

A Centrist Proclamation xvi

Preface xviii

**For the Student: Economics and
the Internet** xxiii

**PART ONE
BASIC CONCEPTS
I**

Chapter 1

The Central Concepts of Economics 3

A. Why Study Economics? 3

For Whom the Bell Tolls • **Scarcity and Efficiency: The Twin Themes of Economics** 3 • Definitions of Economics • Scarcity and Efficiency • Microeconomics and Macroeconomics • **The Logic of Economics** 5 • Cool Heads at the Service of Warm Hearts 6 •

B. The Three Problems of Economic Organization 7
Market, Command, and Mixed Economies 8 •

C. Society's Technological Possibilities 8
Inputs and Outputs 9 • **The Production-Possibility Frontier** 9 • Applying the *PPF* to Society's Choices • Opportunity Costs • Efficiency •

Summary 15 • **Concepts for Review** 15 • **Further Reading and Internet Websites** 16 • **Questions for Discussion** 16 •

Appendix I

How to Read Graphs 18

The Production-Possibility Frontier 18 • Production-Possibility Graph • A Smooth Curve • Slopes and Lines • Slope of a Curved Line • Slope as the Marginal Value • Shifts of and Movement along Curves • Some Special Graphs •

Summary to Appendix 23 • **Concepts for Review** 24 • **Questions for Discussion** 24 •

Chapter 2

The Modern Mixed Economy 25

A. The Market Mechanism 26

Not Chaos, but Economic Order • How Markets Solve the Three Economic Problems • The Dual Monarchy • A Picture of Prices and Markets • The Invisible Hand •

B. Trade, Money, and Capital 30

Trade, Specialization, and Division of Labor 31 • **Money: The Lubricant of Exchange** 33 • **Capital** 33 • Capital and Private Property •

C. The Visible Hand of Government 34

Efficiency 35 • Imperfect Competition • Externalities • Public Goods • **Equity** 38 • **Macroeconomic Growth and Stability** 39 • **The Rise of the Welfare State** 40 • Conservative Backlash • The Mixed Economy Today •

Summary 41 • **Concepts for Review** 42 • **Further Reading and Internet Websites** 43 • **Questions for Discussion** 43 •

Chapter 3

Basic Elements of Supply and Demand 45

A. The Demand Schedule 46

The Demand Curve 47 • Market Demand • Forces behind the Demand Curve • Shifts in Demand •

B. The Supply Schedule 51

The Supply Curve 51 • Forces behind the Supply Curve • Shifts in Supply •

C. Equilibrium of Supply and Demand 53

Equilibrium with Supply and Demand Curves 54 • Effect of a Shift in Supply or Demand • Interpreting Changes in Price and Quantity • Supply, Demand, and Immigration • **Rationing by Prices** 59 •

Summary 60 • **Concepts for Review** 61 • **Further Reading and Internet Websites** 61 • **Questions for Discussion** 61 •

PART TWO
MICROECONOMICS: SUPPLY, DEMAND,
AND PRODUCT MARKETS

63

Chapter 4
Supply and Demand: Elasticity and Applications 65

A. Price Elasticity of Demand and Supply 65

Price Elasticity of Demand 65 • Calculating Elasticities • Price Elasticity in Diagrams • A Shortcut for Calculating Elasticities • The Algebra of Elasticities • Elasticity Is Not the Same as Slope • **Elasticity and Revenue 70** • The Paradox of the Bumper Harvest • **Price Elasticity of Supply 72** •

B. Applications to Major Economic Issues 73

The Economics of Agriculture 73 • Long-Run Relative Decline of Farming • **Impact of a Tax on Price and Quantity 75** • **Minimum Floors and Maximum Ceilings 77** • The Minimum-Wage Controversy • Energy Price Controls • Rationing by the Queue, by Coupons, or by the Purse? •

Summary 81 • **Concepts for Review 82** • **Further Reading and Internet Websites 82** • **Questions for Discussion 82** •

Chapter 5
Demand and Consumer Behavior 84

Choice and Utility Theory 84 • Marginal Utility and the Law of Diminishing Marginal Utility • A Numerical Example • **Derivation of Demand Curves 87** • The Equimarginal Principle • Why Demand Curves Slope Downward • Leisure and the Optimal Allocation of Time • Analytical Developments in Utility Theory • **An Alternative Approach: Substitution Effect and Income Effect 89** • Substitution Effect • Income Effect • **From Individual to Market Demand 91** • Demand Shifts • Substitutes and Complements • Empirical Estimates of Price and Income Elasticities • **The Economics of Addiction 94** • **The Paradox of Value 95** • **Consumer Surplus 96** • Applications of Consumer Surplus •

Summary 98 • **Concepts for Review 99** • **Further Reading and Internet Websites 99** • **Questions for Discussion 99** •

Appendix 5
Geometrical Analysis of Consumer Equilibrium 101

The Indifference Curve 101 • Law of Substitution • The Indifference Map • **Budget Line or Budget Constraint 103** • **The Equilibrium Position of Tangency 104** • **Changes in Income and Price 104** • Income Change • Single Price Change • **Deriving the Demand Curve 105** •

Summary to Appendix 106 • **Concepts for Review 106** • **Questions for Discussion 106** •

Chapter 6
Production and Business Organization 107

A. Theory of Production and Marginal Products 107
Basic Concepts 107 • The Production Function • Total, Average, and Marginal Product • The Law of Diminishing Returns • **Returns to Scale 111** • **Short Run and Long Run 112** • **Technological Change 113** • **Productivity and the Aggregate Production Function 116** • Productivity • Productivity Growth from Economies of Scale and Scope • Empirical Estimates of the Aggregate Production Function •

B. Business Organizations 118
The Nature of the Firm 118 • **Big, Small, and Infinitesimal Businesses 119** • The Individual Proprietorship • The Partnership • The Corporation • Ownership, Control, and Executive Compensation •

Summary 123 • **Concepts for Review 124** • **Further Reading and Internet Websites 124** • **Questions for Discussion 124** •

Chapter 7
Analysis of Costs 126

A. Economic Analysis of Costs 126
Total Cost: Fixed and Variable 126 • Fixed Cost • Variable Cost • **Definition of Marginal Cost 127** • **Average Cost 129** • Average or Unit Cost • Average Fixed and Variable Costs • The Relation between Average Cost and Marginal Cost • **The Link between Production and Costs 132** • Diminishing Returns and U-Shaped Cost Curves • **Choice of Inputs by the Firm 134** • Marginal Products and the Least-Cost Rule •

B. Economic Costs and Business Accounting 135
The Income Statement, or Statement of Profit and Loss 135 • **The Balance Sheet 136** • Accounting Conventions • Financial Finagling •

C. Opportunity Costs 139
Opportunity Cost and Markets 140 ●

Summary 141 ● Concepts for Review 142 ● Further Reading and Internet Websites 142 ● Questions for Discussion 142 ●

Appendix 7
Production, Cost Theory, and Decisions of the Firm 144

A Numerical Production Function 144 ● The Law of Diminishing Marginal Product 144 ● Least-Cost Factor Combination for a Given Output 145 ● Equal-Product Curves ● Equal-Cost Lines ● Equal-Product and Equal-Cost Contours: Least-Cost Tangency ● Least-Cost Conditions ●

Summary to Appendix 147 ● Concepts for Review 148 ● Questions for Discussion 148 ●

Chapter 8
Analysis of Perfectly Competitive Markets 149

A. Supply Behavior of the Competitive Firm 149
Behavior of a Competitive Firm 149 ● Profit Maximization ● Perfect Competition ● Competitive Supply Where Marginal Cost Equals Price ● Total Cost and the Shutdown Condition ●

B. Supply Behavior in Competitive Industries 154
Summing All Firms' Supply Curves to Get Market Supply 154 ● Short-Run and Long-Run Equilibrium 155 ● The Long Run for a Competitive Industry ●

C. Special Cases of Competitive Markets 157
General Rules 157 ● Constant Cost ● Increasing Costs and Diminishing Returns ● Fixed Supply and Economic Rent ● Backward-Bending Supply Curve ● Shifts in Supply ●

D. Efficiency and Equity of Competitive Markets 160
Evaluating the Market Mechanism 160 ● The Concept of Efficiency ● Efficiency of Competitive Equilibrium ● Equilibrium with Many Consumers and Markets ● Marginal Cost as a Benchmark for Efficiency ● Qualifications 163 ● Market Failures ● Two Cheers for the Market, but Not Three ●

Summary 165 ● Concepts for Review 166 ● Further Reading and Internet Websites 166 ● Questions for Discussion 166 ●

Chapter 9
Imperfect Competition and Monopoly 169

A. Patterns of Imperfect Competition 169
Definition of Imperfect Competition ● Varieties of Imperfect Competitors 171 ● Monopoly ● Oligopoly ● Monopolistic Competition ● Sources of Market Imperfections 173 ● Costs and Market Imperfection ● Barriers to Entry ●

B. Monopoly Behavior 177
The Concept of Marginal Revenue 177 ● Price, Quantity, and Total Revenue ● Marginal Revenue and Price ● Elasticity and Marginal Revenue ● Profit-Maximizing Conditions 180 ● Monopoly Equilibrium in Graphs ● Perfect Competition as a Polar Case of Imperfect Competition ● The Marginal Principle: Let Bygones Be Bygones 183 ● Loss Aversion and the Marginal Principle ●

Summary 184 ● Concepts for Review 185 ● Further Reading and Internet Websites 185 ● Questions for Discussion 186 ●

Chapter 10
Competition among the Few 187

A. Behavior of Imperfect Competitors 187
Measures of Market Power ● The Nature of Imperfect Competition 189 ● Theories of Imperfect Competition 189 ● Collusive Oligopoly ● Monopolistic Competition ● Rivalry among the Few ● Price Discrimination 193 ●

B. Game Theory 195
Thinking about Price Setting ● Basic Concepts 196 ● Alternative Strategies ● Games, Games, Everywhere . . . ●

C. Public Policies to Combat Market Power 199
Economic Costs of Imperfect Competition 199 ● The Cost of Inflated Prices and Reduced Output ● The Static Costs of Imperfect Competition ● Public Policies on Imperfect Competition ● Regulating Economic Activity 201 ● Why Regulate Industry? ● Containing Market Power ● Remedying Information Failures ● Antitrust Law and Economics 203 ● The Framework Statutes ● Basic Issues in Antitrust Law: Conduct and Structure 204 ● Illegal Conduct ● Structure: Is Bigness Badness? ● Antitrust Laws and Efficiency ●

Summary 207 ● Concepts for Review 208 ● Further Reading and Internet Websites 208 ● Questions for Discussion 209 ●

Chapter 11
Economics of Uncertainty 211

A. Economics of Risk and Uncertainty 211
Speculation: Shipping Assets or Goods Across Space and Time 212 • Arbitrage and Geographic Price Patterns • Speculation and Price Behavior over Time • Shedding Risks through Hedging • The Economic Impacts of Speculation • Risk and Uncertainty 215 •

B. The Economics of Insurance 216
Capital Markets and Risk Sharing • Market Failures in Information 217 • Moral Hazard and Adverse Selection • Social Insurance 218 •

C. Health Care: The Problem That Won't Go Away 219
The Economics of Medical Care 219 • Special Economic Features of Health Care • Health Care as a Social Insurance Program • Rationing Health Care •

D. Innovation and Information 221
Schumpeter's Radical Innovation • The Economics of Information • Intellectual Property Rights • The Dilemma of the Internet •

Summary 224 • Concepts for Review 225 • Further Reading and Internet Websites 225 • Questions for Discussion 225 •

PART THREE
FACTOR MARKETS: LABOR, LAND, AND CAPITAL
227

Chapter 12
How Markets Determine Incomes 229

A. Income and Wealth 229
Income 230 • Factor Incomes vs. Personal Incomes • Role of Government • Wealth 231 •

B. Input Pricing by Marginal Productivity 232
The Nature of Factor Demands 233 • Demands for Factors Are Derived Demands • Demands for Factors Are Interdependent • Distribution Theory and Marginal Revenue Product 235 • Marginal Revenue Product • The Demand for Factors of Production 236 • Factor Demands for Profit-Maximizing Firms • Marginal Revenue Product and the Demand for Factors • Supply of Factors of Production 238 • Determination of Factor Prices by Supply and Demand 239 • The Distribution of National Income 241 • Marginal-Productivity Theory with Many Inputs • An Invisible Hand for Incomes? 243 •

Summary 244 • Concepts for Review 245 • Further Reading and Internet Websites 245 • Questions for Discussion 245 •

Chapter 13
The Labor Market 248

A. Fundamentals of Wage Determination 248
The General Wage Level 248 • Demand for Labor 249 • Marginal Productivity Differences • International Comparisons • The Supply of Labor 251 • Determinants of Supply • Empirical Findings • Wage Differentials 253 • Differences in Jobs: Compensating Wage Differentials • Differences in People: Labor Quality • Differences in People: The "Rents" of Unique Individuals • Segmented Markets and Noncompeting Groups •

B. Labor Market Issues and Policies 257
The Economics of Labor Unions 257 • Government and Collective Bargaining • How Unions Raise Wages 258 • Theoretical Indeterminacy of Collective Bargaining • Effects on Wages and Employment 259 • Has Unionization Raised Wages? • Unions and Classical Unemployment • Discrimination 260 • Economic Analysis of Discrimination 261 • Definition of Discrimination • Discrimination by Exclusion • Taste for Discrimination • Statistical Discrimination • Economic Discrimination Against Women 263 • Empirical Evidence 263 • Reducing Labor Market Discrimination 264 • Uneven Progress •

Summary 264 • Concepts for Review 265 • Further Reading and Internet Websites 265 • Questions for Discussion 266 •

Chapter 14
Land, Natural Resources, and the Environment 267

A. The Economics of Natural Resources 267
Resource Categories 268 • Fixed Land and Rents 269 • Rent as Return to Fixed Factors • Taxing Land •

B. Environmental Economics 271
Externalities 271 • Public vs. Private Goods • Market Inefficiency with Externalities 272 • Analysis of Inefficiency • Valuing Damages • Graphical Analysis of Pollution • Policies to Correct Externalities 275 • Government Programs • Private Approaches • Climate Change: To Slow or Not to Slow 278 • Quarrel and Pollute, or Reason and Compute? •

Summary 280 • Concepts for Review 281 • Further Reading and Internet Websites 281 • Questions for Discussion 281 •

Chapter 15
Capital, Interest, and Profits 283

A. Basic Concepts of Interest and Capital 283
What Is Capital? • Prices and Rentals on Investments • Capital vs. Financial Assets • The Rate of Return on Investments • **Rates of Return and Interest Rates** 284 • Rate of Return on Capital • Financial Assets and Interest Rates • **The Present Value of Assets** 285 • Present Value for Perpetuities • General Formula for Present Value • Acting to Maximize Present Value • **The Mysterious World of Interest Rates** 287 • Real vs. Nominal Interest Rates •

B. The Theory of Capital, Profits, and Interest 291
Basic Capital Theory 291 • Roundaboutness • Diminishing Returns and the Demand for Capital • Determination of Interest and the Return on Capital • Graphical Analysis of the Return on Capital • **Profits as a Return to Capital** 295 • Reported Profit Statistics • Determinants of Profits • Empirical Evidence on Returns to Labor and Capital •

Summary 297 • **Concepts for Review** 298 • **Further Reading and Internet Websites** 298 • **Questions for Discussion** 299 •

PART FOUR
APPLICATIONS OF ECONOMIC
PRINCIPLES
301

Chapter 16
Government Taxation and Expenditure 303

A. Government Control of the Economy 303
The Tools of Government Policy 304 • Trends in the Size of Government • The Growth of Government Controls and Regulation • **The Functions of Government** 306 • Improving Economic Efficiency • Reducing Economic Inequality • Stabilizing the Economy through Macroeconomic Policies • Conducting International Economic Policy • **Public-Choice Theory** 308 •

B. Government Expenditures 309
Fiscal Federalism 309 • Federal Expenditures • State and Local Expenditures • **Cultural and Technological Impacts** 311 •

C. Economic Aspects of Taxation 312
Principles of Taxation 312 • Benefit vs. Ability-to-Pay Principles • Horizontal and Vertical Equity • Pragmatic

Compromises in Taxation • **Federal Taxation** 314 • The Individual Income Tax • Social Insurance Taxes • Corporation Taxes • Consumption Taxes • **State and Local Taxes** 317 • Property Tax • Other Taxes • **Efficiency and Fairness in the Tax System** 318 • The Goal of Efficient Taxation • Efficiency vs. Fairness • **Final Word** 320 •

Summary 320 • **Concepts for Review** 321 • **Further Reading and Internet Websites** 321 • **Questions for Discussion** 321 •

Chapter 17
Efficiency vs. Equality: The Big Tradeoff 323

A. The Sources of Inequality 323
The Distribution of Income and Wealth 324 • How to Measure Inequality among Income Classes • Distribution of Wealth • Inequality across Countries • **Poverty in America** 327 • Who Are the Poor? • Who Are the Rich? • Trends in Inequality •

B. Antipoverty Policies 330
The Rise of the Welfare State • **The Costs of Redistribution** 331 • Redistribution Costs in Diagrams • How Big Are the Leaks? • Adding Up the Leaks • **Antipoverty Policies: Programs and Criticisms** 333 • Income-Security Programs • Incentive Problems of the Poor • **The Battle over Welfare Reform** 334 • Two Views of Poverty • Income-Support Programs in the United States Today • The Earned-Income Tax Credit • The 1996 U.S. Welfare Reform • **Economic Policy for the 21st Century** 336 •

Summary 336 • **Concepts for Review** 337 • **Further Reading and Internet Websites** 337 • **Questions for Discussion** 338 •

Chapter 18
International Trade 339

A. The Nature of International Trade 339
International vs. Domestic Trade • Trends in Foreign Trade • **The Reasons for International Trade in Goods and Services** 340 • Diversity in Natural Resources • Differences in Tastes • Differences in Costs •

B. Comparative Advantage among Nations 341
The Principle of Comparative Advantage 341 • Uncommon Sense • Ricardo's Analysis of Comparative Advantage • The Economic Gains from Trade •

Outsourcing as Another Kind of Trade • Graphical Analysis of Comparative Advantage 344 • America without Trade • Opening Up to Trade • Extensions to Many Commodities and Countries 347 • Many Commodities • Many Countries • Triangular and Multilateral Trade • Qualifications and Conclusions 348 •

C. Protectionism 349

Supply-and-Demand Analysis of Trade and Tariffs 350 • Free Trade vs. No Trade • Trade Barriers • The Economic Costs of Tariffs • The Economics of Protectionism 355 • Noneconomic Goals • Unsound Grounds for Tariffs • Potentially Valid Arguments for Protection • Other Barriers to Trade • Multilateral Trade Negotiations 359 • Negotiating Free Trade • Appraisal •

Summary 361 • Concepts for Review 362 • Further Reading and Internet Websites 362 • Questions for Discussion 363 •

**PART FIVE
MACROECONOMICS: ECONOMIC
GROWTH AND BUSINESS CYCLES
365**

Chapter 19 367
Overview of Macroeconomics

A. Key Concepts of Macroeconomics 368

The Birth of Macroeconomics 368 • Objectives and Instruments of Macroeconomics 370 • Measuring Economic Success • The Tools of Macroeconomic Policy • International Linkages 376 •

B. Aggregate Supply and Demand 377

Inside the Macroeconomy: Aggregate Supply and Demand 377 • Definitions of Aggregate Supply and Demand • Aggregate Supply and Demand Curves • Macroeconomic History: 1900–2008 380 • The Role of Macroeconomic Policy •

Summary 382 • Concepts for Review 383 • Further Reading and Internet Websites 383 • Questions for Discussion 384 •

Appendix 19 385
Macroeconomic Data for the United States

Chapter 20 386
Measuring Economic Activity

Gross Domestic Product: The Yardstick of an Economy's Performance 386 • Two Measures of National Product: Goods Flow and Earnings Flow • National Accounts Derived from Business Accounts • The Problem of "Double Counting" • Details of the National Accounts 391 • Real vs. Nominal GDP: "Deflating" GDP by a Price Index • Consumption • Investment and Capital Formation • Government Purchases • Net Exports • Gross Domestic Product, Net Domestic Product, and Gross National Product • GDP and NDP: A Look at Numbers • From GDP to Disposable Income • Saving and Investment • Beyond the National Accounts 400 • Price Indexes and Inflation 402 • Price Indexes • Accounting Assessment 404 •

Summary 405 • Concepts for Review 406 • Further Reading and Internet Websites 406 • Questions for Discussion 406 •

Chapter 21 408
Consumption and Investment

A. Consumption and Saving 408

Budgetary Expenditure Patterns • Consumption, Income, and Saving 411 • The Consumption Function • The Saving Function • The Marginal Propensity to Consume • The Marginal Propensity to Save • Brief Review of Definitions • National Consumption Behavior 416 • Determinants of Consumption • The National Consumption Function • Alternative Measures of Saving •

B. Investment 420

Determinants of Investment 420 • Revenues • Costs • Expectations • The Investment Demand Curve 421 • Shifts in the Investment Demand Curve • On to the Theory of Aggregate Demand 424 •

Summary 424 • Concepts for Review 425 • Further Reading and Internet Websites 425 • Questions for Discussion 426 •

Chapter 22 428
Business Cycles and Aggregate Demand

A. What Are Business Cycles? 429

Features of the Business Cycle 429 • Business-Cycle Theories 431 • Financial Crises and Business Cycles •

B. Aggregate Demand and Business Cycles	432
The Theory of Aggregate Demand 432 • The Downward-Sloping Aggregate Demand Curve 433 • Shifts in Aggregate Demand • Business Cycles and Aggregate Demand • Is the Business Cycle Avoidable? •	
C. The Multiplier Model	437
Output Determined by Total Expenditures 437 • Reminder on the Meaning of Equilibrium • The Adjustment Mechanism • A Numerical Analysis • The Multiplier 440 • The Multiplier Model Compared with the AS-AD Model •	
D. Fiscal Policy in the Multiplier Model	441
How Government Fiscal Policies Affect Output 442 • Impact of Taxation on Aggregate Demand • A Numerical Example • Fiscal-Policy Multipliers 446 • Impact of Taxes • The Multiplier Model and the Business Cycle • The Multiplier Model in Perspective •	
Summary 449 • Concepts for Review 450 • Further Reading and Internet Websites 451 • Questions for Discussion 451 •	

Chapter 23	
Money and the Financial System	453
Overview of the Monetary Transmission Mechanism •	
A. The Modern Financial System	454
The Role of the Financial System • The Functions of the Financial System • The Flow of Funds • A Menu of Financial Assets 456 • Review of Interest Rates •	
B. The Special Case of Money	458
The Evolution of Money 458 • The History of Money • Components of the Money Supply • The Demand for Money 461 • Money's Functions • The Costs of Holding Money • Two Sources of Money Demand •	
C. Banks and the Supply of Money	463
How Banks Developed from Goldsmith Establishments • Fractional-Reserve Banking • Final System Equilibrium • A Modern Banking System •	
D. The Stock Market	465
Risk and Return on Different Assets • Bubbles and Crashes • Efficient Markets and the Random Walk • Personal Financial Strategies 470 •	
Summary 471 • Concepts for Review 472 • Further Reading and Internet Websites 473 • Questions for Discussion 473 •	

Chapter 24	
Monetary Policy and the Economy	475

A. Central Banking and the Federal Reserve System	475
The Essential Elements of Central Banking 476 • History • Structure • Goals of Central Banks • Functions of the Federal Reserve • Central-Bank Independence • How the Central Bank Determines Short-Term Interest Rates 478 • Overview of the Fed's Operations • Balance Sheet of the Federal Reserve Banks • Operating Procedures • How the Federal Reserve Affects Bank Reserves 479 • Open-Market Operations • Discount-Window Policy: A Backstop for Open-Market Operations • The Role of Reserve Requirements • Determination of the Federal Funds Rate •	
B. The Monetary Transmission Mechanism	484
A Summary Statement • The Effect of Changes in Monetary Policy on Output • The Challenge of a Liquidity Trap • Monetary Policy in the AS-AD Framework • Monetary Policy in the Long Run •	
C. Applications of Monetary Economics	489
Monetarism and the Quantity Theory of Money and Prices 489 • The Roots of Monetarism • The Equation of Exchange and the Velocity of Money • The Quantity Theory of Prices • Modern Monetarism • The Monetarist Platform: Constant Money Growth • The Monetarist Experiment • The Decline of Monetarism • Monetary Policy in an Open Economy 493 • International Linkages • Monetary Transmission in the Open Economy 494 • From Aggregate Demand to Aggregate Supply 495 •	
Summary 495 • Concepts for Review 496 • Further Reading and Internet Websites 497 • Questions for Discussion 497 •	

**PART SIX
GROWTH, DEVELOPMENT,
AND THE GLOBAL ECONOMY
499**

Chapter 25	
Economic Growth	501
The Long-Term Significance of Growth •	
A. Theories of Economic Growth	502
The Four Wheels of Growth 502 • Human Resources • Natural Resources • Capital • Technological Change and Innovation • Theories of Economic Growth 506 • The Classical Dynamics of Smith and Malthus •	

Economic Growth with Capital Accumulation: The Neoclassical Growth Model • Geometrical Analysis of the Neoclassical Model • The Central Role of Technological Change • Technological Change as an Economic Output •

B. The Patterns of Growth in the United States 512

The Facts of Economic Growth • Relationship of the Seven Trends to Economic-Growth Theories • The Sources of Economic Growth • **Recent Trends in Productivity 516** • The Productivity Rebound •

Summary 518 • Concepts for Review 519 • Further Reading and Internet Websites 519 • Questions for Discussion 520 •

Chapter 26

The Challenge of Economic Development 521

A. Population Growth and Development 521

Malthus and the Dismal Science 521 • Limits to Growth and Neo-Malthusianism •

B. Economic Growth in Poor Countries 524

Aspects of a Developing Country 524 • Human Development • **The Four Elements in Development 525** • Human Resources • Natural Resources • Capital • Technological Change and Innovations • Vicious Cycles to Virtuous Circles • **Strategies of Economic Development 531** • The Backwardness Hypothesis • Industrialization vs. Agriculture • State vs. Market • Growth and Outward Orientation • Summary Judgment •

C. Alternative Models for Development 533

A Bouquet of “ISMS” 533 • The Central Dilemma: Market vs. Command • **The Asian Models 534** • Asian Dragons • The Rise of China • **Socialism 535** • **The Failed Model: Centrally Planned Economies 536** • Baleful Prophecies • From Textbooks to Tactics: Soviet-Style Command Economy • From Marx to Market • A Final Note of Cautious Optimism •

Summary 539 • Concepts for Review 540 • Further Reading and Internet Websites 540 • Questions for Discussion 541 •

Chapter 27

Exchange Rates and the International Financial System 543

Trends in Foreign Trade 544 •

A. The Balance of International Payments 545

Balance-of-Payments Accounts 545 • Debits and Credits • Details of the Balance of Payments •

B. The Determination of Foreign Exchange Rates 548

Foreign Exchange Rates 548 • **The Foreign Exchange Market 549** • Effects of Changes in Trade • Exchange Rates and the Balance of Payments • Purchasing-Power Parity and Exchange Rates •

C. The International Monetary System 553

Fixed Exchange Rates: The Classical Gold Standard 554 • Hume’s Adjustment Mechanism • Updating Hume to Modern Macroeconomics • **International Monetary Institutions After World War II 557** • *The International Monetary Fund* • The World Bank • The Bretton Woods System • Intervention • **Flexible Exchange Rates 559** • Today’s Hybrid System 560 • Concluding Thoughts •

Summary 560 • Concepts for Review 561 • Further Reading and Internet Websites 562 • Questions for Discussion 562 •

Chapter 28

Open-Economy Macroeconomics 564

A. Foreign Trade and Economic Activity 564

Net Exports and Output in the Open Economy • Determinants of Trade and Net Exports • **Short-Run Impact of Trade on GDP 566** • The Marginal Propensity to Import and the Spending Line • The Open-Economy Multiplier • **Trade and Finance for the United States Under Flexible Exchange Rates 569** • **The Monetary Transmission Mechanism in an Open Economy 571** •

B. Interdependence in the Global Economy 574

Economic Growth in the Open Economy 574 • **Saving and Investment in the Open Economy 574** • Determination of Saving and Investment at Full Employment • **Promoting Growth in the Open Economy 578** •

C. International Economic Issues 580

Competitiveness and Productivity 580 • “The Deindustrialization of America” • Trends in Productivity • **The European Monetary Union 581** • Toward a Common Currency: The Euro • Costs and Benefits of Monetary Union • **Final Assessment 583** •

Summary 583 • Concepts for Review 585 • Further Reading and Internet Websites 585 • Questions for Discussion 585 •

PART SEVEN
UNEMPLOYMENT, INFLATION,
AND ECONOMIC POLICY
587

Chapter 29
Unemployment and the Foundations
of Aggregate Supply 589

A. The Foundations of Aggregate Supply 589
Determinants of Aggregate Supply 590 • Potential Output • Input Costs • **Aggregate Supply in the Short Run and Long Run 593** • Sticky Wages and Prices and the Upward-Sloping AS Curve •

B. Unemployment 594
Measuring Unemployment 595 • Impact of Unemployment 595 • Economic Impact • Social Impact • Okun's Law 597 • **Economic Interpretation of Unemployment 597** • Equilibrium Unemployment • Disequilibrium Unemployment • Microeconomic Foundations of Inflexible Wages • **Labor Market Issues 601** • Who Are the Unemployed? • Duration of Unemployment • Sources of Joblessness • Unemployment by Age •

Summary 606 • Concepts for Review 607 • Further Reading and Internet Websites 607 • Questions for Discussion 607 •

Chapter 30
Inflation 609

A. Definition and Impact of Inflation 609
What Is Inflation? 609 • The History of Inflation • Three Strains of Inflation • Anticipated vs. Unanticipated Inflation • **The Economic Impacts of Inflation 614** • Impacts on Income and Wealth Distribution • Impacts on Economic Efficiency • Macroeconomic Impacts • What Is the Optimal Rate of Inflation? •

B. Modern Inflation Theory 616
Prices in the AS-AD Framework 617 • Expected Inflation • Demand-Pull Inflation • Cost-Push Inflation and "Stagflation" • Expectations and Inflation • Price Levels vs. Inflation • **The Phillips Curve 620** • Short-Run Phillips Curve • The Nonaccelerating Inflation Rate of Unemployment • From Short Run to Long Run • The Vertical Long-Run Phillips Curve • Quantitative Estimates • Doubts about the NAIRU • Review •

C. Dilemmas of Anti-Inflation Policy 624
How Long Is the Long Run? • How Much Does It Cost to Reduce Inflation? • Credibility and Inflation • Policies to Lower Unemployment •

Summary 627 • Concepts for Review 628 • Further Reading and Internet Websites 628 • Questions for Discussion 629 •

Chapter 31
Frontiers of Macroeconomics 630

A. The Economic Consequences of the Government Debt 630
Fiscal History 631 • Government Budget Policy 632 • Actual, Structural, and Cyclical Budgets • **The Economics of the Debt and Deficits 633** • **The Short-Run Impact of Government Deficits 633** • Short Run vs. Long Run • Fiscal Policy and the Multiplier Model • **Government Debt and Economic Growth 634** • Historical Trends • External vs. Internal Debt • Efficiency Losses from Taxation • Displacement of Capital • Debt and Growth •

B. Advances in Modern Macroeconomics 638
Classical Macroeconomics and Say's Law 639 • Say's Law of Markets • **Modern Classical Macroeconomics 639** • Rational Expectations • Real Business Cycles • The Ricardian View of Fiscal Policy • Efficiency Wages • Supply-Side Economics • **Policy Implications 642** • Policy Ineffectiveness • The Desirability of Fixed Rules • A New Synthesis? •

C. Stabilizing the Economy 643
The Interaction of Monetary and Fiscal Policies 643 • Demand Management • The Fiscal-Monetary Mix • **Rules vs. Discretion 646** • Budget Constraints on Legislatures? • Monetary Rules for the Fed? •

D. Economic Growth and Human Welfare 648
The Spirit of Enterprise 649 • Fostering Technological Advance •

Summary 650 • Concepts for Review 652 • Further Reading and Internet Websites 652 • Questions for Discussion 652 •

Glossary of Terms 654

Index 677