hand.”

### **The Package**

A complete support package provides instructors and students with everything they need to teach and learn economics.

### **Test Bank**

Written by Louis Amato and Gaines Liner, both of the University of North Carolina at Charlotte, in collaboration with Edwin G. Dolan, the *Test Bank* includes more than 2,000 items. It is available in two versions, for *Macroeconomics* and *Microeconomics*. The authors have fully class-tested each item, guaranteeing comprehensive, “teacher-friendly” selection. The *Test Bank* contains the following features.

**Number and Type of Questions.** The *Test Bank* offers over 2,000 multiple-choice and true/false questions. It also contains many graphical questions.

**Distribution of Questions by Chapter.** Each chapter has an appropriate number of questions based on its content and length. This varies from 40 questions for the first, introductory chapter to 120 for some of the core concept chapters. Some questions appear in alternative forms to permit reuse. Questions are arranged in the approximate order of the chapter coverage of each topic.

**Categorization and Coding.** All questions are coded according to level of difficulty and cognitive learning type. These are E (easy), M (moderate), D (difficult); and DF (definition or fact), SA (simple analysis), and CI (complex interpretation). This allows the instructor to select a spectrum of questions for testing both recall learning and concept comprehension.

**Graphing Emphasis.** Many questions ask students to work directly on graphs. Questions are formatted to follow the “hands-on” sample items in the *Study Guide*.

**Recordkeeping Aid.** The *Test Bank* contains marginal recordkeeping space for the instructor to personalize it with the date each question is used and the percentage of students who correctly answer each question.

**Additional Exam and Essay Problems.** The *Instructor’s Manual* contains two exam and essay problems for each chapter with which to supplement tests. Exam and essay problems typically serve as excellent extra-credit test questions for more proficient students. Answers are included.

**Computerized Version.** The *Computerized Test Bank* (available for the Macintosh and IBM PC) allows the instructor to create tests tailored to particular requirements. By using the questions stored on disk, both short quizzes and full-length exams can be quickly and easily constructed.

The *Computerized Test Bank* allows instructors to:

- preview questions on the computer screen.
- edit publisher-supplied questions and create personalized questions.
- select exam questions manually or randomly.
- create exam headings and determine the amount of space to be allotted each question.
- scramble questions to create multiple versions of the same test.
- print exams with answer keys and student answer sheets.
- store exams created for future use.
- produce partial hard copy of most graphs that appear in the *Test Bank*.

**Direct Service Hotline.** For instructors who have any technical difficulties with the *Computerized Test Bank*, The Dryden Press/TEC offers a direct service number: (516) 681-1773, 9 a.m. to 5 p.m. EST.

### ***Instructor’s Manual***

The *Instructor’s Manual* for *Economics* (available in a single, combined version) is intended to help new instructors prepare their first principles course and experi-

enced instructors tailor their course to mesh optimally with the text. With these aims in mind, the *Instructor's Manual* includes the following features.

**What's Different Here and Why.** This section, found at the beginning of each chapter, helps convert the course outline and lecture notes from other texts to *Economics*, sixth edition. Changes from the fifth edition of *Economics* are noted. This section also provides technical information on the theoretical models that underlie the book.

**Instructional Objectives.** All elements of the *Economics* package—text, *Study Guide*, *Test Bank*, and *Instructor's Manual*—are coordinated by means of specific instructional objectives listed in each chapter of the *Instructor's Manual*. In the text, they are listed for students at the beginning of each chapter. Questions covering every topic on the list of instructional objectives are included in the *Test Bank*.

**Lecture Notes and Suggestions.** Each chapter of the *Instructor's Manual* contains a section of lecture notes in outline form. The lecture notes cover the optional appendixes as well as the chapters.

**Examination Problems and Essays.** Each chapter contains two or three suggestions for examination problems and essays. These are valuable supplements to the multiple-choice and true/false questions contained in the *Test Bank* where the teaching situation permits grading of problems and essays.

**Answers to Selected Problems and Topics for Discussion.** Answers are given to selected items from the “Problems and Topics for Discussion” sections of the text as well as the “Case for Discussion” sections in each chapter. Items that involve library research or ask questions that pertain to students’ personal or community situation are omitted.

### *Study Guide*

The *Study Guide* for *Economics*, written by Edwin G. Dolan, provides students with hands-on applications and self-testing opportunities. It is available in two versions, for *Macroeconomics* and *Microeconomics*. It reinforces the text and prepares students for exams. The *Study Guide* contains the following features.

**Where You're Going.** All parts of the *Economics* package are tied together by a numbered set of learning objectives for each chapter. These learning objectives, which also appear in the text and the *Instructor's Manual*, are given in the “Where You're Going” section of each chapter of the *Study Guide*. A list of terms introduced in the chapter is also provided.

**Walking Tour.** The “Walking Tour” section is a narrative summary of the chapter and incorporates questions on key points. Students work through this material, answering the questions as they go along. Answers to the questions are given in the margins.

**Hands On.** This section contains graphical and numerical exercises that give students hands-on experience in working with the concepts covered in the chap-

ter. It is particularly helpful to students who require extra work in order to master difficult graphical material. Complete solutions, including graphs, are given at the end of the chapter.

**Economics in the News.** Each of these sections takes the form of a brief news item with questions that relate the item to concepts covered in the chapter. Answers are found at the end of the chapter. These items are particularly valuable in preparing for essay-type exam questions. This feature is the *Study Guide* version of the case study approach used in the text and links economics to the real world.

**Self Test.** This section consists of 15 multiple-choice questions, which are similar in structure to those in the *Test Bank* and act as a final checkpoint before an exam. Annotated answers to the self-test items are given at the end of the chapter.

**Don't Make This Common Mistake.** These are special boxes, strategically placed throughout the *Study Guide*, that caution students against certain common mistakes made by previous generations of economics students. All of these mistakes are easy to avoid if the student is alerted to them.

### ***Computer Instruction Supplements***

**EconoGraph II.** This supplement, created by Charles Link, Jeffrey Miller, and John Bergman of the University of Delaware, is a computer software package for principles of economics. It consists of nine interactive tutorial lessons. These lessons include the topics students find most difficult to master, including supply and demand, money expansion, AS/AD, Keynesian cross analysis, cost functions, supply under perfect competition, and monopoly.

*EconoGraph II* is designed for use with IBM PCs with at least 128K of memory, DOS 2.0, and a color graphics card (use with IBM compatibles is possible but not guaranteed). Features include:

1. Intensive instruction in the use of graphs, which are critical in economics.
2. Self-contained 10- to 40-minute lessons.
3. Diagnostic questions and problems in which the computer tells students what they did right or wrong.
4. Graphical manipulations in which students can plot lines and shift curves.
5. Graphs constructed in stages so that each stage can be explained and important aspects highlighted.
6. Self-paced instruction to allow for repetition and review.

**Good Graphs!** A second computer supplement has been added to the Dolan and Lindsey package for the sixth edition. This supplement, created by Tod S. Porter and Teresa M. Riley of Youngstown State University, goes beyond conventional "spacebar software" that gives students little more than they can read in the text. *Good Graphs!* takes a different approach. Students are presented with the kinds of questions that an instructor might ask on an exam. The program then lets the student actually draw a graph on the computer screen. The answer is evaluated by the program, and, if an error is made, an error message explain-

ing why the graph is incorrect will be displayed. The program gives students a unique opportunity to test how well they understand the graphs used in the course before they get to the exam.

*Good Graphs!* covers more than 20 topics from both macro and microeconomics sections of the course. These include introduction to graphing, supply and demand, shifts in supply and demand, elasticity, aggregate supply and demand, the Keynesian multiplier, fiscal policy, monetary policy, inflation and unemployment, and international trade and payments.

*Good Graphs!* requires an IBM personal computer (or 100 percent compatible) with at least 250K memory, a double-sided disk drive, and a copy of DOS 2.0 or some later version. The computer must also be equipped with either a CGA, Hercules, AT&T 6300, EGA, or VGA graphics card.

### ***Transparency Acetates***

The two-color transparency acetates are computer generated. This provides maximum accuracy and readability. For complete pedagogical consistency, the color used in the graphics matches that in the text. There are more than 140 acetates of graphs from the text. Each transparency has a complete teaching note to help instructors integrate the transparency into their lectures.

### ***Some Words of Thanks***

We wish to thank the following people for their help in revising this edition:

**Jack Adams**, University of Arkansas **Ali Akarca**, University of Illinois—Chicago **Charles Bennett**, Gannon University **Mary Bone**, Pensacola Junior College **Thomas Bonsor**, East Washington University **David Brasfield**, Murray State University **Donald Bumpass**, Texas Technical University **William Carlisle**, University of Utah **J. S. J. Charles**, Southwest Texas State University **James Clark**, Wichita State University **Avi Cohen**, York University **C. M. Condon**, College of Charleston **James Cover**, University of Alabama **J. R. Cowart**, Mobile College **James M. Cox**, DeKalb Community College **Kenneth DeHaven**, Tri-County Technical College **Mary Deily**, Texas A&M University **David Edmonds**, University of Southwestern Louisiana **Howard Elder**, University of Alabama **Charles Ellard**, Pan American University **Michael Erickson**, Eastern Illinois University **Mohsen Fardmanesh**, Temple University **Christopher Fiorentino**, West Chester University **Joseph Fosu**, Western Illinois University **Nancy Fox**, St. Joseph's University **David Fractor**, California State University, Northridge **Gary Galles**, Pepperdine University **Lynne Gillette**, Texas A&M University **Robert Gillette**, Texas A&M University **Fred Graham**, University of Texas, Arlington **Harish Gupta**, University of Nebraska **James Hamilton**, University of Virginia **Oskar Harmon**, University of Stamford **John Harvey**, Texas Christian University **Charles Hegji**, Auburn University, Montgomery **Ronald J. Herr**, Clarke College **John Holland**, Iona College **Peter Huang**, Tulane University **R. James**, James Madison University **Robert Jerome**, James Madison University **James Jonish**, Texas Technical University **Ebrahim Karbassioon**, Eastern Illinois University **Bruce Kaufman**, Georgia State University **Calvin Kent**, Baylor University **James Kyle**, Indiana State University **Luther Lawson**, University of North Carolina, Wilmington **Stephen Lile**, Western Kentucky University **Joseph Lin**, Louisiana State University **Raymond Lombra**, Pennsylvania State University **Franklin Lopez**, University of New Orleans **Don Losman**, National Defense University, Washington **J. L. Love**, Valdosta State College **David MacPherson**, Pennsylvania State University **Jay Marchand**, University of Mississippi **Benjamin Matta**, New Mexico State University **John Mbaku**, Kennesaw College **Eugene McKibbin**, Fullerton College **Shah Mehrabi**, Mary Washington College **Joseph Mesky**, East Carolina University **Don Meyer**, Louisiana Tech University **Steve Meyer**, Francis Marion College **Jefferson Moore**, Louisiana

State University **J. M. Morgan**, College of Charleston **John Murdoch**, Northeast Louisiana University **Kenneth Nowotny**, New Mexico State University **Michael Olds**, Orange Coast College **James O'Neill**, University of Delaware **Pat Papachristou**, Christian Brothers College **Judd Patton**, California State University—San Bernardino **Carl Pearl**, Cypress College **Thomas Peterson**, Central Michigan University **John Piscotta**, Baylor University **J. M. Pogodzinski**, Georgia State University **David Rees**, Mesa College **Michael Rendich**, Westchester Community College **D. Rogers**, LeMoyné College **Donald Schaefer**, Washington State University **Bruce Seaman**, Georgia State University **Frank Slesnick**, Bellarmine College **Phillip Smith**, Gainesville Junior College **Ken Somppi**, Auburn University **David Spenser**, Brigham Young University **Tony Spiva**, University of Tennessee, Knoxville **Henry Thomasson**, Southeastern Louisiana University **H. Bruce Throckmorton**, Tennessee Technological University **Timothy Tregarthen**, University of Colorado, Colorado Springs **David Tuerck**, Suffolk University **Arienne Turner**, Fullerton College **Steven Ullmann**, University of Miami **K. T. Varghese**, James Madison University **Thomas Vernon**, Clarion University of Pennsylvania **Michael Watts**, Purdue University **William Weber**, Illinois State University **Everett White**, Loyola University (LA) **Don Williams**, Kent State University **Eugene Williams**, Northwestern State University **John Young**, Riverside Community College **Edward Zajicek**, Hope College **Ernie Zampelli**, Catholic University of America

In addition, we would like to thank the staff of The Dryden Press for making this edition possible. They are a truly dedicated, tireless group of professionals.

This edition, like previous editions, represents the collaborative work of Edwin G. Dolan and David E. Lindsey. The views expressed in this book are those of the authors. Nothing in this book should be construed as necessarily reflecting the views of the Board of Governors of the Federal Reserve System or other members of its staff.

Edwin G. Dolan  
Great Falls, Virginia

David E. Lindsey  
Arlington, Virginia

December 1990



## About the Authors

**Edwin G. Dolan** grew up in the small town of McMinnville, Oregon. He attended Earlham College and then Indiana University, earning a B.A. degree from Indiana. After staying at Indiana to earn an M.A. in economics, he completed his Ph.D. at Yale University. Dolan has taught economics at the University of Connecticut, Dartmouth College, the University of Chicago, George Mason University, and, currently, at Gettysburg College. He has also served as a specialist in transportation regulation, both in the antitrust division of the U.S. Department of Justice and at the Interstate Commerce Commission. His chief research interest is the Soviet economic system. A fluent speaker of Russian, Dolan has been invited to lecture at Moscow State University, the Moscow Financial Institute, and the Russian-American University.

**David E. Lindsey** comes from the university town of West Lafayette, Indiana. He received his B.A. from Earlham College, where he and Dolan were roommates. He then earned a Ph.D. from the University of Chicago under the direction of Milton Friedman. Lindsey taught economics for several years at Ohio State University and Macalester College. Since 1974 he has been on the staff of the Board of Governors of the Federal Reserve System, where he now serves as Deputy Director of the Division of Monetary Affairs and Associate Economist for the Federal Open Market Committee.