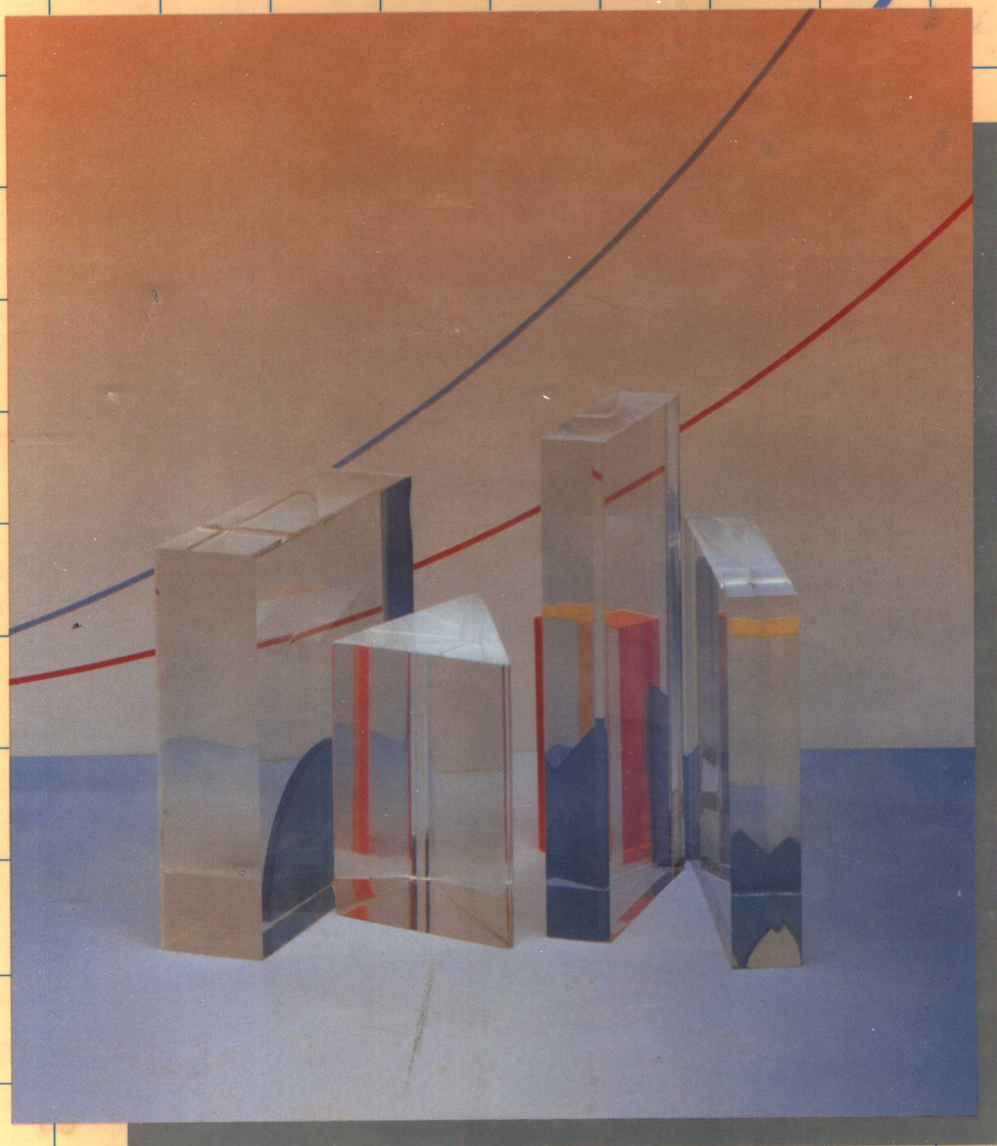


ECONOMICS



HEINZ KOHLER

ECONOMICS

HEINZ KOHLER
Amherst College

D. C. Heath and Company
Lexington, Massachusetts Toronto

Heinz Kohler, the Willard L. Thorp Professor of Economics at Amherst College, received his undergraduate education from the Free University of Berlin, Germany, and his M.A. and Ph.D. from the University of Michigan. Professor Kohler has taught at Amherst College for thirty years. Besides teaching principles each year, Professor Kohler has systematically rotated through the upper level courses, in order to stay "fresh" as well as up to date. Additionally, he has taught part-time at the University of Massachusetts, Amherst for nearly twenty years. He has written many successful texts: *Intermediate Microeconomics* (3rd ed.), *Statistics for Business and Economics* (2nd ed.), *Essentials of Statistics*, *Comparative Economic Systems*, and *Welfare and Planning: An Analysis of Capitalism vs. Socialism*.

Address editorial correspondence to

D. C. Heath
125 Spring Street
Lexington, MA 02173

Cover: Keller and Peet Associates (*photograph*), Judith Miller (*design*)

Technical Art: Interactive Composition Corp.

For permission to use copyrighted material, grateful acknowledgment is made to the copyright holders listed on pages A-1–A-4, which are hereby considered an extension of this copyright page.

Copyright © 1992 by D. C. Heath and Company.

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 or retrieval system, without permission in writing from the publisher.

Published simultaneously in Canada.

Printed in the United States of America.

International Standard Book Number: 0-669-21771-9

Library of Congress Catalog Number: 91-74002

10 9 8 7 6 5 4 3 2

PREFACE

Economics is an important subject. Those who master the theoretical knowledge of the discipline can wield a powerful set of tools capable of explaining why people act the way they do and capable of affecting—for better or worse—the lives of millions around the world. However, as practitioners of economics know all too well, the crucial theoretical core of the discipline is far from fixed. It is enlarged each year by a vast amount of newly published research. Typically this new material appears in a mathematical garb that is inaccessible to the beginner. What makes economics remarkable and what accounts for the writing of this book is the fact that the latest theoretical advances can be written up in an intuitive manner and presented in basic textbooks. This fact alone not only justifies but indeed dictates the publication of new principles of economics texts.

Economics is also an exciting subject. This fact is evidenced throughout this text by a continual link between theory and applications. Such is the case with measurement issues concerning unemployment, price level changes or the potential GNP, with capital budgeting procedures and the determinants of investment demand, and with the effects an open economy has on the effectiveness of fiscal and monetary policies. This is also the case with principal-agents issues that lead to discussions of corporate raiders, takeover battles, and general problems of economic incentives; as well as with hundreds of other subjects, ranging from comparable worth to logrolling, from price discrimination to pollution rights, and from persuasive advertising to prisoners' dilemma games.

Nearly two hundred other applications, on the other hand, have been set off as self-contained boxed examples. Consider just some of the topics: *From Macroeconomics* there are The AD-AS Model and the Great Depression; How Milwaukee Boomed But Left Its Blacks Behind; Counting the Unemployed in Iowa City; The Gradual Internationalization of the Yen; National Saving: The U.S. Versus

Japan; The U.S. Labor Force: Unqualified to Work; From Marx to the Market: Problems of Transition; and South Korea's Economic Miracle. *From Microeconomics* there are The Guiding Hand of MITI; The Internationalization of the Beer Brewing Industry; Broadway and the Bottom Line; Challenging Airfone's Monopoly; The Convergence of Bank Credit Cards; Selling Football Teams; Antitrust in a Global Economy; Computer Software: a Public Good; and The Welfare Trap.

To the Instructor

As noted above, this text aims to introduce the beginning student to the most up-to-date theoretical knowledge that economists possess. It also illustrates the usefulness of economic theory with a wealth of applications. But there is more. Having taught economic principles continuously for over thirty years, I know that too many texts race too quickly through the important ideas in economics. As a result—year in, year out—students stumble on the same set of concepts. Most chapters of this text, therefore, contain *caution boxes* that identify the common traps into which students often fall. Additionally, special "Ideas in History" sections provide valuable perspectives on how the theoretical tools of modern day economists were fashioned, and by whom. The more than two dozen such boxes focus on such topics as the Division of Labor, the Proper Economic Role of Government, the Theory of Comparative Advantage, National Income Accounting, The Keynesian Revolution, Monetarism and Discretion Versus Rules, the Rational Expectations Revolution, the New Keynesians, the Marginalist Revolution, the Nature of the Firm—the list goes on:

Most important, perhaps, is still another feature. The trend in new (and revised) principles of economics texts is to recognize the international setting of a single economy (like the American one) and integrate various international vignettes throughout the text. This text takes the "interna-

tional evolution" a step further by covering such topics as comparative advantage, the strategic trade model, and exchange rate theory early in the text (in Chapter 4) and then integrating the use of these ideas throughout.

The book is divided into ten parts. Part I, Basic Concepts, introduces scarcity, choice, and optimizing (Chapter 1); the nature of economic systems and how economists theorize about them (Chapter 2); the fundamentals of demand and supply (Chapter 3); and the important role of international trade in boosting the wealth of nations (Chapter 4).

Part II, Measuring the Macroeconomy, introduces the concept and measurement of the gross national product (Chapter 5), and then turns to measurements of economic fluctuations, unemployment, and inflation (Chapter 6).

Part III, Basic Macroeconomic Theory and Fiscal Policy, introduces the modern model of aggregate demand and aggregate supply (Chapter 7), and then provides an overview of macroeconomic controversies involving classical economists, Keynesians, monetarists, supply siders, and new classical economists (Chapter 8). This thorough introduction is followed by a consideration of the determinants of consumption and investment demand (Chapter 9), the building of a basic Keynesian model of nominal GNP determination (Chapter 10), and a study of the government sector and fiscal policy (Chapter 11).

Part IV, Money and the Complete Macro Model, introduces financial markets (Chapter 12), the nature of money, commercial banks, and central banking (Chapter 13), and the Federal Reserve's monetary policy (Chapter 14). The macro model is completed by integrating balance-of-payments concerns and foreign exchange markets with earlier fiscal and monetary policy discussions (Chapter 15). A summary chapter considers the complete macro model from the perspectives of competing schools of thought (Chapter 16).

Part V, The U.S. Experience, focuses on economic growth and productivity (Chapter 17), governmental policies to reduce unemployment (Chapter 18), and policies to fight inflation in the context of unstable short-run Phillips curves (Chapter 19).

Part VI, A Worldwide View, in turn, describes and analyzes economic institutions and policies outside the United States. Special emphasis is placed on the rise and fall of communism (Chapter

20) and the problems faced by the world's less developed countries (Chapter 21).

Part VII, Households and Firms, introduces consumer preferences and demand (Chapter 22), elasticity (Chapter 23), the nature of the firm, including principal-agent issues, takeover battles, and the like (Chapter 24), the technology of production (Chapter 25), and the costs of production (Chapter 26).

Part VIII, Markets for Goods, covers perfect competition (Chapter 27), monopoly and cartels (Chapter 28), and oligopoly and monopolistic competition (Chapter 29).

Part IX, Markets for Resources, deals with perfectly competitive labor markets (Chapter 30), imperfectly competitive labor markets (Chapter 31), markets for natural and capital resources (Chapter 32), and the personal distribution of income and the problem of poverty (Chapter 33).

Part X, Government in the Microeconomy, explores the role of government in greater depth than earlier discussions of price fixing, excise taxes, and labor market laws allowed. This final section of the text addresses antitrust policy (Chapter 34), economic and social regulation (Chapter 35), externalities and environmental economics (Chapter 36), public goods and public choices (Chapter 37), and the redistribution of income (Chapter 38). For those who wish to explore how government might help create more equal opportunities for people to *earn* their own income, an optional chapter, *The Economics of Health*, is offered in the *Student Workbook* that accompanies this text.

Numerous support items have been designed to help the instructor. Some of these are built into the back of the book—a complete Glossary of key concepts and Solutions to Odd-Numbered Questions and Problems. In addition, there are a number of Appendices introducing the use of graphs in economics (Appendix 1a) a multiplier-accelerator model of the macroeconomy and, thus, the role of mathematics in economics (Appendix 10a); indifference curve analysis (Appendix 22a); major concepts of business accounting (Appendix 24a); and isoquant analysis (Appendix 25a). Other support items—all written by the author of the text—include an *Instructor's Manual*, a *Test Bank*, a *Student Workbook*, and the MACEC and MICEC personal computer diskettes. The *Instructor's Manual* combines answers to the even-numbered end-of-chapter questions and problems in the text as well as

various teaching suggestions. The *Test Bank* includes 75 multiple-choice questions for each text chapter (not duplicated in the *Student Workbook* described in the next section). The computer programs are also described below.

To the Student

This text comes with a number of study aids designed to make your work easier and more successful than it would otherwise be. Some of these aids are built into the text. Consider the chapter summaries, end-of-chapter listings of Key Concepts (boldfaced in the text), end-of-chapter Questions and Problems, Solutions to odd-numbered items at the back of the book, and a complete Glossary of all the key concepts. More important, perhaps, a separate *Student Workbook* is also available. For each chapter of the text, it contains 35 multiple-choice questions, 12 true-false questions, and a number of problems—along with detailed solutions and answers to all of these. In addition, you will find a listing of Selected Readings if you want to pursue any given topic further than the text. Finally, note the availability of MACEC and MICEC, two personal computer diskettes that enable you to work hundreds of exercises in macroeconomics and microeconomics.

The MACEC Personal Computer Programs

A set of programs for IBM personal computers and compatible machines has been specially designed to accompany this text. Two basic types of programs are included:

1. A Capital Budgeting program allows users to explore the forces that determine investment demand. Users can work out compounding, discounting, and net present value problems. Thus, they can evaluate potential investment projects by examining their negative and positive cash flows over time and finding their net present values at alternative discount rates as well as their internal rates of return.
2. A Macro Models program allows users to explore a variety of macroeconomic models and to simulate

the effects of fiscal and monetary policy therein. Users can raise or lower government demand, change lump-sum taxes (or income tax rates), and use one or more of the monetary policy tools (engaging in open market operations, setting the discount rate, and setting the required reserve ratio). The computer then provides old and new values of the GNP and other key macroeconomic variables and asks questions to help users understand *how* their policies affect the economy.

Initial Start-Up Procedure

1. Unless the DOS prompt is A>, type A:
Then press the Enter key. At this point, the prompt should be A>.
2. Now place the MACEC diskette into drive A and type: MACEC
Then press the Enter key.

Hard Disk Installation Instructions

Instructions on how to install the programs on a computer hard disk are provided on the diskette itself. Simply follow the start-up procedure noted above, and you will find the instructions.

The MICEC Personal Computer Programs

A set of programs for IBM personal computers and compatible machines has been specially designed to accompany this text. The computer must have graphics capability. The 10 programs cover the following aspects of the text:

1. Demand and Supply
2. The Production Function
3. Costs
4. Profit-Maximization: Perfect Competition
5. Profit-Maximization: Imperfect Competition
6. Labor Markets
7. Capital Budgeting
8. Regulation
9. Externalities
10. Public Goods

The programs include about 350 graphical and tabular exercises on the subjects noted above, as well as mathematical programs to work out compounding, discounting, and net present value problems.

Initial Start-Up Procedure

Given the DOS prompt, such as **A>**, place the diskette into the computer and type:

A : MICEC

Then press the *Enter* key. Naturally, if you have placed the diskette into another drive (such as **B**), replace the **A** above by a different appropriate letter (such as **B**).

Hard Disk Installation Instructions

Instructions on how to install the program on a computer hard disk are provided on the diskette itself. Simply follow the start-up procedure noted above, and you will find the instructions.

Acknowledgements

I would like to express my sincere gratitude to many who have helped me in the creation of this text. Many reviewers, listed below, took time to examine at least a portion of the text and gave me good advice. Often I took it; to the extent that I did not, only I am to blame.

David G. Bivin, Indiana University

Shirley C. Browning, University of North Carolina, Asheville;

E. Miné Cinar, Loyal University of Chicago;

Raymond L. Cohn, Illinois State University;

John L. Conant, Indiana State University;

David J. Faurot, University of Kansas;

Gary M. Galles, Pepperdine University;

Peter Gomori, St. Francis College;

Simon Hakim, Temple University;

William Hogan, Southeastern Massachusetts University;

David Huffman, Bridgewater College;

E. James Jennings, Purdue University;

Bruce K. Johnson, Centre College;

Drew E. Mattson, Anoka Ramsey Community College;

Rajesh K. Mohindru, Bloomsbury University;

Daniel E. Nolle, Middlebury College;

Maurice Pfannestiel, Wichita State University;

Richard Roehl, University of Michigan, Dearborn;

Mark Rush, University of Florida, Gainesville;

Robert Thomas, Iowa State University;

Thomas S. Ulen, University of Illinois at Urbana-Champaign;

Allen L. Webster, Bradley University;

Donald A. Wells, University of Arizona, Tuscon;

James N. Wetzel, Virginia Commonwealth University;

Cathleen Whiting, Willamette University.

I am equally grateful to George Lobell, the editorial director; to Stephen Wasserstein, the developmental editor; to Judith Miller, the designer; to Cormac J. Morrissey and Mark Palmer, editors; and the rest of the D. C. Heath staff who assisted in the preparation of this text. They have guided this project through the long process of production and have created, as most will agree, a beautiful book. Last but not least, I thank Ellen Dibble, who typed the interminable first draft and, as always, did it with perfection.

Heinz Kohler

Willard L. Thorp Professor of Economics
Amherst College

CONTENTS

PART I BASIC CONCEPTS 1

1 SCARCITY, CHOICE, AND OPTIMIZING 2

The Desire for Goods 2

Resources—The Ingredients to Make Goods 3

Technology—The Knowledge to Make Goods 4

Limited Resources and Technology Produce Limited Goods 5

Scarcity—The Basic Economic Problem 5

Scarcity Requires Choice 6

Choice Brings Benefit and Cost 7

Marginalist Thinking 8

The Optimization Principle 10

A Case Study: Cancer Versus Heart Attacks 12

Conclusion 18

EXAMPLES:

1. An Airline that Took the Marginal Route 10

2. The Determinants of Family Size 11

3. The Cherokee Decision 16

IDEAS IN HISTORY:

The Division of Labor 19

1a The Use of Graphs in Economics 23

The System of Coordinates 23

Graphing a Demand Schedule 24

Superimposing Graphs 25

The Concept of Slope 26

Positive Slope 26

Negative Slope 27

Measuring Slope on Curves 27

Measuring Areas in Graphs 29

Other Types of Graphs 29

Time-Series Line Graphs 29

Statistical Maps 30

Bar and Column Charts 30

Pie Charts 30

Three-Dimensional Graphs 31

2 ECONOMIC SYSTEMS AND ECONOMIC THEORY 34

The Complexity of Economic Systems 34

Classifying Economic Systems 35

Who Owns the Resources? 35

What Are the Incentives for Coordination? 37

A World of Mixed Economies 42

The Nature of Economic Theory 43

Positive Economics Versus Normative Economics 45

Macroeconomics Versus Microeconomics 45

EXAMPLES:

1. Airwave Wars and Tonga Satellites 38

2. The Rise of the Welfare State 44

3. *Marketization Sweeps the Communist World* 46
4. *Why Economists Disagree Among Themselves* 48

IDEAS IN HISTORY:

On The Proper Economic Role of Government 50

**3 DEMAND AND SUPPLY:
THE FUNDAMENTALS 55**

The Law of Demand 55

Demand Schedule and Demand Line 56
Changes in Demand 57

The Law of Supply 60

Supply Schedule and Supply Line 60
Changes in Supply 62

The Equilibrium of Demand and Supply 63

Competition Among Sellers Reduces Price in the Face of Surpluses 64
Competition Among Buyers Raises Price in the Face of Shortages 65
Graphical Summary 66

How the Equilibrium Can Change 66

Government Intervention in Markets 70

Price Floors 70
Price Ceilings 72
Excise Taxes 74

EXAMPLES:

1. *Auction Markets for Art* 67
2. *Changing Equilibrium Prices: Fish, Moonshine, and Silver* 70
3. *Changing Equilibrium Prices: From Abundance to Scarcity* 72
4. *Of Milk and Sugar* 74
5. *The Story of Rent Control* 77
6. *Trading Human Body Parts* 78

IDEAS IN HISTORY:

The Scissors Diagram 80

**4 INTERNATIONAL TRADE AND THE
WEALTH OF NATIONS 85**

Absolute Advantage Versus Comparative Advantage 87

Comparative Advantage: A Graphical Illustration 89

Demand and Supply Revisited: The Market for Foreign Exchange 90

Free Trade: Gainers Versus Losers 93

The Concept of Consumer Surplus 93
The Concept of Producer Surplus 95
From Autarky to Free Trade 95

**Government Protectionism:
The Methods 97**

Tariffs 97
Nontariff Barriers 99

**Government Protectionism:
The Arguments 103**

Noneconomic Arguments 103
Economic Arguments 103
Conclusion 109

A Brief History of United States Commercial Policy 110

Conclusion 112

EXAMPLES:

1. *The U.S. Sugar Import Quota* 100
2. *A Voluntary Export Restraint: The U.S.-Japanese Automobile Agreement* 102
3. *Banning Trade to Save the Elephant* 104
4. *The Guiding Hand of MITI* 106
5. *The Consumer Cost of Import Restrictions* 108
6. *The New North America* 111

IDEAS IN HISTORY:

The Theory of Comparative Advantage 113
The Strategic Trade Model 114

PART II MEASURING THE MACROECONOMY 121
5 THE GROSS NATIONAL PRODUCT 122**Measuring the National Output 123**

A Measure of Production 123
From U.S.-Owned Resources 123
Dollars As a Measuring Rod 123
Final Goods 124

Final-Goods Versus Value-Added Approach 125**Computing the Gross National Product 127**

Summing Expenditures 127
Summing Incomes 129

Other Macroeconomic Concepts of Income 130**Using GNP Data 132**

Comparing National Output Over Time 133
Comparing National Output Over Space 136

Real GNP Versus Human Welfare 136

Per Capita Real GNP 138
Overstatements of Welfare 138
Understatements of Welfare 139
A Welfare Indicator 139

EXAMPLES:

- 1. The GDP: Grossly Deceptive Product 137**
- 2. The Underground Economy 140**
- 3. GNP Accountants Challenged: Don't Ignore Natural Resources 142**
- 4. Towards A "Green" GNP 142**

IDEAS IN HISTORY:

National Income Accounting 134

6 ECONOMIC FLUCTUATIONS, UNEMPLOYMENT, AND INFLATION 146**Business Cycles 147****NUMERICAL EXERCISE 1: The Mathematics of GNP Change 148**

The Business Cycle: Actual and Idealized 148

Measuring the Unemployment of People 152

The Official Definition 153
The Monthly Survey 154

Official Unemployment Data 156

Unemployment Over Time 156
The Structure of Unemployment 157

Types of Unemployment 161

Frictional Unemployment 161
Structural Unemployment 162
Cyclical Unemployment 162

The Natural Rate of Unemployment 163

Full Employment and Potential Real GNP 163
Actual Output Vs. Potential Output 164

NUMERICAL EXERCISE 2: Estimating the Potential Real GNP 165**The Benefits and Costs of Unemployment 165**

The Loss of Output 165
Psychological Costs and Social Upheaval 166

Measuring Inflation 166

Constructing a Price Index 167

NUMERICAL EXERCISE 3: Constructing a Price Index 167

The Consumer Price Index 168

NUMERICAL EXERCISE 4: The Mathematics of Inflation 170

The Producer Price Index 171
The Implicit GNP Deflator 172

Common Uses of Price Indexes 174

Deflating Current-Dollar Time Series 174
Escalator Clauses 175
Evaluating Economic Policy 177

The Consequences of Inflation 179

Anticipated Inflation 179
Unanticipated Inflation 180

EXAMPLES:

1. *Dating the Business Cycle* 150
2. *That Dreaded R-Word* 152

3. An International Comparison of Unemployment Rates 158

4. A Minor Technical Detail?

Revising the CPI and the Incidence of Poverty 175

5. The Discomfort Index 178

6. Hyperinflation Imperils Argentine Democracy 182

PART III BASIC MACROECONOMIC THEORY AND FISCAL POLICY 191

7 AGGREGATE DEMAND AND AGGREGATE SUPPLY 192

The Central Diagram 192

The Aggregate Demand Curve 195

The Aggregate Supply Curve 198

Aggregate Supply in the Long Run 198
Aggregate Supply in the Short Run 198
A Family of Short-Run Aggregate Supply Curves 200

Macroeconomic Equilibrium 200

A Long-run Macroequilibrium 200
A Long-run Macrodisequilibrium 203

Demand Shocks 207

A Positive Demand Shock 207
A Negative Demand Shock 207

Supply Shocks 208

A Positive Supply Shock 210
A Negative Supply Shock 211

The Possibility of Government Policy 212

EXAMPLE:

1. *The AD-AS Model and the Great Depression* 209

IDEAS IN HISTORY:

Discretion Versus Rules for Government Policy Makers 213

8 MACROECONOMIC CONTROVERSIES: AN OVERVIEW 218

Aggregate Demand and Aggregate Supply Revisited 218

The Classical Economists 220

The Keynesians 220

The Monetarists 223

The Supply Siders 223

The New Classical Economists 224

IDEAS IN HISTORY:

Say's Law 221

9 THE KEYNESIAN BUILDING BLOCKS 227

Consumption Demand 228

Numerous Determinants 228
The Consumption Function 229
The Personal Saving Function 230
A Graphical Illustration 231

The Average Propensities to Consume and Save 231

FOCUS 1 234

The Marginal Propensities to Consume and Save 234

An Actual Consumption Function of U.S. Households 236

FOCUS 2 237

An Aggregate Consumption Function 237

A Famous Puzzle 240

The Puzzle Resolved 240

Investment Demand 242

The Marginal Cost of Investment 244

The Marginal Benefit of Investment 244

Comparing Marginal Cost and Marginal Benefit 244

The Downward-Sloping Investment Demand Curve 244

Investment Demand Versus the GNP 245

Of Time and Interest 245

Capitalizing Future Dollar Streams 248

FOCUS 3 251

An Extended Example 251

A Final Note 255

EXAMPLE:

1. *Last In, Right Out: The Just-In-Time Inventory Management* 246

IDEAS IN HISTORY:

The Keynesian Revolution 256

10 THE BASIC KEYNESIAN MODEL 260

The Equilibrium Level of Nominal GNP 260

FOCUS 1 261

A Numerical Example 261

A Graphical Illustration 261

NUMERICAL EXERCISE 1: *Determining the Nominal GNP* 264

An Increase in Equilibrium Nominal GNP 265

The Expenditure Multiplier 266

A Decrease in Equilibrium Nominal GNP 268

NUMERICAL EXERCISE 2: *Finding the Expenditure Multiplier* 268

An Alternative Approach: Saving Versus Investment 269

FOCUS 2 271

A Numerical Example 271

A Graphical Illustration 272

Changes in Equilibrium Nominal GNP 273

EXAMPLES:

1. *How Milwaukee Boomed But Left Its Blacks Behind* 265
2. *The Recession of 1990/91: A Slump Rooted in Fear* 272
3. *The Paradox of Thrift* 275

10a *A Multiplier—Accelerator Model* 278

The Simple Multiplier Model Reviewed 279

Introducing the Accelerator Theory 280

Approaching a New Equilibrium

Asymptotically 280

The Case of a Damped Cycle 281

The Case of an Explosive Cycle 281

The Case of an Explosion Without Cycle 282

A Graphical Summary 282

IDEAS IN HISTORY:

The Role of Mathematics in Economics 285

11 THE GOVERNMENT SECTOR AND FISCAL POLICY 287

The Government Sector in the U.S. Economy 287

An Expanded Keynesian Model 288

Government Demand and Lump-Sum Taxes 292

NUMERICAL EXERCISE 1: A Keynesian Model with Government Demand and Lump-Sum Taxes 294

Government Demand and Income Taxes 295

NUMERICAL EXERCISE 2: A Keynesian Model with Government Demand and Income Taxes 297

The Promise of Fiscal Policy 299

Automatic Fiscal Policy 299

Discretionary Fiscal Policy 299

Expansionary Fiscal Policy 300

Raising Government Demand, G 300

Lowering Lump-Sum Taxes, NT 301

Simultaneous and Equal Increases in Government Demand, G , and Lump-Sum Taxes, NT 303

Lowering the Income Tax Rate, t 304

Contractionary Fiscal Policy 305

Lowering Government Demand, G 305

Raising the Income Tax Rate, t 307

Practical Problems 307

The Recognition Lag 307

The Administrative Lag 308

The Operational Lag 308

Conclusion 309

Deficits and the National Debt 309

The U.S. Experience 312

Early Keynesian Attitudes Toward Deficits and Debt 313

Second Thoughts and Mounting Worries 315

The Gramm-Rudman-Hollings Law and Deficit Reduction Policy 316

The New Federalism: Fiscal Relations Among Governments 320

State Spending 321

State Taxing 321

City Finances 321

EXAMPLES:

1. The Size of the Government Sector: International Comparisons 298

2. U.S. Fiscal Policy Assessed: 1947–1986 310

3. The Amazing Alchemy of Debt-for-Nature Swaps 318

4. The Folly of Raiding the Piggy Bank 319

5. The Elusive Peace Dividend 322

PART IV MONEY AND THE COMPLETE MACRO MODEL 327

12 FINANCIAL MARKETS 328

Major Actors 328

Types of Financial Markets 330

Equities Versus Debt Instruments 330

Primary Versus Secondary Markets 330

Money Markets Versus Capital Markets 330

Stock Markets 331

Varieties of Corporate Stocks 331

Major Types of Secondary Markets 332

Tracking Stock Prices 333

The Random Walk 336

The Stock Market Page 337

Bond Markets 339

Varieties of Bonds 340

Bond Prices and Yields 341

The Yield Curve 342

The Bond Market Page 345

Recent Developments 345

The Savings and Loan Debacle 345

The Globalization of Financial Markets 348

EXAMPLES:

1. Stock Price Crashes 346

2. How One S&L Came Apart 349

- 3. Foreign Owners Shake Up American Industry 350**
- 4. The Internationalization of Stock Trading 351**

- 4. Fake Money and Hot Money 370**
- 5. The Mystery of the Missing Money 373**

13 MONEY, COMMERCIAL BANKS, AND THE FEDERAL RESERVE 355

The Nature of Money 355

- A Means of Payment 355*
- A Store of Purchasing Power 356*
- A Unit of Account 356*

Money Through History 356

Money in the United States 356

- The Narrowest Definition: M1 357*
- A Wider Definition: M2 358*
- A Wider Definition Still: M3 361*
- Other Definitions 361*

The Role of Commercial Banks 361

- Opening a New Bank 362*
- Joining the Federal Reserve System 363*
- Typical Transactions: Deposits 364*
- Typical Transactions: Withdrawals 364*
- Summary 365*
- Typical Transactions: Making Loans 365*
- Overextended 366*
- A Lending Rule 366*
- The Lesson Learned 368*

The Risks of Banking 368

- Losses of Loans 368*
- Losses of Deposits 369*

The Federal Reserve System 371

- The Twelve District Banks 371*
- The Board of Governors 373*
- The Federal Open Market Committee 373*
- The Federal Deposit Insurance Corporation 373*

EXAMPLES:

- 1. The Stones of Yap 357**
- 2. Changing Change 360**
- 3. Plastic Money: A New International Currency? 362**

14 THE FEDERAL RESERVE AND MONETARY POLICY 378

The Quantity Equation of Exchange 378

Monetary Base and Money Multiplier 379

FOCUS 1: The Money Multiplier 380

Open Market Operations 380

- Open Market Purchases 380*
- Open Market Sales 381*

The Discount Window 381

- A Lower Discount Rate 381*
- A Higher Discount Rate 382*
- The Significance of Discount Rate Policy 382*

Setting Reserve Requirements 382

- A Lower Reserve Requirement 383*
- A Higher Reserve Requirement 383*
- Summary 384*

The Cumulative Expansion of Demand Deposits 385

- A Balance Sheet Example 386*
- The Deposit Multiplier 389*

FOCUS 2 The Deposit Multiplier 389

The Cumulative Contraction of Demand Deposits 389

Money Multiplier Versus Deposit Multiplier 389

The Transmission Mechanism: Money Demand, Money Supply, and Interest Rates 390

- An Intuitive Approach 390*
- The Keynesian Theory 390*

The Transmission Mechanism: Interest Rates and Investment Demand 395

The Transmission Mechanism: Investment Demand and the Nominal GNP 395

Expansionary Monetary Policy 395
Contractionary Monetary Policy 395

Practical Problems 398

The Three Lags 399
More Power to the Fed? 400

EXAMPLES:

1. *The Velocity Problem 398*
2. *International Policy Coordination 400*
3. *Japan's Money Dilemma 401*

15 THE OPEN MACRO-ECONOMY 404

The Balance of Payments 404

Types of Transactions 405
Types of Accounts 406
An Illustration 406
An Actual Balance of Payments 408

The Foreign Exchange Market Revisited 408

The Balance of Payments Connection 408
Factors Behind Demand and Supply 410

Alternative Exchange Rate Regimes 414

The Keynesian Cross in an Open Economy 414

NUMERICAL EXERCISE 1: *Finding the Equilibrium GNP 416*

Fiscal and Monetary Policy in an Open Economy 417

Reduced Effectiveness of Fiscal Policy 419
Enhanced Effectiveness of Monetary Policy 420

An Application: The Twin Deficits Problem 420

EXAMPLES:

1. *Are We Investing What We Borrow? 410*
2. *The Big Mac Index 412*
3. *The Gradual Internationalization of the Yen 415*

16 A COMPLETE MACRO MODEL: SUMMARY AND CRITICISMS 424

The Keynesian Model Summarized 425

The Promise of Discretionary Policies 427

A Deflationary Gap 427
An Inflationary Gap 428

Challenges to Keynesianism 430

Monetarism 430
Supply-Side Economics 433
New Classical Economics 436

EXAMPLE:

1. *Should the Fed Be Sold? 433*

IDEAS IN HISTORY:

Monetarism and Discretion Versus Rules 434
The Rational Expectations Revolution 438
Rational Expectations and the New Classical Economists 439
The New Keynesians 441

PART V THE U.S. EXPERIENCE 445

17 ECONOMIC GROWTH AND PRODUCTIVITY 446

Definitions and Data 447

Total GNP Growth 449

Per Capita GNP Growth 449
A Historical Perspective 450

The Sources of Growth 450

The Quantity of Labor 452

The Quantity of Capital 453
The Quantity of Land 453
Education 453
Technology 453
Other Factors 454
Summary—The National Production Function 455

The Recent Slowdown in U.S. Economic Growth 455

Long-Run Consequences 456

The Productivity Debate 457

Declining Real Capital Growth 457
Deteriorating Human Capital 458

Promoting Economic Growth 460

Increasing Saving 460
Encouraging Investment 461
Improving Education 463
Stimulating Research and Development 463

Limits to Growth 467

EXAMPLES:

1. *International Comparisons of Economic Growth* 451
2. *The Rise and Fall of Soviet Economic Growth* 458
3. *National Saving: The U.S. vs. Japan* 460
4. *Born in America, Made in Japan* 462
5. *The U.S. Labor Force: Unqualified to Work* 464
6. *New York City's Crumbling Infrastructure* 466
7. *The Challenge of Europe 1992* 468
8. *Betting on the Planet* 469

18 FIGHTING UNEMPLOYMENT 471

Policy Options 471

A Review of Historical Data 472

Anti-Recessionary Policies 474

Two Basic Strategies 474
The Recession of 1960–61 477
The Recession of 1969–70 479
The Recession of 1973–75 479
The Recession of 1980 and 1981–82 480
The Recession of 1990–91 482

International Comparisons 483

EXAMPLES:

1. *Unemployment Insurance Aiding Fewer Workers* 484
2. *The Oil War's Global Fallout* 485
3. *Counting the Unemployed in Iowa City* 486
4. *Why Canada's Unemployment Rate is So High* 487
5. *Why Japan's Unemployment Rate is So Low* 489

19 INFLATION VERSUS UNEMPLOYMENT: THE AWKWARD TRADE-OFF 492

A Review of Historical Data 492

Anti-Inflationary Policies 493

Keynesian Demand Management 493
Mandatory Wage and Price Controls 496
Other Approaches 498

Recent Developments 498

Monetarism 498
Wicksellian Economics 499
P-Star 499

The Unemployment-Inflation Link 500

The Phillips Curve 500

The Curve Confirmed 502

The Death of the Phillips Curve 505

The Friedman-Phelps Critique 506
The Accelerationist Theory of Inflation 506

The Stop-Go Cycle 509

EXAMPLES:

1. Advising the Fed on Iraq 497

2. Has the Fed Found the Holy Grail? The Story of P^* 503

IDEAS IN HISTORY:

***The Liquidity Trap* 509**

PART VI A WORLDWIDE VIEW 513

20 THE RISE AND FALL OF COMMUNISM 514

The Vision of Perfect Computation 514

The Input-Output Table 515
Interpreting the Rows 515
Interpreting the Columns 515
Output Quotas and Input Norms 516
Incentives 517

The Great Soviet Experiment 517

A Doctrinal Mistake 518
Central Economic Planning 518
The Incentive System 519
Early Results: The Growth Record 519

The Seeds of Disaster 520

Limits to Extensive Economic Growth 520
Inability to Stimulate Intensive Economic Growth 521

The Movement for Reform 522

The Allocation of Raw Materials 523
The Resistance Movement 526

Revolution 526

The Soviet Union 526

China 527
Eastern Europe 529
The Rest of the World 529

EXAMPLES:

1. The Profit Motive and the Allocation of Fertilizer 523
2. The Collapse of an Empire 528
3. From Marx to the Market: Problems of Transition 530
4. McDonald's Beats Lenin 3 to 1 531

21 THE LESS DEVELOPED COUNTRIES 533

Profiles in Poverty 533

Poverty and Wealth: A Statistical Survey 534

Why Many Countries Are So Poor 535

Low-Quality Labor Force 535
Inadequate Natural Resources 536
Insufficient Capital 537
Lack of Modern Technical Know-How 540
Institutional Factors 540
The Population Explosion 543