

Second Edition

ECONOMICS

Global Edition

Daron Acemoglu

Massachusetts Institute of Technology

David Laibson

Harvard University

John A. List

University of Chicago



Pearson

Harlow, England • London • New York • Boston • San Francisco • Toronto • Sydney • Dubai • Singapore • Hong Kong
Tokyo • Seoul • Taipei • New Delhi • Cape Town • Sao Paulo • Mexico City • Madrid • Amsterdam • Munich • Paris • Milan

Brief Contents

PART I	Introduction to Economics	44
Chapter 1	The Principles and Practice of Economics	44
Chapter 2	Economic Methods and Economic Questions	62
Chapter 3	Optimization: Doing the Best You Can	84
Chapter 4	Demand, Supply, and Equilibrium	100
PART II	Foundations of Microeconomics	128
Chapter 5	Consumers and Incentives	128
Chapter 6	Sellers and Incentives	156
Chapter 7	Perfect Competition and the Invisible Hand	186
Chapter 8	Trade	214
Chapter 9	Externalities and Public Goods	242
Chapter 10	The Government in the Economy: Taxation and Regulation	272
Chapter 11	Markets for Factors of Production	302
PART III	Market Structure	326
Chapter 12	Monopoly	326
Chapter 13	Game Theory and Strategic Play	352
Chapter 14	Oligopoly and Monopolistic Competition	376
PART IV	Extending the Microeconomic Toolbox	402
Chapter 15	Trade-offs Involving Time and Risk	402
Chapter 16	The Economics of Information	420
Chapter 17	Auctions and Bargaining	438
Chapter 18	Social Economics	458
PART V	Introduction to Macroeconomics	480
Chapter 19	The Wealth of Nations: Defining and Measuring Macroeconomic Aggregates	480
Chapter 20	Aggregate Incomes	510
PART VI	Long-Run Growth and Development	534
Chapter 21	Economic Growth	534
Chapter 22	Why Isn't the Whole World Developed?	570

PART VII Extending the Microeconomic Toolbox 596

Chapter 23 Employment and Unemployment 596

Chapter 24 Credit Markets 622

Chapter 25 The Monetary System 646

PART VIII Short-Run Fluctuations and Macroeconomic Policy 674

Chapter 26 Short-Run Fluctuations 674

Chapter 27 Countercyclical Macroeconomic Policy 702

PART IX Macroeconomics in a Global Economy 730

Chapter 28 Macroeconomics and International Trade 730

Chapter 29 Open Economy Macroeconomics 754

Chapters on the Web

Web chapters are available on Pearson MyLab Economics.

WEB Chapter 1 Financial Decision Making

WEB Chapter 2 Economics of Life, Health, and the Environment

WEB Chapter 3 Political Economy

Contents

PART I INTRODUCTION TO ECONOMICS 44

Chapter 1: The Principles and Practice of Economics 44

1.1 The Scope of Economics	45
Economic Agents and Economic Resources	45
Definition of Economics	46
Positive Economics and Normative Economics	47
Microeconomics and Macroeconomics	48
1.2 Three Principles of Economics	48
1.3 The First Principle of Economics: Optimization	49
Trade-offs and Budget Constraints	50
Opportunity Cost	51
Cost-Benefit Analysis	52
Evidence-Based Economics: Is Facebook free?	53
1.4 The Second Principle of Economics: Equilibrium	55
The Free-Rider Problem	56
1.5 The Third Principle of Economics: Empiricism	57
1.6 Is Economics Good for You?	58
Summary	59
Key Terms	59
Questions	59
Problems	60

Chapter 2: Economic Methods and Economic Questions 62

2.1 The Scientific Method	63
Models and Data	63
An Economic Model	65
Evidence-Based Economics: How much more do workers with a college education earn?	66
Means and Medians	67
Argument by Anecdote	67
2.2 Causation and Correlation	68
The Red Ad Blues	68
Causation versus Correlation	68
Choice & Consequence: Spend Now and Pay Later?	71
Experimental Economics and Natural Experiments	71

Evidence-Based Economics: How much do wages increase when mandatory schooling laws force people to get an extra year of schooling?	72
2.3 Economic Questions and Answers	73
Summary	75
Key Terms	75
Questions	75
Problems	75
Appendix: Constructing and Interpreting Charts and Graphs	77
A Study about Incentives	77
Experimental Design	77
Describing Variables	78
Cause and Effect	80
Appendix Key Terms	83
Appendix Problems	83

Chapter 3: Optimization: Doing the Best You Can 84

3.1 Optimization: Choosing the Best Feasible Option	85
Choice & Consequence: Do People Really Optimize?	86
3.2 Optimization Application: Renting the Optimal Apartment	86
Before and After Comparisons	89
3.3 Optimization Using Marginal Analysis	90
Marginal Cost	91
Evidence-Based Economics: How does location affect the rental cost of housing?	94
Summary	97
Key Terms	98
Questions	98
Problems	98

Chapter 4: Demand, Supply, and Equilibrium 100

4.1 Markets	101
Competitive Markets	102
4.2 How Do Buyers Behave?	103
Demand Curves	104
Willingness to Pay	104

From Individual Demand Curves to Aggregated Demand Curves	105	The Income Elasticity of Demand	148
Building the Market Demand Curve	106	Letting the Data Speak: Should McDonald's Be Interested in Elasticities?	149
Shifting the Demand Curve	107	<i>Summary</i>	149
Evidence-Based Economics: How much more gasoline would people buy if its price were lower?	109	<i>Key Terms</i>	150
4.3 How Do Sellers Behave?	111	<i>Questions</i>	150
Supply Curves	111	<i>Problems</i>	151
Willingness to Accept	111	Appendix: Representing Preferences with Indifference Curves: Another Use of the Budget Constraint	153
From the Individual Supply Curve to the Market Supply Curve	112	<i>Appendix Questions</i>	155
Shifting the Supply Curve	113	<i>Appendix Key Terms</i>	155
4.4 Supply and Demand in Equilibrium	115	Chapter 6: Sellers and Incentives	156
Curve Shifting in Competitive Equilibrium	117	6.1 Sellers in a Perfectly Competitive Market	157
Letting the Data Speak: Technological Breakthroughs Drive Down the Equilibrium Price of Oil	118	6.2 The Seller's Problem	157
4.5 What Would Happen If the Government Tried to Dictate the Price of Gasoline?	120	Making the Goods: How Inputs Are Turned into Outputs	158
Choice & Consequence: The Unintended Consequences of Fixing Market Prices	122	The Cost of Doing Business: Introducing Cost Curves	160
<i>Summary</i>	123	The Rewards of Doing Business: Introducing Revenue Curves	162
<i>Key Terms</i>	124	Putting It All Together: Using the Three Components to Do the Best You Can	163
<i>Questions</i>	124	Choice & Consequence: Maximizing Total Profit, Not Per-Unit Profit	165
<i>Problems</i>	125	6.3 From the Seller's Problem to the Supply Curve	166
PART II FOUNDATIONS OF MICROECONOMICS	128	Price Elasticity of Supply	166
Chapter 5: Consumers and Incentives	128	Shutdown	167
5.1 The Buyer's Problem	129	Choice & Consequence: Marginal Decision Makers Ignore Sunk Costs	169
What You Like	129	6.4 Producer Surplus	169
Prices of Goods and Services	130	6.5 From the Short Run to the Long Run	171
Choice & Consequence: Absolutes Versus Percentages	130	Long-Run Supply Curve	172
How Much Money You Have to Spend	131	Choice & Consequence: Visiting a Car Manufacturing Plant	172
5.2 Putting It All Together	132	6.6 From the Firm to the Market: Long-Run Competitive Equilibrium	173
Price Changes	134	Firm Entry	173
Income Changes	135	Firm Exit	175
5.3 From the Buyer's Problem to the Demand Curve	136	Zero Profits in the Long Run	175
5.4 Consumer Surplus	137	Economic Profit Versus Accounting Profit	176
An Empty Feeling: Loss in Consumer Surplus When Price Increases	138	Evidence-Based Economics: How would an ethanol subsidy affect ethanol producers?	177
Evidence-Based Economics: Would a smoker quit the habit for \$100 per month?	139	<i>Summary</i>	180
5.5 Demand Elasticities	142	<i>Key Terms</i>	181
The Price Elasticity of Demand	142	<i>Questions</i>	181
The Cross-Price Elasticity of Demand	147	<i>Problems</i>	182
		Appendix: When Firms Have Different Cost Structures	184

Chapter 7: Perfect Competition and the Invisible Hand	186		
7.1 Perfect Competition and Efficiency	187		
Social Surplus	188		
Pareto Efficiency	189		
7.2 Extending the Reach of the Invisible Hand: From the Individual to the Firm	190		
7.3 Extending the Reach of the Invisible Hand: Allocation of Resources Across Industries	194		
7.4 Prices Guide the Invisible Hand	196		
Deadweight Loss	198		
Evidence-Based Economics: Do companies like Uber make use of the invisible hand?	199		
The Command Economy	203		
Choice & Consequence: FEMA and Walmart After Katrina	203		
The Central Planner	205		
Choice & Consequence: Command and Control at Kmart	206		
7.5 Equity and Efficiency	206		
Evidence-Based Economics: Can markets composed of only self-interested people maximize the overall well-being of society?	207		
Summary	211		
Key Terms	211		
Questions	211		
Problems	212		
Chapter 8: Trade	214		
8.1 The Production Possibilities Curve	215		
Calculating Opportunity Cost	217		
8.2 The Basis for Trade: Comparative Advantage	218		
Specialization	219		
Absolute Advantage	219		
Choice & Consequence: An Experiment on Comparative Advantage	220		
The Price of the Trade	221		
8.3 Trade Between States	222		
Choice & Consequence: Should LeBron James Paint His Own House?	223		
Economy-Wide PPC	224		
Comparative Advantage and Specialization Among States	225		
8.4 Trade Between Countries	226		
Determinants of Trade Between Countries	228		
Letting the Data Speak: Fair Trade Products	229		
Exporting Nations: Winners and Losers	229		
Importing Nations: Winners and Losers	230		
Where Do World Prices Come From?	231		
		Determinants of a Country's Comparative Advantage	232
8.5 Arguments Against Free Trade	232		
National Security Concerns	232		
Fear of Globalization	233		
Environmental and Resource Concerns	233		
Infant Industry Arguments	233		
The Effects of Tariffs	233		
Choice & Consequence: Tariffs Affect Trade Between Firms	235		
Evidence-Based Economics: Will free trade cause you to lose your job?	236		
Summary	238		
Key Terms	238		
Questions	238		
Problems	239		
Chapter 9: Externalities and Public Goods	242		
9.1 Externalities	243		
A "Broken" Invisible Hand: Negative Externalities	244		
A "Broken" Invisible Hand: Positive Externalities	246		
Pecuniary Externalities	248		
Choice & Consequence: Positive Externalities in Spots You Never Imagined	248		
9.2 Private Solutions to Externalities	249		
Private Solution: Bargaining	250		
The Coase Theorem	250		
Private Solution: Doing the Right Thing	251		
9.3 Government Solutions to Externalities	252		
Government Regulation:			
Command-and-Control Policies	252		
Evidence-Based Economics: What can the government do to lower the number of earthquakes in Oklahoma?	253		
Government Regulation: Market-Based Approaches	255		
Corrective Taxes	255		
Corrective Subsidies	256		
Letting the Data Speak: How to Value Externalities	257		
Letting the Data Speak: Pay as You Throw: Consumers Create Negative Externalities Too!	258		
9.4 Public Goods	258		
Government Provision of Public Goods	260		
Choice & Consequence: The Free-Rider's Dilemma	260		
Private Provision of Public Goods	262		
9.5 Common Pool Resource Goods	264		
Choice & Consequence: Tragedy of the Commons	265		
Choice & Consequence: The Race to Fish	266		

Evidence-Based Economics: How can the Queen of England lower her commute time to Wembley Stadium?	267	Choice & Consequence: Producing Web Sites and Computer Programs	308
<i>Summary</i>	268	Labor Market Equilibrium: Supply Meets Demand	308
<i>Key Terms</i>	269	Letting the Data Speak: “Get Your Hot Dogs Here!”	308
<i>Questions</i>	269	Labor Demand Shifters	309
<i>Problems</i>	269	Factors That Shift Labor Supply	310
		Letting the Data Speak: Do Wages Really Go Down If Labor Supply Increases?	311
Chapter 10: The Government in the Economy: Taxation and Regulation	272	11.3 Wage Inequality	311
10.1 Taxation and Government Spending in the United States	273	Differences in Human Capital	312
Where Does the Money Come From?	274	Choice & Consequence: Paying for Worker Training	313
Why Does the Government Tax and Spend?	276	Differences in Compensating Wage Differentials	313
Choice & Consequence: The Government Budget Constraint	277	Discrimination in the Job Market	313
Letting the Data Speak: Understanding Federal Income Tax Brackets	278	Choice & Consequence: Compensating Wage Differentials	315
Letting the Data Speak: Reducing Inequality the Scandinavian Way	281	Changes in Wage Inequality over Time	316
Taxation: Tax Incidence and Deadweight Losses	282	Letting the Data Speak: Broadband and Inequality	317
Choice & Consequence: The Deadweight Loss Depends on the Tax	285	11.4 The Market for Other Factors of Production: Physical Capital and Land	317
10.2 Regulation	287	Letting the Data Speak: The Top 1 Percent Share and Capital Income	319
Direct Regulation	287	Evidence-Based Economics: Is there discrimination in the labor market?	320
10.3 Government Failures	290	<i>Summary</i>	322
The Direct Costs of Bureaucracies	291	<i>Key Terms</i>	322
Corruption	291	<i>Questions</i>	323
Underground Economy	292	<i>Problems</i>	323
10.4 Equity Versus Efficiency	292	PART III MARKET STRUCTURE	326
10.5 Consumer Sovereignty and Paternalism	294	Chapter 12: Monopoly	326
The Debate	294	12.1 Introducing a New Market Structure	327
Evidence-Based Economics: What is the optimal size of government?	295	12.2 Sources of Market Power	327
Letting the Data Speak: The Efficiency of Government Versus Privately Run Expeditions	297	Legal Market Power	328
Choice & Consequence: Taxation and Innovation	297	Natural Market Power	329
<i>Summary</i>	298	Control of Key Resources	329
<i>Key Terms</i>	298	Choice & Consequence: Barriers to Entry Lurk Everywhere	329
<i>Questions</i>	298	Economies of Scale	330
<i>Problems</i>	299	12.3 The Monopolist’s Problem	331
Chapter 11: Markets for Factors of Production	302	Revenue Curves	332
11.1 The Competitive Labor Market	303	Price, Marginal Revenue, and Total Revenue	334
The Demand for Labor	303	12.4 Choosing the Optimal Quantity and Price	336
11.2 The Supply of Labor: Your Labor-Leisure Trade-off	306	Producing the Optimal Quantity	336
		Setting the Optimal Price	336

How a Monopolist Calculates Profits	338
Does a Monopoly Have a Supply Curve?	338
12.5 The “Broken” Invisible Hand: The Cost of Monopoly	339
12.6 Restoring Efficiency	340
Three Degrees of Price Discrimination	341
Letting the Data Speak: Third-Degree Price Discrimination in Action	343
12.7 Government Policy Toward Monopoly	344
The Microsoft Case	344
Price Regulation	345
Evidence-Based Economics: Can a monopoly ever be good for society?	346
Summary	348
Key Terms	348
Questions	349
Problems	349

Chapter 13: Game Theory and Strategic Play **352**

13.1 Simultaneous-Move Games	353
Best Responses and the Prisoners’ Dilemma	354
Dominant Strategies and Dominant Strategy Equilibrium	355
Games without Dominant Strategies	355
13.2 Nash Equilibrium	357
Finding a Nash Equilibrium	358
Choice & Consequence: Work or Surf?	359
13.3 Applications of Nash Equilibria	359
Tragedy of the Commons Revisited	360
Zero-Sum Games	360
13.4 How Do People Actually Play Such Games?	362
Game Theory in Penalty Kicks	362
Evidence-Based Economics: Is there value in putting yourself in someone else’s shoes?	363
13.5 Extensive-Form Games	365
Backward Induction	366
First-Mover Advantage, Commitment, and Vengeance	367
Evidence-Based Economics: Is there value in putting yourself in someone else’s shoes in extensive-form games?	368
Choice & Consequence: There Is More to Life Than Money	371
Summary	372
Key Terms	372
Questions	372
Problems	373

Chapter 14: Oligopoly and Monopolistic Competition **376**

14.1 Two More Market Structures	377
14.2 Oligopoly	378
The Oligopolist’s Problem	379
Oligopoly Model with Homogeneous Products	379
Doing the Best You Can: How Should You Price to Maximize Profits?	380
Oligopoly Model with Differentiated Products	381
Letting the Data Speak: Airline Price Wars	383
Collusion: Another Way to Keep Prices High	383
Letting the Data Speak: Apple versus Samsung	384
Letting the Data Speak: To Cheat or Not to Cheat: That Is the Question	386
Choice & Consequence: Collusion in Practice	388
14.3 Monopolistic Competition	388
The Monopolistic Competitor’s Problem	388
Doing the Best You Can: How a Monopolistic Competitor Maximizes Profits	389
Letting the Data Speak: Why Do Some Firms Advertise and Some Don’t?	390
How a Monopolistic Competitor Calculates Profits	390
Long-Run Equilibrium in a Monopolistically Competitive Industry	391
14.4 The “Broken” Invisible Hand	393
Regulating Market Power	394
14.5 Summing Up: Four Market Structures	395
Evidence-Based Economics: How many firms are necessary to make a market competitive?	396
Summary	398
Key Terms	399
Questions	399
Problems	399

PART IV EXTENDING THE MICROECONOMIC TOOLBOX **402**

Chapter 15: Trade-offs Involving Time and Risk **402**

15.1 Modeling Time and Risk	403
15.2 The Time Value of Money	404
Future Value and the Compounding of Interest	404
Borrowing Versus Lending	406
Present Value and Discounting	407

15.3 Time Preferences	409	Letting the Data Speak: Moral Hazard	
Time Discounting	409	Among Job Seekers	434
Preference Reversals	410	Crime and Punishment as a Principal–Agent Problem	434
Choice & Consequence: Failing to Anticipate Preference Reversals	411	Summary	435
Evidence-Based Economics: Do people exhibit a preference for immediate gratification?	411	Key Terms	435
15.4 Probability and Risk	412	Questions	435
Roulette Wheels and Probabilities	412	Problems	435
Independence and the Gambler’s Fallacy	413		
Letting the Data Speak: Roulette Wheels and Elections	413		
Expected Value	414		
Extended Warranties	415		
Choice & Consequence: Is Gambling Worthwhile?	415		
15.5 Risk Preferences	416		
Summary	417		
Key Terms	418		
Questions	418		
Problems	418		
Chapter 16: The Economics of Information	420		
16.1 Asymmetric Information	421		
Hidden Characteristics: Adverse Selection in the Used Car Market	422		
Hidden Characteristics: Adverse Selection in the Health Insurance Market	423		
Market Solutions to Adverse Selection: Signaling	424		
Choice & Consequence: Are You Sending a Signal Right Now?	425		
Evidence-Based Economics: Why do new cars lose considerable value the minute they are driven off the lot?	425		
Choice & Consequence: A Tale of a Tail	427		
16.2 Hidden Actions: Markets with Moral Hazard	427		
Letting the Data Speak: Moral Hazard on Your Bike	428		
Market Solutions to Moral Hazard in the Labor Market: Efficiency Wages	428		
Market Solutions to Moral Hazard in the Insurance Market: “Putting Your Skin in the Game”	429		
Letting the Data Speak: Designing Incentives for Teachers	430		
Evidence-Based Economics: Why is private health insurance so expensive?	431		
16.3 Government Policy in a World of Asymmetric Information	432		
Government Intervention and Moral Hazard	433		
The Equity-Efficiency Trade-off	433		
		Chapter 17: Auctions and Bargaining	438
		17.1 Auctions	440
		Types of Auctions	441
		Open Outcry: English Auctions	442
		Letting the Data Speak: To Snipe or Not to Snipe?	443
		Open Outcry: Dutch Auctions	443
		Sealed Bid: First-Price Auctions	445
		Sealed Bid: Second-Price Auctions	445
		The Revenue Equivalence Theorem	447
		Evidence-Based Economics: How should you bid in an eBay auction?	448
		17.2 Bargaining	449
		What Determines Bargaining Outcomes?	449
		Bargaining in Action: The Ultimatum Game	450
		Bargaining and the Coase Theorem	452
		Evidence-Based Economics: Who determines how the household spends its money?	453
		Letting the Data Speak: Sex Ratios Change Bargaining Power Too	455
		Summary	455
		Key Terms	455
		Questions	455
		Problems	456
		Chapter 18: Social Economics	458
		18.1 The Economics of Charity and Fairness	459
		The Economics of Charity	459
		Letting the Data Speak: Do People Donate Less When It’s Costlier to Give?	461
		Letting the Data Speak: Why Do People Give to Charity?	462
		The Economics of Fairness	463
		Letting the Data Speak: Dictators in the Lab	466
		Evidence-Based Economics: Do people care about fairness?	466
		18.2 The Economics of Trust and Revenge	468
		The Economics of Trust	468
		The Economics of Revenge	470
		Choice & Consequence: Does Revenge Have an Evolutionary Logic?	471

18.3 How Others Influence Our Decisions	472	The Consumer Price Index	503
Where Do Our Preferences Come From?	472	Inflation	504
The Economics of Peer Effects	472	Adjusting Nominal Variables	504
Letting the Data Speak: Is Economics Bad for You?	473	Summary	505
Following the Crowd: Herding	474	Key Terms	506
Letting the Data Speak: Your Peers Affect Your Waistline	475	Questions	506
Choice & Consequence: Are You an Internet Explorer?	476	Problems	506
Summary	476		
Key Terms	476		
Questions	477		
Problems	477		
PART V INTRODUCTION TO MACROECONOMICS	480		
Chapter 19: The Wealth of Nations: Defining and Measuring Macroeconomic Aggregates	480	Chapter 20: Aggregate Incomes	510
19.1 Macroeconomic Questions	481	20.1 Inequality Around the World	511
19.2 National Income Accounts: Production = Expenditure = Income	483	Measuring Differences in GDP per Capita	511
Production	483	Letting the Data Speak: The Big Mac Index	513
Expenditure	484	Inequality in GDP per Capita	513
Income	484	GDP per Worker	513
Circular Flows	485	Productivity	514
National Income Accounts: Production	486	Incomes and the Standard of Living	515
National Income Accounts: Expenditure	488	Choice & Consequence: Dangers of Just Focusing on GDP per Capita	517
Evidence-Based Economics: In the United States, what is the total market value of annual economic production?	490	20.2 Productivity and the Aggregate Production Function	519
Letting the Data Speak: Saving versus Investment	492	Productivity Differences	519
National Income Accounting: Income	493	The Aggregate Production Function	519
19.3 What Isn't Measured by GDP?	493	Labor	520
Physical Capital Depreciation	494	Physical Capital and Land	520
Home Production	494	Technology	520
The Underground Economy	495	Representing the Aggregate Production Function	521
Negative Externalities	496	20.3 The Role and Determinants of Technology	522
Gross Domestic Product versus Gross National Product	496	Technology	522
The Increase in Income Inequality	497	Dimensions of Technology	522
Leisure	498	Letting the Data Speak: Moore's Law	524
Does GDP Buy Happiness?	498	Choice & Consequence: Academic Misallocation in Nazi Germany	525
19.4 Real versus Nominal	499	Letting the Data Speak: Efficiency of Production and Productivity at the Company Level	525
The GDP Deflator	501	Entrepreneurship	526
		Letting the Data Speak: Monopoly and GDP	526
		Evidence-Based Economics: Why is the average American so much richer than the average Indian?	527
		Summary	529
		Key Terms	529
		Questions	529
		Problems	530
		Appendix: The Mathematics of Aggregate Production Functions	532

PART VI	LONG-RUN GROWTH AND DEVELOPMENT	534	Calculating Average (Compound) Growth Rates	568	
			<i>Appendix Key Terms</i>	569	
			<i>Appendix Problems</i>	569	
Chapter 21:	Economic Growth	534	Chapter 22: Why Isn't the Whole World Developed?	570	
21.1	The Power of Economic Growth	535	22.1	Proximate Versus Fundamental Causes of Prosperity	571
	A First Look at U.S. Growth	535		Geography	572
	Exponential Growth	536		Culture	573
	Choice & Consequence: The Power of Exponential Growth	538		Institutions	573
	Patterns of Growth	539		A Natural Experiment of History	574
	Letting the Data Speak: Levels versus Growth	542	22.2	Institutions and Economic Development	576
21.2	How Does a Nation's Economy Grow?	544		Inclusive and Extractive Economic Institutions	576
	Optimization: The Choice Between Saving and Consumption	544		How Economic Institutions Affect Economic Outcomes	577
	What Brings Sustained Growth?	545		Letting the Data Speak: Democracy and Growth	578
	Choice & Consequence: Is Increasing the Saving Rate Always a Good Idea?	546		Letting the Data Speak: Divergence and Convergence in Eastern Europe	580
	Knowledge, Technological Change, and Growth	546		The Logic of Extractive Economic Institutions	583
	Letting the Data Speak: Technology and Life Expectancy	548		Inclusive Economic Institutions and the Industrial Revolution	583
	Letting the Data Speak: The Great Productivity Puzzle	549		Letting the Data Speak: Blocking the Railways	584
	Evidence-Based Economics: Why are you so much more prosperous than your great-great-grandparents were?	550		Evidence-Based Economics: Are tropical and semitropical areas condemned to poverty by their geographies?	585
21.3	The History of Growth and Technology	552	22.3	Is Foreign Aid the Solution to World Poverty?	590
	Growth Before Modern Times	552		Choice & Consequence: Foreign Aid and Corruption	591
	Malthusian Limits to Growth	553		<i>Summary</i>	592
	The Industrial Revolution	554		<i>Key Terms</i>	593
	Growth and Technology Since the Industrial Revolution	554		<i>Questions</i>	593
21.4	Growth, Inequality, and Poverty	554		<i>Problems</i>	593
	Growth and Inequality	554			
	Letting the Data Speak: Income Inequality in the United States	555			
	Choice & Consequence: Inequality versus Poverty	556			
	Growth and Poverty	556			
	How Can We Reduce Poverty?	557			
	<i>Summary</i>	558			
	<i>Key Terms</i>	558			
	<i>Questions</i>	559			
	<i>Problems</i>	559			
Appendix:	The Solow Growth Model	561	PART VII	EXTENDING THE MICROECONOMIC TOOLBOX	596
	The Three Building Blocks of the Solow Model	561			
	Steady-State Equilibrium in the Solow Model	562	Chapter 23:	Employment and Unemployment	596
	Determinants of GDP	563	23.1	Measuring Employment and Unemployment	597
	Dynamic Equilibrium in the Solow Model	565		Classifying Potential Workers	597
	Sources of Growth in the Solow Model	566		Calculating the Unemployment Rate	598
				Trends in the Unemployment Rate	599
			23.2	Equilibrium in the Labor Market	600
				The Demand for Labor	600

Shifts in the Labor Demand Curve	602	Bank Regulation and Bank Solvency	638
The Supply of Labor	603	Evidence-Based Economics: How often do banks fail?	639
Shifts in the Labor Supply Curve	604	Choice & Consequence: Too Big to Fail	641
Letting the Data Speak: Who Is Unemployed?	605	Choice & Consequence: Asset Price Fluctuations and Bank Failures	642
Equilibrium in a Competitive Labor Market	606	<i>Summary</i>	642
23.3 Why Is There Unemployment?	607	<i>Key Terms</i>	643
Voluntary Unemployment	607	<i>Questions</i>	643
Job Search and Frictional Unemployment	607	<i>Problems</i>	644
23.4 Wage Rigidity and Structural Unemployment	608		
Minimum Wage Laws	608		
Choice & Consequence: Luddites and Robots	609		
Labor Unions and Collective Bargaining	611		
Efficiency Wages	611		
Choice & Consequence: Minimum Wage Laws and Employment	612		
Downward Wage Rigidity	613		
23.5 Cyclical Unemployment and the Natural Rate of Unemployment	614		
Evidence-Based Economics: What happens to employment and unemployment if local employers go out of business?	616		
<i>Summary</i>	618		
<i>Key Terms</i>	619		
<i>Questions</i>	619		
<i>Problems</i>	619		
Chapter 24: Credit Markets	622		
24.1 What Is the Credit Market?	623		
Borrowers and the Demand for Loans	623		
Real and Nominal Interest Rates	624		
The Credit Demand Curve	625		
Saving Decisions	627		
The Credit Supply Curve	627		
Choice & Consequence: Why Do People Save?	628		
Equilibrium in the Credit Market	630		
Credit Markets and the Efficient Allocation of Resources	631		
24.2 Banks and Financial Intermediation: Putting Supply and Demand Together	631		
Letting the Data Speak: Financing Start-Ups	633		
Assets and Liabilities on the Balance Sheet of a Bank	633		
24.3 What Banks Do	635		
Identifying Profitable Lending Opportunities	635		
Maturity Transformation	635		
Management of Risk	636		
Bank Runs	637		
		Chapter 25: The Monetary System	646
		25.1 Money	647
		The Functions of Money	647
		Types of Money	648
		The Money Supply	648
		Choice & Consequence: Non-Convertible Currencies in U.S. History	649
		25.2 Money, Prices, and GDP	650
		Nominal GDP, Real GDP, and Inflation	650
		The Quantity Theory of Money	651
		25.3 Inflation	652
		What Causes Inflation?	652
		The Consequences of Inflation	652
		The Social Costs of Inflation	654
		The Social Benefits of Inflation	655
		Evidence-Based Economics: What caused the German hyperinflation of 1922–1923?	656
		25.4 The Federal Reserve	657
		The Central Bank and the Objectives of Monetary Policy	657
		What Does the Central Bank Do?	658
		25.5 Bank Reserves and the Plumbing of the Monetary System	659
		Bank Reserves and Liquidity	660
		The Demand Side of the Federal Funds Market	661
		The Supply Side of the Federal Funds Market and Equilibrium in the Federal Funds Market	662
		Choice & Consequence: Obtaining Reserves Outside the Federal Funds Market	666
		The Fed's Influence on the Money Supply and the Inflation Rate	666
		The Relationship Between the Federal Funds Rate and the Long-Term Real Interest Rate	667
		Choice & Consequence: Two Models of Inflation Expectations	668
		<i>Summary</i>	671
		<i>Key Terms</i>	671
		<i>Questions</i>	672
		<i>Problems</i>	672

PART VIII SHORT-RUN FLUCTUATIONS AND MACROECONOMIC POLICY	674	Fiscal Policies That Directly Target the Labor Market	720
		Letting the Data Speak: A Different Type of Fiscal Policy	721
		Policy Waste and Policy Lags	722
Chapter 26: Short-Run Fluctuations	674	Evidence-Based Economics: How much does government expenditure stimulate GDP?	723
26.1 Economic Fluctuations and Business Cycles	675	Choice & Consequence: The New Administration's Fiscal Policies	725
Patterns of Economic Fluctuations	677	<i>Summary</i>	725
The Great Depression	679	<i>Key Terms</i>	726
26.2 Macroeconomic Equilibrium and Economic Fluctuations	681	<i>Questions</i>	726
Labor Demand and Fluctuations	681	<i>Problems</i>	727
Sources of Fluctuations	683		
Letting the Data Speak: Unemployment and the Growth Rate of Real GDP: Okun's Law	684		
Multipliers and Economic Fluctuations	688		
Equilibrium in the Medium Run: Partial Recovery and Full Recovery	689		
26.3 Modeling Expansions	693		
Evidence-Based Economics: What caused the recession of 2007–2009?	694		
<i>Summary</i>	698		
<i>Key Terms</i>	700		
<i>Questions</i>	700		
<i>Problems</i>	700		
Chapter 27: Countercyclical Macroeconomic Policy	702		
27.1 The Role of Countercyclical Policies in Economic Fluctuations	703		
27.2 Countercyclical Monetary Policy	704		
Controlling the Federal Funds Rate	705		
Other Tools of the Fed	708		
Expectations, Inflation, and Monetary Policy	709		
Contractionary Monetary Policy: Control of Inflation	709		
Letting the Data Speak: Managing Expectations	710		
Zero Lower Bound	712		
Choice & Consequence: Policy Mistakes	713		
Policy Trade-offs	714		
27.3 Countercyclical Fiscal Policy	715		
Fiscal Policy Over the Business Cycle: Automatic and Discretionary Components	715		
Analysis of Expenditure-Based Fiscal Policy	716		
Analysis of Taxation-Based Fiscal Policy	718		
Letting the Data Speak: The Response of Consumption to Tax Cuts	720		
		PART IX MACROECONOMICS IN A GLOBAL ECONOMY	730
		Chapter 28: Macroeconomics and International Trade	730
		28.1 Why and How We Trade	731
		Absolute Advantage and Comparative Advantage	731
		Comparative Advantage and International Trade	734
		Efficiency and Winners and Losers from Trade	735
		How We Trade	737
		Letting the Data Speak: Living in an Interconnected World	738
		Trade Barriers: Tariffs	738
		Choice & Consequence: Trade Policy and Politics	739
		28.2 The Current Account and the Financial Account	740
		Trade Surpluses and Trade Deficits	741
		International Financial Flows	741
		The Workings of the Current Account and the Financial Account	742
		28.3 International Trade, Technology Transfer, and Economic Growth	746
		Letting the Data Speak: From IBM to Lenovo	747
		Evidence-Based Economics: Are companies like Nike harming workers in Vietnam?	748
		<i>Summary</i>	751
		<i>Key Terms</i>	751
		<i>Questions</i>	751
		<i>Problems</i>	752

Chapter 29: Open Economy Macroeconomics **754**

29.1 Exchange Rates	755
Nominal Exchange Rates	755
Flexible, Managed, and Fixed Exchange Rates	757
29.2 The Foreign Exchange Market	758
How Do Governments Intervene in the Foreign Exchange Market?	760
Defending an Overvalued Exchange Rate	761
Choice & Consequence: Fixed Exchange Rates and Corruption	763
Evidence-Based Economics: How did George Soros make \$1 billion?	764
29.3 The Real Exchange Rate and Exports	766
From the Nominal to the Real Exchange Rate	766
Co-Movement Between the Nominal and the Real Exchange Rates	767
The Real Exchange Rate and Net Exports	768
Letting the Data Speak: Why Did the Chinese Authorities Keep the Yuan Undervalued?	769
29.4 GDP in the Open Economy	770
Revisiting Black Wednesday	771

Interest Rates, Exchange Rates, and Net Exports	771
Letting the Data Speak: The Costs of Fixed Exchange Rates	773
<i>Summary</i>	774
<i>Key Terms</i>	774
<i>Questions</i>	775
<i>Problems</i>	775
Endnotes	779
Glossary	787
Credits	799
Index	801

CHAPTERS ON THE WEB

Web chapters are available on Pearson MyLab Economics.

WEB Chapter 1 Financial Decision Making

WEB Chapter 2 Economics of Life, Health, and the Environment

WEB Chapter 3 Political Economy