Table of Contents

About the Authors iii

Supplements & Resources XiV

Preface Xi

Supplements & Resources XIV Customization XVI	Endnotes 28 Appendix to Chapter 1 29
Part 1 Introduction to Economics	2 Supply and Demand: The Basics 40 2.1 Demand 42 2.1a The Demand Curve 42
1 How Economists Think 2	2.1b Shifts in the Demand Curve 43
1.1 Four Fundamental Questions: What? How? Who? For Whom? 5 1.1a Deciding What to Produce: Opportunity Cost 6 Applying Economic Ideas 1–1 The Opportunity Cost of a College Education 7 1.1b Deciding How to Produce: Efficiency and Entrepreneurship 8 1.1c Deciding Who Will Do What Work: The Division of Labor 10 Who Said It? Who Did It? 1–1 David Ricardo and the Theory of	2.2 Supply 47 2.2a Some Tips for Learning Supply 48 2.2b The Supply Curve 48 2.2c Shifts in the Supply Curve 50 2.3 The Interaction of Supply and Demand 52 2.3a Market Equilibrium 53 2.3b Shortages 54 2.3c Surpluses 54 2.3d Changes in Market Conditions 55 Economics in the News 2–1 Hindsight Is 20/20 for Auto Manufacturers 57
Comparative Advantage 12	2.4 Price Floors and Price Ceilings 58
1.1d Deciding for Whom Goods Will Be Produced 13 1.2 Coordinating Economic Choices 14 1.2a A Noneconomic Example 14 1.2b Spontaneous Order in Markets 15	2.4a Price Supports: The Market for Milk 58 2.4b Price Ceilings: The Case of Rent Control 59 2.4c Equilibrium as Spontaneous Order 61
Who Said It? Who Did It? 1–2 Adam Smith on the Invisible Hand 16 1.2c The Role of Hierarchy 17	2.5 Some Closing Thoughts 62 Who Said It? Who Did It? 2-1
1.3c The Note of Hierarchy 17 1.3 Economic Method 18 1.3a Theories and Models 18 1.3b Using Graphs 18 1.3c Theory and Evidence 21 1.3d Theories and Forecasts 21 1.3e Theory and Policy 22 Summary 24 Key Terms 25	Alfred and Mary Paley Marshall on Supply and Demand 63 Summary 64 Key Terms 65 Problems and Topics for Discussion 65 Case for Discussion 67 Endnotes 68

Problems and Topics for Discussion 25

Case for Discussion 27

3 Supply and Demand Elasticities 70	4.3 Price Stability 108 4.3a Short-Run Costs of Inflation 108
3.1 Elasticity 72 3.1a Price Elasticity of Demand 72 3.1b Calculating the Price Elasticity of Demand 74	4.3b Long-Run Costs of Inflation 110 4.3c Deflation 111 Summary 112 Key Terms 113 Problems and Topics for Discussion 114
3.1c Varying- and Constant-Elasticity Demand Curves 76 3.1d Determinants of Elasticity of Demand 77	Case for Discussion 115 Endnotes 116
3.1e Income Elasticity of Demand 79 3.1f Cross-Price Elasticity of Demand 80	5 The Circular Flow of Income and Expenditure 118
3.1g Price Elasticity of Supply 80 3.2 Applications of Elasticity 81 3.2a Gas Tax or Mileage Standards? 81 3.2b Elasticity and Prohibition 83	5.1 The Circular Flow 120 5.1a Gross Domestic Product, Domestic Income, and Consumption 120 5.1b Leakages and Injections in
Summary 86 Key Terms 86 Problems and Topics for Discussion 87 Case for Discussion 88 Endnotes 89	a Closed Economy 121 5.1c The Role of the Financial Sector 123 5.1d The Open Economy 124 5.1e The Balance of Leakages and Injections in an Open Economy 126
Part 2 An Overview of Macroeconomics 91	5.2 The Determinants of Planned Expenditure 127 5.2a The Components of GDP 127
What Do We Want from the Economy? 92	5.2b Planned Versus Unplanned Expenditures 127 5.2c Consumption Expenditure 128
4.1 Macroeconomics in the Long Run: Economic Growth 94 4.1a Measuring Economic Growth 94	Who Said It? Who Did It? 5–1 John Maynard Keynes and Mariana Mazzucato on Defunct Economic Ideas 129
4.1b Sources of Economic Growth 95 4.1c The Benefits and Costs of Economic Growth 97	5.2d Planned Investment 130 5.2e Government Purchases and Net Exports 131
Who Said It? Who Did It? 4–1 John Stuart Mill and Kate Raworth on the Future of Growth 98	5.3 Equilibrium in the Circular Flow 132 5.3a Changes in Planned Expenditure 132
4.2 Short-Run Macroeconomics and the Business Cycle 101 4.2a Phases of the Business Cycle 102 4.2b Employment and the	5.3b The Multiplier Effect and the Business Cycle 133 Summary 134 Key Terms 135 Problems and Topics for Discussion 136
Business Cycle 103	Case for Discussion 137

Contents νii

Endnotes 139 Appendix to Chapter 5 140	Part 3 Banking, Money, and the Financial System 169
6 Measuring Economic Activity 144	7 The Banking System and Its Regulation 170
6.1 The National Income Accounts in Nominal Terms 146 6.1a Gross Domestic Product 146 6.1b Measuring the Economy by the Expenditure Approach 148 6.1c Measuring the Economy by the Income Approach 151 6.1d Reconciling the Income and Expenditure Approaches 152	7.1 The Banking System 172 7.1a The Banking Balance Sheet 173 7.1b The Risks of Banking 174 7.2 The Evolution of the Banking System 176 7.2a Traditional Banking: Originate to Hold 176 7.2b Modern Banking: Originate
6.2 Measuring International Linkages 152 6.2a The Current Account 153 6.2b The Capital and Financial Account 154 6.2c Relationship of the Accounts 155 6.3 Measuring Real Income and	to Distribute 177 7.2c Securitization 177 7.2d New Types of Mortgages 178 7.3 Regulating the Banking System 181 7.3a Do Banks Take Excessive Risks? 181
the Price Level 156 6.3a Real Gross Domestic Product and the GDP Deflator 156 6.3b The Consumer Price Index 157	Applying Economic Ideas 7–1 Principal-Agent Problems in the World of Finance 183 7.3b Policies to Ensure Safety and
6.3c Producer Price Indexes 157 Applying Economic Ideas 6–1 How to Calculate a Simple Consumer Price Index 158	Soundness of Banks 184 Applying Economic Ideas 7–2 New Measures to Improve Bank Regulation 184
6.4 How Good Are the National Income Accounts? 159 6.4a Accuracy Versus Timeliness 159 6.4b The Underground Economy 159 6.4c Biases in Price Indexes 160 Applying Economic Ideas 6–2 How Should We Index Social	7.4 Rehabilitating Failed Banks 186 Summary 190 Key Terms 191 Problems and Topics for Discussion 191 Case for Discussion 192 Endnotes 193
Security Payments? 161 6.4d Nonmaterial Sources of Welfare 163 Summary 165 Key Terms 165 Problems and Topics for Discussion 166 Case for Discussion 167 Endnotes 168	8 Money and Central Banking 194 8.1 What Is Money? 196 8.1a Money as a Liquid Asset 196 8.1b Measuring the Stock of Money 197 8.1c A Balance-Sheet View
Enteriores 100	of Money 198

8.2 How Banks Create Money 200 8.2a Creating Money with a Loan 200 8.2b Other Ways to Create and	9.3c When Do the Advantages Outweigh the Disadvantages? 232 9.3d The Ongoing Problems of
Destroy Money 201 8.2c Limits to Banks' Ability to Create Money 202	the Euro Area 234 Summary 237 Key Terms 237 Problems and Topics for
8.3 Central Banking and the Instruments of Monetary Policy 204 8.3a Why Monetary Policy Matters 204 8.3b Three Key Interest Rates 205	Discussion 238 Case for Discussion 239 Endnotes 240
8.3c How the Fed Controls Interest Rates 206 8.3d Quantitative Easing	Part 4 Macroeconomic Policy 241
and Monetary Policy in Abnormal Times 209 Summary 211	Prices and Real Output in the Short Run 242
Key Terms 212 Problems and Topics for Discussion 212 Case for Discussion 213 Endnotes 214 Appendix to Chapter 8 215	10.1 The Aggregate Demand Curve 244 10.1a Aggregate and Market Demand Curves 244 10.1b The Slope of the Aggregate Demand Curve 246 10.1c Shifts in the Aggregate
9 Money, Exchange Rates, and Currency Areas 220	Demand Curve 248 10.2 The Aggregate Supply Curve 250 10.2a The Importance of
9.1 Understanding Exchange Rates 222 9.1a Supply and Demand in the Foreign-Exchange Market 222 9.1b Changes in Exchange Rates 223 9.1c Nominal and Real Exchange Rates 225	Input Prices 250 10.2b Long-Run and Short-Run Aggregate Supply Curves 251 Applying Economic Ideas 10–1 Menu Costs and the Introduction of the Euro 253
9.1d Purchasing Power Parity 226 Applying Economic Ideas 9–1 Purchasing Power Parity and International Economic Comparisons 227	10.2c Shifts in the Short-Run Aggregate Supply Curve 254 10.2d Shifts in the Long-Run Aggregate Supply Curve 256
9.2 Central Banks and the Foreign- Exchange Market 228 9.2a Why Maintain a Fixed	10.3 The Interaction of Aggregate Supply and Demand in the Short Run 257 10.3a Characteristics of Short- and
Exchange Rate? 229 9.3 Europe's Currency Union 230 9.3a The Case for a Currency	Long-Run Equilibrium 257 10.3b Short-Run Effects of an Increase in Aggregate Demand 258
Union 230 9.3b The Downside of a Shared Currency 231	10.3c Transition to a New Long- Run Equilibrium 259 10.3d Effects of a Decrease in Aggregate Demand 260

Contents ix

10.3e Aggregate Supply, Demand, and the Business Cycle 262 Summary 263	12 Fiscal Policy and the Business Cycle 292
Key Terms 264 Problems and Topics for Discussion 264 Case for Discussion 265	12.1 Using Fiscal Policy to Moderate the Business Cycle 294 12.1a Countercyclical Fiscal Stimulus 294 12.1b Practical Problems of
Strategies and Rules for Monetary Policy 266The Limits of Fine-Tuning 268	Fiscal Stimulus 295 Applying Economic Ideas 12–1 The Paycheck Protection Program (PPP) 301
Applying Economic Ideas 11–1 "It Is Now Within Our Capabilities" 268 11.1a The Problem of Lags 270 11.1b Forecasting Errors 271 11.1c Time Inconsistency 272	12.1c Nondiscretionary Spending 302 12.1d Automatic Fiscal Policy 302 12.1e The Role of State and Local Government Budgets 303 12.2 Measuring the Stance of
11.1d Unintended Consequences 273 11.2 Policy Rules 273 11.2a Instruments and Targets 274 Applying Economic Ideas 11–2 Pool as a Metaphor for Macroeconomic Policy 275 11.2b Monetarism: The Grandparent of Policy Rules 276 Who Said It? Who Did It? 11–1	Fiscal Policy 304 12.2a Three Kinds of Fiscal Balance 304 12.2b Is Fiscal Policy Procyclical or Countercyclical? 306 12.2c Evaluating Recent Fiscal Policy 306 Summary 309 Key Terms 309 Problems and Topics for Discussion 310
Milton Friedman, Anna Schwartz, and Monetarism 276 11.2c Inflation Targeting 278 11.2d Other Proposed Monetary Policy Rules 280 Summary 283	Case for Discussion 311 Endnotes 312 13 Long-Term Fiscal Policy and the Federal Debt 314
Key Terms 283 Problems and Topics for Discussion 284 Case for Discussion 285 Endnotes 286 Appendix to Chapter 11 287	13.1 Achieving a Balanced Economy 316 13.1a Balance of Saving and Investment 316 Applying Economic Ideas 13–1 The Budget Deficit Versus the Infrastructure Deficit 316
	13.1b External Balance 318 13.1c Balance Versus Cyclical Recovery 318 13.2 Fiscal Sustainability 319 13.2a Sustainability as Solvency 319

Applying Economic Ideas 13-2

Should the US Government Sell Assets to Pay Down its Debt? 320

13.2b Sustainability and the Debt Ratio 321

13.2c Rules for Fiscal Policy 327

Summary 332 Key Terms 333 Problems and Topics for Discussion 333 Case for Discussion 334 Endnotes 335

14 Fighting Inflation and Deflation 336

14.1 Inflation 338

14.1a Inflation in the Aggregate Supply and Demand Model 338

Who Said It? Who Did It? 14-1

Stephanie Kelton, the Public Face of Modern Monetary Theory 345

14.1b The Phillips Curve 346

14.1c Hyperinflation 349

Economics in the News 14-1

Hyperinflation, Then and Now 350

14.1d US Inflation 352

14.2 Deflation 354

14.2a Demand-Side Deflation 356

14.2b Supply-Side Deflation 360

Summary 366
Key Terms 367
Problems and Topics for
Discussion 368
Case for Discussion 369
Endnotes 371

Glossary 373

Index 383