

Contents

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