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Eleventh Edition

Macroeconomics for Today



Irvin B. Tucker



Macroeconomics for Today

Eleventh Edition

Irvin B. Tucker

University of North Carolina at Charlotte



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About the Author

Irvin B. Tucker

IRVIN B. TUCKER was a longtime leader in economic education with over 30 years of experience teaching introductory economics at the University of North Carolina in Charlotte. He earned his B.S. in economics at N.C. State University and his M.A. and Ph. D. in economics from the University of South Carolina. Dr. Tucker served as the executive director of the S.C. Council of Education and director of the Center for Economic Education at the University of North Carolina in Charlotte. Dr. Tucker is recognized for his ability to relate basic principles to economic issues and public policy. His work has received national recognition by being awarded the Meritorious Levy Award for Excellence in Private Enterprise Education, the Federation of Independent Business Award for Postsecondary Educator of the Year in Entrepreneurship and Economic Education, and the Freedom Foundation's George Washington Medal for Excellence in Economic Education. In addition, his research has been published in numerous professional economics journals on a wide range of topics, including industrial organization, entrepreneurship, and economics of education. Dr. Tucker is also the author of the highly successful *Survey of Economics*, eleventh edition, a text for the one-semester principles of economics courses, published by Cengage Learning.

Brief Contents

Part 1	Introduction to Economics	1
Chapter 1	Introducing the Economic Way of Thinking	1
	Appendix to Chapter 1: Applying Graphs to Economics	16
Chapter 2	Production Possibilities, Opportunity Cost, and Economic Growth	26
<hr/>		
Part 2	Microeconomics Fundamentals	48
Chapter 3	Market Demand and Supply	48
Chapter 4	Markets in Action	78
	Appendix to Chapter 4: Consumer Surplus, Producer Surplus, and Market Efficiency	98
<hr/>		
Part 3	Macroeconomics Fundamentals	110
Chapter 5	Gross Domestic Product	110
	Appendix to Chapter 5: A Four-Sector Circular Flow Model	137
Chapter 6	Business Cycles and Unemployment	139
Chapter 7	Inflation	165
<hr/>		
Part 4	Macroeconomics Theory and Policy	188
Chapter 8	The Keynesian Model	188
Chapter 9	The Keynesian Model in Action	210
Chapter 10	Aggregate Demand and Supply	233
	Appendix to Chapter 10: The Self-Correcting Aggregate Demand and Supply Model	262
Chapter 11	Fiscal Policy	276
Chapter 12	The Public Sector	300
Chapter 13	Federal Deficits, Surpluses, and the National Debt	322
<hr/>		
Part 5	Money, Banking, and Monetary Policy	350
Chapter 14	Money and the Federal Reserve System	350
Chapter 15	Money Creation	373

Chapter 16	Monetary Policy	395
	Appendix to Chapter 16: Policy Disputes Using the Self-Correcting Aggregate Demand and Supply Model	422
Chapter 17	The Phillips Curve and Expectations Theory	429
<hr/>		
Part 6	The International Economy	455
Chapter 18	International Trade and Finance	455
Chapter 19	Economies in Transition	487
Chapter 20	Growth and the Less-Developed Countries	511
	Appendix A Answers to Odd-Numbered Study Questions and Problems	535
	Appendix B Answers to Sample Quizzes	552
	Appendix C Answers to Road Map Questions	554
	Glossary	555
	Index	562

Contents

About the Author		iii
Preface		xiii
<hr/>		
Part 1	Introduction to Economics	1
Chapter 1	Introducing the Economic Way of Thinking	1
	1-1 Economics: The Study of Scarcity and Choice	1
	1-2 Three Fundamental Economic Questions	3
	1-3 The Methodology of Economics	5
	1-4 Hazards of the Economic Way of Thinking	6
	1-5 Why Do Economists Disagree?	7
	A Closer Look: Unusual Economic Indicators	8
	A Closer Look: Does the Minimum Wage Really Help the Working Poor?	11
	Appendix to Chapter 1: Applying Graphs to Economics	16
	1A-1 A Direct Relationship	16
	1A-2 An Inverse Relationship	18
	1A-3 The Slope of a Straight Line	19
	1A-4 A Three-Variable Relationship in One Graph	20
	1A-5 A Helpful Study Hint for Using Graphs	21
Chapter 2	Production Possibilities, Opportunity Cost, and Economic Growth	26
	2-1 Opportunity Cost	26
	2-2 Marginal Analysis	28
	2-3 The Production Possibilities Model	28
	2-4 Opportunity Cost and the Production Possibilities Curve	32
	2-5 Sources of Economic Growth	34
	A Closer Look: FedEx Wasn't an Overnight Success	37
	A Closer Look: How Does Public Capital Affect a Nation's Curve?	39
	Part 1: Road Map: Introduction to Economics	46
<hr/>		
Part 2	Microeconomics Fundamentals	48
Chapter 3	Market Demand and Supply	48
	3-1 Demand	48

	3-2	Supply	56
	3-3	Market Equilibrium	63
		A Closer Look: The Market Approach to Organ Shortages	67
	3-4	Changes in Market Equilibrium	68
Chapter 4		Markets in Action	78
	4-1	Market Efficiency	78
	4-2	Sources of Market Failure	81
	4-3	Policies to Correct Market Failure	86
		A Closer Look: Can Vouchers Fix Our Schools?	91
		Appendix to Chapter 4: Consumer Surplus, Producer Surplus, and Market Efficiency	98
	4A-1	Consumer Surplus	98
	4A-2	Producer Surplus	99
	4A-3	Market Efficiency	101
		Part 2: Road Map: Microeconomics Fundamentals	107
Part 3		Macroeconomics Fundamentals	110
Chapter 5		Gross Domestic Product	110
	5-1	Gross Domestic Product	111
	5-2	Measuring GDP	112
	5-3	The Expenditure Approach	115
	5-4	The Income Approach	118
	5-5	GDP Shortcomings	120
	5-6	Other National Income Accounts	123
		A Closer Look: Is GDP a False Beacon Steering Us into the Rocks?	125
	5-7	Changing Nominal GDP to Real GDP	127
		Appendix to Chapter 5: A Four-Sector Circular Flow Model	137
Chapter 6		Business Cycles and Unemployment	139
	6-1	The Business–Cycle Roller Coaster	139
	6-2	Unemployment	146
	6-3	Types of Unemployment	151
	6-4	The Goal of Full Employment	154
		A Closer Look: What Kind of Unemployment Do Robots and Artificial Intelligence Cause?	156

	6-5	Nonmonetary and Demographic Consequences of Unemployment	158
		A Closer Look: Brother Can You Spare a Dime?	159
Chapter 7		Inflation	165
	7-1	Meaning and Measurement of Inflation	165
	7-2	Consequences of Inflation	171
		A Closer Look: Who Wants to Be a Trillionaire?	176
		A Closer Look: Why the High Cost of Health Care?	178
	7-3	Demand-Pull and Cost-Push Inflation	178
		Part 3: Road Map: Macroeconomics Fundamentals	185
<hr/>			
Part 4		Macroeconomics Theory and Policy	188
Chapter 8		The Keynesian Model	188
	8-1	Introducing Classical Theory and the Keynesian Revolution	189
	8-2	Reasons the Consumption Function Shifts	196
	8-3	Investment Expenditures	198
	8-4	Why Investment Demand Is Unstable	200
	8-5	Investment as an Autonomous Expenditure	202
		A Closer Look: Does a Stock Market Crash Cause Recession?	203
Chapter 9		The Keynesian Model in Action	210
	9-1	Adding Government and Global Trade to the Keynesian Model	211
	9-2	The Aggregate Expenditures Model	212
	9-3	The Spending Multiplier Effect	217
	9-4	Recessionary and Inflationary Gaps	221
		A Closer Look: Infrastructure Spending	225
Chapter 10		Aggregate Demand and Supply	233
	10-1	The Aggregate Demand Curve	234
	10-2	Reasons for the Aggregate Demand Curve's Shape	235
	10-3	Nonprice-Level Determinants of Aggregate Demand	237
	10-4	The Aggregate Supply Curve	239
	10-5	Changes in AD–AS Macroeconomic Equilibrium	244
	10-6	Nonprice-Level Determinants of Aggregate Supply	249
	10-7	Cost-Push and Demand-Pull Inflation Revisited	251
		A Closer Look: Was John Maynard Keynes Right?	254

	Appendix to Chapter 10: The Self-Correcting Aggregate Demand and Supply Model	262
	10A-1 The Short-Run and Long-Run Aggregate Supply Curves	262
	10A-2 Changes in Potential Real GDP	267
Chapter 11	Fiscal Policy	276
	11-1 Discretionary Fiscal Policy	276
	11-2 Automatic Stabilizers	287
	11-3 Supply-Side Fiscal Policy	289
	A Closer Look: The Laffer Curve	294
Chapter 12	The Public Sector	300
	12-1 Government Size and Growth	300
	12-2 Financing Government Budgets	303
	12-3 The Art of Taxation	305
	12-4 Public Choice Theory	312
	A Closer Look: Is It Time to Trash the 1040s?	313
Chapter 13	Federal Deficits, Surpluses, and the National Debt	322
	13-1 The Federal Budget Balancing Act	323
	A Closer Look: The Great Federal Budget Surplus Debate	326
	13-2 Budget Surpluses and Deficits in Other Countries	330
	13-3 Why Worry Over the National Debt?	330
	A Closer Look: How Real Is Uncle Sam's Debt?	339
	Part 4: Road Map: Macroeconomics Theory and Policy	346
Part 5	Money, Banking, and Monetary Policy	350
Chapter 14	Money and the Federal Reserve System	350
	14-1 What Makes Money?	350
	A Closer Look: Why a Loan in Yap Is Hard to Roll Over	354
	14-2 Money Supply Definitions	355
	14-3 The Federal Reserve System	358
	14-4 What a Federal Reserve Bank Does	362
	A Closer Look: Should the Fed Be Independent?	364
	14-5 The U.S. Banking Revolution	366

Chapter 15	Money Creation	373
15-1	Money Creation Begins	373
15-2	Multiplier Expansion of Money by the Banking System	378
15-3	How Monetary Policy Creates Money	381
15-4	Monetary Policy Shortcomings	387
	A Closer Look: How Does the FOMC Really Work?	388
Chapter 16	Monetary Policy	395
16-1	How Are Interest Rates Determined?	396
16-2	The Monetarist View of the Role of Money	404
16-3	A Comparison of Macroeconomic Views	409
	A Closer Look: Did the Fed Cause the Great Recession?	410
	A Closer Look: Monetary Policy During the Great Depression	413
	Appendix to Chapter 16: Policy Disputes Using the Self-Correcting Aggregate Demand and Supply Model	422
16A-1	The Classical Versus Keynesian Views of Expansionary Policy	422
16A-2	Classical Versus Keynesian Views of Contractionary Policy	424
Chapter 17	The Phillips Curve and Expectations Theory	429
17-1	The Phillips Curve	430
17-2	The Long-Run Phillips Curve	432
	A Closer Look: The Political Business Cycle	437
17-3	The Theory of Rational Expectations	439
17-4	Applying the AD–AS Model to the Great Expectations Debate	440
17-5	Incomes Policy	442
17-6	How Different Macroeconomic Theories Attack Inflation	444
	A Closer Look: Ford’s Whip Inflation Now (WIN) Button	445
	Part 5: Road Map: Money, Banking, and Monetary Policy	451
<hr/>		
Part 6	The International Economy	455
Chapter 18	International Trade and Finance	455
18-1	Why Nations Need Trade	456
18-2	Absolute and Comparative Advantage	459
18-3	Free Trade Versus Protectionism	461
18-4	Arguments for Protection	463

	A Closer Look: World Trade Slips on a Banana Peel	466
	18-5 The Balance of Payments	467
	18-6 Exchange Rates	472
	A Closer Look: Return to the Yellow Brick Road?	479
Chapter 19	Economies in Transition	487
	19-1 Basic Types of Economic Systems	488
	19-2 The “ISMS”	495
	19-3 Economies in Transition	501
	A Closer Look: The Unrealistic Path to Communism	502
	A Closer Look: Shining Light on a Debate	504
Chapter 20	Growth and the Less-Developed Countries	511
	20-1 Comparing Developed and Less-Developed Countries	512
	20-2 Economic Growth and Development Around the World	516
	A Closer Look: India and China’s Economic Growth: An Updated Version of Aesop’s Tale	522
	20-3 The Helping Hand of Advanced Countries	524
	Part 6: Road Map: The International Economy	532
Appendix A	Answers to Odd-Numbered Study Questions and Problems	535
Appendix B	Answers to Sample Quizzes	552
Appendix C	Answers to Road Map Questions	554
	Glossary	555
	Index	562

The Four Versions of This Book

Economics for Today	Economics for Today	Microeconomics for Today	Macroeconomics for Today	Survey of Economics
Introducing the Economic Way of Thinking	1	1	1	1
Production Possibilities, Opportunity Cost, and Economic Growth	2	2	2	2
Market Demand and Supply	3	3	3	3
Markets in Action	4	4	4	4
Elasticity	5	5		5
Consumer Choice Theory	6	6		
Production Costs	7	7		6
Perfect Competition	8	8		7
Monopoly	9	9		8
Monopolistic Competition and Oligopoly	10	10		9
Labor Markets	11	11		10
Income Distribution, Poverty, and Discrimination	12	12		11
Antitrust and Regulation	13	13		
Environmental Economics	14	14		
Gross Domestic Product	15		5	12
Business Cycles and Unemployment	16		6	13
Inflation	17		7	14
The Keynesian Model	18		8	
The Keynesian Model in Action	19		9	
Aggregate Demand and Supply	20		10	15
Fiscal Policy	21		11	16
The Public Sector	22		12	17
Federal Deficits, Surpluses, and the National Debt	23		13	18
Money and the Federal Reserve System	24		14	19
Money Creation	25		15	20
Monetary Policy	26		16	21
The Phillips Curve and Expectations Theory	27		17	
International Trade and Finance	28	15	18	22
Economies in Transition	29	16	19	23
Growth and the Less-Developed Countries	30	17	20	24

Note: Chapter numbers refer to the complete book, *Economics for Today*.

Preface

Text with a Mission

The purpose of *Economics for Today*, eleventh edition, is to teach, in an engaging style, the basic operations of the U.S. economy to students who will take a two-term economics course. Rather than taking an encyclopedic approach to economic concepts, *Economics for Today* focuses on the most important tools in economics and applies these concepts to clearly explain real-world economic issues and events.

Every effort has been made to make *Economics for Today* the most student-friendly text on the market. This text was written because so many others expose students to a confusing array of economic analyses that force students to simply memorize to pass the course. Instead, *Economics for Today* presents a straightforward and unbiased approach that effectively teaches the application of basic economic principles. After reading this text, the student should be able to say, “Now that economics stuff in the news makes sense.”

How It Fits Together

This text presents the core principles of microeconomics, macroeconomics, and international economics. The first 14 chapters introduce the logic of economic analysis and develop the core of microeconomic analysis. Here, students learn the role of demand and supply in determining prices in competitive markets versus monopolistic markets. Within these chapters, the book explores issues such as minimum wage laws, rent control, and pollution. The next 13 chapters develop the macroeconomics part of the text. Using the modern yet simple aggregate demand and aggregate supply model, the text explains the measurement of and changes in the price level, national output, and employment in the economy. The study of macroeconomics also includes how the supply of and the demand for money influences the economy. Finally, this text concludes with three chapters devoted entirely to global issues. For example, students will learn how the supply of and demand for currencies determine exchange rates and what the implications are for a strong or a weak dollar on our nation’s economy.

Text Flexibility

The full version of *Economics for Today* is easily adapted to an instructor’s preference for the sequencing of microeconomic and macroeconomic topics. This text can be used in a macroeconomic–microeconomic sequence by teaching the first four chapters and then Parts 5 through 7. Next, microeconomics is covered in Parts 2 through 4. Finally, the course can be completed with Part 8, consisting of three chapters devoted to international economics.

An important design feature of this text is that it accommodates the two major approaches for teaching principles of macroeconomics: those who cover both the Keynesian Cross and AD–AS models and those who skip the Keynesian model and cover only the AD–AS model. For instructors who prefer the former, *Economics for Today* moves smoothly in Chapters 18–19 (*Macroeconomics for*

Today Chapters 8–9) from the Keynesian model (based on the Great Depression) to the AD–AS model in Chapter 20 (*Macroeconomics for Today* Chapter 10). For instructors using the latter approach, this text is written so instructors can skip the Keynesian model in Chapters 18–19 (*Macroeconomics for Today* Chapters 8–9) and proceed from Chapter 17 (*Macroeconomics for Today* Chapter 7) to Chapter 20 (*Macroeconomics for Today* Chapter 10) without losing anything. For example, the spending multiplier is completely covered both in the Keynesian and AD–AS model chapters.

For instructors who want to teach the self-correcting AD–AS model, emphasis can be placed on the appendices to Chapters 20 (*Macroeconomics for Today* Chapter 10) and 26 (*Macroeconomics for Today* Chapter 16). Instructors who choose not to cover this model can simply skip these appendices. In short, *Economics for Today* provides more comprehensive and flexible coverage of macroeconomics models than is available in other texts. Also, a customized text might meet your needs. If so, contact your Cengage learning consultant for information.

How Not to Study Economics

To some students, studying economics is a little frightening because many chapters are full of graphs. Students often make the mistake of preparing for tests by trying to memorize the lines of graphs. When their graded tests are returned, the students using this strategy will probably exclaim, “What happened?” The answer to this question is that the students should have learned the economic concepts *first*; then, they would understand the graphs as *illustrations* of these underlying concepts. Stated simply, superficial cramming for economics quizzes does not work.

For students who are anxious about using graphs, the Appendix to Chapter 1 provides a brief review of graphical analysis. In addition, Graph Builder in the Tucker MindTap product contains step-by-step features on how to construct and interpret graphs. Moreover, videos entitled “GuideMe Videos” (A Graphing Tutorial for Students) are found in the Tucker MindTap product that explain numerous key graphs throughout the textbook.

Changes to the Eleventh Edition

The basic layout of the eleventh edition remains the same. However, there have been many important changes. Each chapter now begins with clearly stated Chapter Objectives that outline the key learning goals students should achieve after having studied the chapter.

Throughout the narrative, the eleventh edition has replaced the “Conclusion Statements” of previous editions with “*Take Note Statements*.” These *Take Note* statements have been carefully designed and updated to highlight key concepts and are strategically placed within the chapters to enhance pedagogy. Students will be able to use these to remember key points when reviewing the chapter and studying for quizzes and tests. A summary of these *Take Note* statements is provided at the end of each chapter.

The eleventh edition has also added a new feature entitled “*Am I on Track?*” which are multiple-choice questions testing students' understanding as they move through the chapter. They are designed to pique interest and to maximize mastery of the material presented in the chapters. They have been strategically placed

throughout each chapter to maximize learning. These questions spark student interest and enable them to check their progress by comparing their answers against the Key provided at the end of the chapter. Students who answer correctly earn the satisfaction of knowing they are on track and can feel more confident taking quizzes and tests because these questions are very similar to those they will face on their exams!

Finally, “Checkpoint” features of the previous editions have become, when appropriate, new “Study Questions and Problems” found at the end of the chapters. The following are some additional specific changes.

- Chapter 1, Introducing the Economic Way of Thinking, has added a brief introduction to the efficiency versus equity trade-off and has an updated “A Closer Look” Feature on Unusual Economic Indicators to add interest for students. In addition, our discussion of the three fundamental economic questions that result from scarcity has been moved to Chapter 1, where scarcity is introduced. Three “Am I on Track?” multiple-choice questions and two “Study Questions and Problems” have been created.
- Chapter 2, Production Possibilities, Opportunity Cost, and Economic Growth, now introduces the concept of economic efficiency using the PPC. Three new “Am I on Track?” multiple-choice questions, two new “Study Questions and Problems,” and three new “Sample Quiz” questions have been included.
- Chapter 3, Market Demand and Supply, now concludes with a discussion of how changes in demand and supply impact the market equilibrium price and quantity. Four “Am I on Track?” multiple-choice questions, two “Study Questions and Problems,” and three “Sample Quiz” questions have been created.
- Chapter 4, Markets in Action, expands the efficiency discussion while maintaining many of the same examples from previous editions of the text. The Appendix to Chapter 4 now describes efficiency using consumer and producer surplus. Three “Am I on Track?” multiple-choice questions, two “Study Questions and Problems,” and six “Sample Quiz” questions have been added.
- Chapter 5, Gross Domestic Product, has updated data on all components of GDP. Three new “Am I on Track?” multiple-choice questions and one new “Study Questions and Problems” have been created.
- Chapter 6, Business Cycles and Unemployment, includes updated business cycles and unemployment data. This chapter also includes updated unemployment data by demographic groups with a section on the impacts of globalization on unemployment. Three new “Am I on Track?” multiple-choice questions and two new “Study Questions and Problems” have been created.
- Chapter 7, Inflation, updates data on inflation, including a global comparison of annual inflation rates. Here, students can also enjoy learning how Babe Ruth’s 1932 salary is converted into today’s dollars. Three new “Am I on Track?” multiple-choice questions and two new “Study Questions and Problems” have been created.
- Chapter 8, The Keynesian Model, has updated data on all personal consumption, disposable income, and investment. Three new “Am I on Track?” multiple-choice questions and one new “Study Questions and Problems” have been created.

- Chapter 9, The Keynesian Model in Action, has three new “Am I on Track?” multiple-choice questions and two new “Study Questions and Problems.”
- Chapter 10, Aggregate Demand and Supply, has three new “Am I on Track?” multiple-choice questions and two new “Study Questions and Problems.”
- Chapter 11, Fiscal Policy, has three new “Am I on Track?” multiple-choice questions and two new “Study Questions and Problems.”
- Chapter 12, The Public Sector, highlights the important current issue of the changing economic character of the United States with global comparisons to other countries. Here, for example, updated data and exhibits trace the growth of U.S. government expenditures and taxes since the Great Depression. Global comparisons of spending and taxation exhibits have been revised. Four new “Am I on Track?” multiple-choice questions and one new “Study Questions and Problems” have been created.
- Chapter 13, Federal Deficits, Surpluses, and the National Debt, focuses on the current “hot button” issue of federal deficits and the national debt using updated data and exhibits. This chapter includes global comparisons of the deficit and national debt as a percentage of GDP. Three new “Am I on Track?” multiple-choice questions and one new “Study Questions and Problems” have been created.
- Chapter 14, Money and the Federal Reserve System, has updated money supply figures and an updated listing of the top 10 U.S. banks by asset size. This chapter also examines the role of bitcoins as money and has A Closer Look entitled “Should the Fed be Independent?” Three new “Am I on Track?” multiple-choice questions and one new “Study Questions and Problems” have been created.
- Chapter 15, Money Creation, has a new end-of-chapter Study Question and Problem that asks students to determine how the Fed could utilize its tools to combat unemployment. Three new “Am I on Track?” multiple-choice questions and two new “Study Questions and Problems” have been created.
- Chapter 16, Monetary Policy, features a new Checkpoint that tests students’ understanding of how the Fed could push interest rates down. Three new “Am I on Track?” multiple-choice questions and two new “Study Questions and Problems” have been created.
- Chapter 17, The Phillips Curve and Expectations Theory, has three new “Am I on Track?” multiple-choice questions and two new “Study Questions and Problems.”
- Chapter 18, International Trade and Finance, has updated data for the international balance of payments and trade. Three new “Am I on Track?” multiple-choice questions and two new “Study Questions and Problems” have been created.
- Chapter 19, Economies in Transition, has greater clarification on the differences between capitalism and socialism and why all real-world economies are mixed economies. Three new “Am I on Track?” multiple-choice questions and one new “Study Questions and Problems” have been created.
- Chapter 20, Growth and the Less Developed Countries, presents updated data ranking countries by their GDP per capita. It also presents updated data comparing regions of the world by their average GDP per capita.

Here, updated data is used to explain the link between economic freedom and quality-of-life indicators. Three new “Am I on Track?” multiple-choice questions” and two new “Study Questions and Problems” have been created.

Alternative Versions of the Book

For instructors who want to spend various amounts of time for their courses and offer different topics of this text:

- *Economics for Today*. This complete version of the book contains all 30 chapters. It is designed for two-semester introductory courses that cover both microeconomics and macroeconomics.
- *Microeconomics for Today*. This version contains 17 chapters and is designed for one-semester courses in introductory microeconomics.
- *Macroeconomics for Today*. This version contains 20 chapters and is designed for one-semester courses in introductory macroeconomics.
- *Survey of Economics*. This version of the book contains 24 chapters. It is designed for one-semester courses that cover the basics of both microeconomics and macroeconomics.

The Available Versions accompanying table on page xii shows precisely which chapters are included in each book. Instructors who want more information about these alternative versions should contact their local Cengage learning consultant.

Motivational Pedagogical Features

Economics for Today strives to motivate and advance the boundaries of pedagogy with the following features:

Part Openers

Each part begins with a statement of the overall mission of the chapters in the part. In addition, there is a nutshell introduction for each chapter in relation to the part’s learning objective.

Chapter Objectives

Each chapter begins with Chapter Objectives that outline the key learning goals students should achieve after having studied the chapter. This is followed by a brief introduction to the chapter that is designed to pique the student’s interest and help place the chapter material into the broader context of the book.

Margin Definitions and Flashcards

Key concepts introduced in the chapter are highlighted in bold type and then defined with the definitions again in the margins. This feature, therefore, serves as a quick reference. Key terms are also defined on the Tucker MindTap product with a flash-card feature that is great for learning terms.

A Closer Look

Each chapter includes boxed inserts that provide the acid test of “relevance to everyday life.” These were formerly known as the “You’re the Economist” boxed sections. This feature gives the student an opportunity to encounter timely, real-world extensions of economic theory by taking a closer look at important concepts introduced in the chapter. For example, students read about Fred Smith as he writes an economics term paper explaining his plan to create FedEx. To ensure that the student wastes no time figuring out which chapter concepts apply to these boxed features, applicable concepts are listed after each title. Several of these boxed features include quotes from newspaper articles over a period of years, demonstrating that economic concepts remain relevant over time. Many of these boxed features have been updated or changed in the eleventh edition to reflect the latest issues, developments, and relevant applications of economics for students today.

The accompanying “Analyze the Issue” questions found in previous editions have now been moved to the Instructor’s Manual, where suggested answers are also provided for these thought-provoking questions that require students to test their knowledge of how the material in the boxed insert is relevant to the applicable concept introduced in the chapter.

Take Note Statements

Throughout the chapters, highlighted *Take Note* statements of key concepts strategically appear where most pedagogically advantageous. These *Take Note* statements have been carefully designed and updated to replace the “Conclusion Statements” of the previous edition. Students will be able to use these to remember key points when reviewing the chapter and studying for tests. A summary of these *Take Note* statements is provided at the end of each chapter.

Am I on Track? Multiple-Choice Questions

Watch for these! Who said learning economics can’t be fun? This new feature is a unique approach to generating interest and critical thinking. These questions spark students to check their progress by asking challenging economics questions. Students enjoy thinking through and answering these *Am I on Track?* multiple-choice questions and then checking the answers at the end of the chapter. Students who answer correctly earn the satisfaction of knowing they are on track and ready to continue progressing through the material and can feel more confident taking tests because these questions are very similar to those they will face on their exams! All of these are new for the updated eleventh edition to pique interest and to maximize mastery of the material presented in the chapters.

Exhibits

Attractive, large graphical presentations with grid lines and real-world numbers are essential for any successful economics textbook. Each exhibit has been carefully analyzed to ensure that the key concepts being represented stand out clearly. Brief descriptions are included with graphs to provide guidance for students as they study the graph. The MindTap course brings these exhibits to life:

- Students can interact with selected exhibits via Graph Builder.
- Students can watch detailed explanations of selected exhibits via the GuideMe Videos (a graphing tutorial for students.)

Key Terms

Key terms introduced in the chapter are listed at the end of each chapter and defined in the margins. Visit the Tucker MindTap to access interactive flashcards.

Visual Summaries

Each chapter ends with a brief point-by-point summary of the key concepts. Many of these summarized points include miniaturized versions of the important graphs and causation chains that illustrate many of the key concepts. These are intended to serve as visual reminders for students as they finish the chapters and are also useful in reviewing and studying for quizzes and exams.

Study Questions and Problems

These end-of-chapter questions and problems offer a variety of levels ranging from straightforward recall to deeply thought-provoking applications. The answers to odd-numbered questions and problems are found in Appendix A in the back of the text. This feature gives students immediate feedback without requiring the instructor to check their work. The even-numbered answers are found in the Instructor's Manual. Most of the previous edition's "Checkpoints" have been added as new Study Questions and Problems in this eleventh edition.

End-of-Chapter Sample Quizzes

These particular assessments are a great help before quizzes and tests. Many instructors test students using multiple-choice questions. For this reason, the final section of each chapter provides the type of multiple-choice questions given in the test bank. The answers are readily available to students to help them learn the material and are found in Appendix B at the end of the textbook. In addition to the end-of-chapter sample quizzes, each section quiz appears in the Tucker MindTap product. Each quiz contains multiple questions like those found on a typical exam. Feedback is included for each answer so the student will know instantly why they have answered correctly or incorrectly. Between this feature and the end-of-chapter sample quizzes, students are well prepared for tests. Finally, the Instructor's Manual also contains four to five multiple-choice questions per chapter that can also be used to engage students with the material.

Road Maps

This feature concludes each sectioned part with review questions listed by chapter from the particular part. These help to reinforce learning and prepare students for tests. Answers to the questions are also found in Appendix C in the back of the text.

A Supplements Package Designed for Success

Tucker is known for its unequalled resources for instructors and students. To access additional course material for *Economics for Today*, visit www.cengagebrain.com. At the CengageBrain.com home page, search for "Tucker" using the search box on the page. This will take you to the product page where these resources can be found. For additional information, contact your Cengage learning consultant.

Instructors' Resources

Tucker Companion Site

The Tucker website at www.cengagebrain.com provides open access to PowerPoint chapter review slides; an instructor's manual prepared by Douglas Copeland of Johnson County Community College, available in various formats; updates to the text, describing key concepts relevant to the current states of economics and the world today; PowerPoint lecture tools elaborating on key concepts and exhibits, which can be used as supplies or can be customized for instructor intentions; and test banks in various downloadable formats.

Student Resources

MindTap for Tucker

MindTap engages students and aids them in consistently producing their best work. By seamlessly integrating course material with interactive media, step-by-step graphing, activities, apps, and much more, MindTap creates a unique learning path for courses that fosters increased comprehension and efficiency of the material.

- MindTap delivers real-world relevance with activities, assignments, homework, media, and study tools that help students build critical thinking and analytic skills that will carry over to their professional lives.
- MindTap helps students stay organized and efficient with a single destination that reflects what's important to the instructor and the tools to master that content. MindTap empowers students to get their “game face on” by motivating them with competitive benchmarks in performance.
- Relevant readings, multimedia, and activities are designed to take students up the levels of learning from basic knowledge to analysis and application.
- Analytics and reports provide a snapshot of class progress, time in course, engagement, and completion rates.
- News Analysis and Concept Clips help students by bringing real world economic applications to life. A+ Test Prep provides practice tests that help students identify topics that need further study.
- Homework and the Math & Graphing Tutorial, both powered by Aplia, and videos that explain key graphs round out the student learning experience within MindTap that enable students to master course content.
- New features to this edition are Video Problem Walk-Throughs which walk a student through a challenging homework problem.
- Interactive Graphing Lessons break down graphing concepts into digestible assignments with corresponding video support.

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A Tribute to Irvin B. Tucker

The contributing authors, Douglas W. Copeland, and Inge O'Connor, and the entire Cengage team want to express our heartfelt gratitude for the opportunity and the privilege to have been able to work on this textbook. Many of us had the pleasure of working with Irvin Tucker and this textbook over all these many years. Some of us, including Doug Copeland, have had the honor of working with Irvin from the beginning, when this book was just a manuscript. We know of few, if any, other authors who have consistently demonstrated such a firm commitment and tireless dedication to teaching and learning. Irvin always believed that knowledge of economics can enhance people's lives and should, therefore, be made accessible to everyone. And Irvin displayed the rare ability to translate complex concepts into easily understood principles that have enriched the lives of countless numbers of students across the globe. He has made economics not only accessible but fun to learn. For this, he has distinguished himself among the very best economists of our time! His life has complemented the profession of economics and promoted the noble cause of education. Beyond having earned our respect as a superb economist and author, Irvin was also always a joy to work with. He was always kind to everyone, willing to listen to any new ideas or suggestions, and consistently made everyone feel needed and appreciated.

We would be remiss if we did not also make a tribute to Irvin's wife, Nonie. Nonie has also demonstrated the traits of those you feel blessed to work with. She has also made countless meaningful contributions to this title from the very beginning. Irvin and Nonie have always been known to be "quite the team!" Thank you, Irvin, and thank you, Nonie! You have made the world a better place!

This edition is dedicated to the memory of Irvin B. Tucker.



Chapter 1

Introducing the Economic Way of Thinking

Chapter Objectives

1. Describe economics as a field of study.
2. Describe the three fundamental economic questions that arise from scarcity.
3. Discuss the steps and common pitfalls in the economic model-building process.
4. Describe common sources of disagreement among economists.

Have you ever wondered why colleges and universities charge students different tuition rates for the same education or why some countries grow rich while others remain poor and less developed? In this text, you will learn what it means to think economically, and you will come to see how the economic way of thinking is a powerful tool that can be used to explain a broad array of issues, from small choices we make in our daily lives to larger issues faced by countries worldwide. So, let's get started and begin exploring the economic way of thinking.

1-1 Economics: The Study of Scarcity and Choice

Economics is sometimes referred to as the “science of choice.” We all make choices every day. Should you get up early to study for a test or sleep in? Should you stop at a fast food restaurant on the way home or wait to cook dinner when you get home? The need to make choices is unavoidable. Robert Frost described this in his poem “The Road Less Traveled” and the Rolling Stones sang “You Can’t Always

Get What You Want.” Let’s look a bit more closely now at why we must make choices and how the economic way of thinking helps us understand the choices people make.

1-1a The Problem of Scarcity

Scarcity

The condition in which human wants are forever greater than the available supply of time, goods, and resources.

At the heart of the economic way of thinking is the fact that we live in a world of scarcity. **Scarcity** is the condition in which human wants are forever greater than the available supply of time, goods, and resources. Because of scarcity, we are unable to have as much as we would like. Pause for a moment to consider some of your own unsatisfied wants. Perhaps you would like a new winter coat, a car, clean air, better health care, shelter for the homeless, more leisure time, and so on. Unfortunately, there is not enough time nor are there enough resources to satisfy every want. Instead, there are always limits on the economy’s ability to satisfy these unlimited wants and as a result, choices must be made.

The problem of scarcity impacts individuals, governments, and societies throughout the world. You may think the scarcity problem would disappear if you were rich, but even the “rich and famous” desire finer homes, faster planes, and more yachts. What is true for individuals also applies to society. The federal government never has enough money to spend for education, highways, police, national defense, Social Security, and all the other programs it wants to fund. Finally, scarcity is a fact of life throughout the world.

In much of South America, Africa, and Asia, the problem of scarcity is often life-threatening. On the other hand, even in more developed countries where life is much less “grueling” such as in North America, Western Europe, and some parts of Asia, the problem of scarcity still exists because individuals and countries never have as much of all the goods and services as they would like to have.

As a result of scarcity, every nation must decide what combination of goods and services to produce, how to produce them, and who is going to get those goods and services. These economic choices have profound social and political implications.



Take Note

Scarcity forces all societies to make choices regarding what combination of goods and services to produce, how to produce them and who will get the limited supply of those goods and services.

1-1b Scarcity and Economics

Economics

The study of how society chooses to allocate its scarce resources to the production of goods and services to satisfy unlimited wants.

The perpetual problem of scarcity forcing people and nations to make choices is the basis for the definition of economics. **Economics** is the study of how society chooses to allocate its scarce resources to satisfy unlimited wants. You may be surprised by this definition. People often think economics means studying supply and demand, the stock market, money, and banking. Well, those are certainly parts, but economics is more all-encompassing. It is the study of the choices we make because we are faced with scarcity—because we are unable to have as much as we would like.

Society makes two broad levels of choices: economy-wide, or macro choices, and individual, or micro choices. The prefixes *macro* and *micro* come from the Greek words meaning “large” and “small,” respectively. Reflecting the macro and micro perspectives, economics consists of two main branches: *macroeconomics* and *microeconomics*.

The old saying “look at the forest rather than the trees” describes **macroeconomics**, which is the branch of economics that studies decision making for the economy as a whole. This “big picture” view is concerned with what causes the broader economy to sometimes expand and grow and provide for more jobs, while at other times it experiences a recession and higher rates of unemployment. In our discussions of the macroeconomy, we often focus on this “business cycle” and what government can do to try to smooth out these fluctuations to promote full employment and economic growth, and to minimize inflation.

Examining individual trees, leaves, and pieces of bark, rather than surveying the forest, illustrates microeconomics. **Microeconomics** is the branch of economics that studies decision making by a single individual, household, firm, industry, or level of government. It applies a microscope to study specific parts of an economy, as one would examine cells in the body. Microeconomics typically focuses on a specific market or industry, or even a specific firm within an industry.

We have described macroeconomics and microeconomics as two separate branches, but they are related. Because the overall economy is the sum, or aggregation, of its parts, micro changes affect the macro economy, and macro changes produce micro changes.

Macroeconomics

The branch of economics that studies decision making for the economy as a whole.

Microeconomics

The branch of economics that studies decision making by a single individual, household, firm, industry, or level of government.



Take Note

Economics is the study of how society chooses to allocate its scarce resources to the production of goods and services to satisfy unlimited wants; microeconomics studies how decisions are made by individuals and firms, while macroeconomics is concerned with broader issues that impact the economy as a whole.

1-2 Three Fundamental Economic Questions

Because of the problem of scarcity, whether rich or poor, every nation must answer the same three fundamental economic questions:

1. *What* products will be produced?
2. *How* will they be produced? and
3. *For Whom* will they be produced?

Let’s take a closer look at each fundamental question.

1-2a What to Produce?

The *What* question requires that an economy decide the mix and quantity of goods and services it will produce. Should society devote more of its limited resources to producing health care and less to military goods? Should society produce more electric cars and fewer SUVs? The problem of scarcity restricts our ability to produce everything we want during a given period, so the choice to produce “more” of one good requires producing “less” of another good. The answer to the *What* question is determined differently across economic systems, with some relying more heavily on the decisions of self-interested individual buyers and sellers operating through markets and others relying more on government decision-making to determine what gets produced.

1-2b How to Produce?

After deciding *what* products to make, the second question for society to decide is *how* to mix existing technology and resources to produce these goods. Because of the economic problem of scarcity, no society has enough resources to produce all the goods and services necessary to satisfy all human wants. **Resources** are the basic categories of inputs used to produce goods and services. Resources are also called *factors of production* (or “*inputs*”). Economists divide resources into three categories:

1. *Land*
2. *Labor*
3. *Capital*

Land is a shorthand expression for any natural resource provided by nature that is used to produce a good or service. *Land* includes those resources or raw materials that are gifts of nature available for use in the production process. Farming, building factories, and constructing oil refineries would be impossible without land. Land includes anything natural above or below the ground, such as forests, gold, diamonds, oil, coal, wind, and the ocean.

Labor is the mental and physical capacity of workers to produce goods and services. The services of farmers, assembly-line workers, lawyers, professional football players, and economists are all *labor*. The labor resource is measured both by the number of people available for work and by the skills or quality of workers. One reason that nations differ in their ability to produce is that human characteristics, such as the educational opportunities, experience, and health, of workers, differ among nations. For this reason, education and training, which improve the ability of workers to perform their work, play an important role in answering the *How* question.

Capital can be defined as a human-made good used to produce other goods and services; it includes physical plants, machinery, equipment, roads, and bridges. The term *capital*, as it is used in the study of economics, should not be confused with the term *financial capital*, which when used in everyday conversations refers to money or stocks and bonds. However, *capital* as used by economists means a factor of production such as a factory or machinery.

The three factors of production are organized, managed, and directed by entrepreneurs. **Entrepreneurship** is the creative ability of individuals to seek profits by taking risks and combining resources to produce innovative products. Entrepreneurs, because they are another human resource, could be thought of as a special type of labor. Entrepreneurs are often successful when they embrace new or existing technologies (using their “know-how”) in creative ways. For example, consider all of the amazing apps created for use with Androids and the iPhone. An important benefit of entrepreneurship is that it creates a growing economy.

1-2c For Whom to Produce?

After the *What* and *How* questions are resolved, the third question is *For Whom* are these products produced? This question concerns how the economic pie is divided. Who is fed well? Who drives a Mercedes? Who receives organ transplants? In some economic systems, the *For Whom* question is largely decided by the government, while in others, it is decided by the owners of the factors of production.

Resources

The basic categories of inputs used to produce goods and services. Resources are also called *factors of production*. Economists divide resources into three categories: *land*, *labor*, and *capital*.

Land

Any natural resource provided by nature that is used to produce a good or service.

Labor

The mental and physical capacity of workers to produce goods and services.

Capital

A human-made good used to produce other goods and services.

Entrepreneurship

The creative ability of individuals to seek profits by taking risks and combining resources to produce innovative products.



1. Because of scarcity, no society has enough resources (land, labor, and capital) to produce the goods and services necessary to satisfy all human wants. As a result, every nation must:
 - a. Work to eliminate scarcity
 - b. Make choices about what, how, and for whom to produce
 - c. Establish a minimum wage
 - d. All of the above

○ Answers at the end of chapter.

1-3 The Methodology of Economics

As used by other disciplines, such as criminology, biology, chemistry, and physics, economists employ a step-by-step procedure for solving problems.

Step 1: Identify the problem

Step 2: Develop a model

Step 3: Gather data and test whether the theory can be supported by the data

Step 4: Formulate a conclusion

Step 1: Identify the Problem

The first step in applying the economic method is to define the issue. Suppose as an example, an economist wishes to investigate the microeconomic problem of why U.S. motorists cut back on gasoline consumption in a given year from, say, 400 million gallons per day in May to 300 million gallons per day in December. So, the issue we will investigate is, “Why did the consumption of gasoline decrease during this time?”

Step 2: Develop a Model

The second step in applying the economic method is for the economist to build a model. A **model** is a simplified description of reality used to understand and predict the relationship between variables. A model emphasizes only those variables that are most important to explaining an event. The purpose of a model is to construct an abstraction from real-world complexities and make events understandable. Consider a model airplane that is placed in a wind tunnel to test the aerodynamics of a new design. For this purpose, the model must represent only the shapes of the wings and fuselage, but it does not need to include tiny seats, electrical wiring, or other interior design details.

To be useful, a model requires simplified assumptions. In our gasoline consumption example, several variables might be related to the quantity of gasoline consumed, including the price of gasoline, consumer incomes, the fuel economy of cars, and weather conditions. Using their expertise, economists must select the variables that are related to gasoline consumption and reject variables that have only a slight or no relationship to gasoline consumption. In this simple case, the economist removes the cloud of complexity by formulating a *theory*, which states that increases in the price of gasoline *cause* the quantity of gasoline consumed to decrease during the time period.

Model

A simplified description of reality used to understand and predict the relationship between variables.

Step 3: Gather Data and Test the Theory

The purpose of an economic model is to *forecast* or *predict* the results of various changes in variables. An economic theory can be expressed in the form “If X, then Y, all other things held constant.” An economic model is useful only if it yields accurate predictions. In this third step, the economist gathers data to test the theory that if the price of gasoline *rises*, then gasoline purchases *fall*—all other relevant factors held constant.

Step 4: Formulate a Conclusion

When the evidence is consistent with the theory that X causes outcome Y, there is confidence in the theory’s validity. When the evidence is inconsistent with the theory that X causes outcome Y, the researcher rejects this theory. Suppose the investigation reveals that the price of gasoline rose sharply between May and December. The data, therefore, appear to support the theory that the quantity of gasoline consumed falls when its price rises, assuming no other factors which could have caused people to buy less gasoline have changed.

1-4 Hazards of the Economic Way of Thinking

As we just saw, models help us understand and predict the impact of changes in economic variables. As such, a model is an important tool in the economist’s toolkit, but it must be handled with care. The economic way of thinking seeks to avoid reasoning mistakes. Two of the most common pitfalls to clear thinking are:

1. failing to understand the *ceteris paribus* assumption.
2. confusing *correlation* and *causation*.

1-4a The Ceteris Paribus Assumption

Ceteris paribus is a Latin phrase that means while certain variables change, “all other things remain unchanged.” In short, the ceteris paribus assumption allows us to isolate or focus attention on selected variables. In our gasoline example, a key simplifying assumption of the model is that changes in consumer incomes and certain other variables do not occur and complicate the analysis. The ceteris paribus assumption holds everything else constant and therefore allows us to concentrate on the relationship between two key variables: changes in the price of gasoline and the quantity of gasoline purchased per month.

Now suppose an economist examines a model explaining the relationship between the price and quantity purchased of Coca-Cola. The theory is “If the price increases, then the quantity of Coca-Cola purchased decreases, ceteris paribus.” Now assume you observe that the price of Coca-Cola increased in one summer, and some people actually bought more, not less. Based on this real-world observation, you might declare that the theory is incorrect. Think again! Perhaps the reason the model appeared flawed is because another factor—for example a sharp rise in the temperature—*caused* people to buy more Coca-Cola in spite of its higher price. However, if the temperature and all other factors were held constant, and the ceteris paribus assumption is satisfied, we would find that as the price of Coca-Cola rises, people will indeed buy less Coca-Cola, as the model predicts.

Ceteris paribus

A Latin phrase that means while certain variables change, “all other things remain unchanged.”

**Take Note**

It is important to make sure the *ceteris paribus* assumption, that all other things remain unchanged, is satisfied if we wish to correctly conclude there is a relationship between two variables.

1-4b Correlation versus Causation

Another common error in reasoning is confusing *correlation* (or association) and *causation* between variables. Stated differently, you err when you read more into a relationship between variables than is actually there. A model is valid only when a cause- and-effect relationship is stable or dependable over time, rather than being an association that occurs by chance and eventually disappears. Suppose Jai baked cookies during three different months and stock market prices rose during each of those months. Jai's cookie baking is *correlated* with the increase in stock prices, but this does not mean the baking *caused* the event. Even though there is a statistical relationship between these two variables in a number of observations, eventually the cookie baking will occur and stock prices will fall or remain unchanged. The reason is that there is no true systematic economic relationship between cookie baking and stock prices.

**Take Note**

The fact that one event follows another does not necessarily mean that the first event caused the second event.

**Am I on Track?**

2. Ajay received an A on the math exam he took last week while wearing his blue sweater. He plans to wear the same sweater to his sociology exam this week hoping to receive an A on that exam as well. Ajay's behavior is an example of:
 - a. The steps in the model-building process
 - b. The *ceteris paribus* assumption
 - c. An error in reasoning by confusing correlation with causation
 - d. Macroeconomics

○ Answers at the end of chapter.

1-5 Why Do Economists Disagree?

Why might one economist say a clean environment should be our most important priority and another economist say economic growth should be our most important goal? If economists share the economic way of thinking and carefully avoid reasoning pitfalls, then why do they disagree? Why are economists known for giving advice by saying, "On the one hand, if you do this, then *A* results, and, on the other hand, doing this causes result *B*?" George Bernard Shaw once said, "If you took all the economists in the world and laid them end to end, they would never reach a conclusion." It might appear that economists disagree more than other professionals, but physicists,

doctors, business executives, lawyers, and others often disagree as well. Actually, economists agree on a wide range of issues. Many economists, for example, agree that the benefits from free trade outweigh the costs, that a market-driven healthcare delivery system has many flaws, and that government deficit spending (which adds to the national debt) can be a good thing if we want to recover more quickly from a recession. When disagreements do exist, the reason can often be explained by either the tradeoff between efficiency and equity or the difference between positive economics and normative economics.

A Closer Look

Applicable Concept: Correlation versus Causation

Unusual Economic Indicators

While we now understand that correlation does not necessarily mean causation, many economic indicators have been created that show interesting and sometimes unusual correlations which may or may not reflect causation. Here are just a few.

Super Bowl Indicator

Our first example is the Super Bowl Indicator, which shows that a Super Bowl win by a National Football Conference (NFC) team predicts that in the following December the stock market will be higher than the year before. A win by an old American Football League (AFL) team predicts a dip in the stock market. Seem unlikely? The Super Bowl Indicator has been correct nearly 80 percent of the time over the past 50 years!¹ What do you think? Does correlation mean causation in this case?

The Boston Snow Index

The Boston Snow Index (BSI) is the brainchild of a vice president of a New York securities firm. It predicts a rising economy for the next year if there is snow on the ground in Boston on Christmas Day. The BSI predicted correctly about 73 percent of the time over a 30-year period. However, its creator, David L. Upshaw, did not take it too seriously and views it as a spoof of other forecasters' methods.²

Marriage Indicator

Anthony Chan, chief economist for Bank One Investment Advisors, studied marriage trends over a 34-year period. He

discovered that when the number of marriages increases, the economy rises significantly, and a slowdown in marriages is followed by a decline in the economy. Chan explains that there is usually about a 1-year lag between a change in the marriage rate and the economy.³

The Diaper Rash Indicator

Could an increase in the sale of diaper rash creams indicate a recession? It's possible. During a recession, families cut back on all kinds of spending, including spending on diapers. An unintended consequence of this may be an increase in diaper rash. SymphonyIRI data indicate that between August 2010 and August 2011, although the number of babies under the age of two fell by 3 percent, sales of disposable diapers fell by 9 percent. During that same time period, sales of diaper rash creams and ointments rose 2.8 percent.⁴

The Champagne Index

Sales of champagne have been used as a barometer of the economy's strength. Champagne is often used as part of a celebration, and people may have less to celebrate during an economic downturn. Mark Reeth reported that "shipments of champagne to the U.S. reached 23.1 million bottles in 2006. Then the recession hit, and shipments plummeted to 12.5 million bottles by 2009."⁵

1. Mike Murphy, "Patriots' Super Bowl Win Bodes Ill for the Stock Market," *Market Watch*, February 6, 2017.
2. "Economic Indicators, Turtles, Butterflies, Monks, and Waiters," *The Wall Street Journal*, August 27, 1979, pp. 1, 16.
3. Sandra Block, "Worried? Look at Wedding Bell Indicator," *The Charlotte Observer*, April 15, 1995, p. 8A.
4. Guss Lubin, "The Diaper Rash Economic Indicator" *Business Insider*, Sept. 6, 2011.
5. Mark Reeth, "9 Unusual Economic Indicators to Watch" *UsNews & World Report*, April 13, 2020.

1-5a Efficiency versus Equity

Economists generally use the term **efficiency** to describe a situation where society is “doing the best it can” with its existing resources and technology. This implies society is producing the best combination of goods and services as well as maximizing production. **Equity**, on the other hand, focuses on fairness in the way production is distributed among members of society. Simply stated, and shown in Exhibit 1, efficiency is concerned with maximizing the size of the economic pie while equity is concerned with how the pie is divided. Often society faces a trade-off between efficiency and equity.

Consider a simple example. You are in line at the grocery store on a busy Friday afternoon. Many other customers are also in line. The store opens a new check-out lane to get more customers through the line faster (to increase efficiency). Typically, when a new lane opens, it’s the customer at the back of the existing lines who is most able to move to the new lane as they do not yet have their items on the conveyor belt. Here we see the trade-off between efficiency, more items being scanned, and equity, those who have waited the shortest amount of time moving through more quickly.

Many economic policies encounter the efficiency versus equity trade-off. For example, it may be more efficient for foreign companies to produce a particular good because they have lower costs of production. This reduces the prices paid by consumers. However, this could also drive domestic firms out of businesses and create job loss in that industry. Many government policies face the efficiency versus equity trade-off including those pertaining to the environment, income taxes, international trade, and much more. Economists may disagree on the importance of efficiency versus equity in any given situation because of differences in their subjective value judgments concerning what they consider to be “fair” or “just.” This brings us to the importance of distinguishing positive economics from normative economics.

Efficiency

A situation where society is “doing the best it can” with existing resources and technology.

Equity

Fairness in the way production is distributed among members of society.

Exhibit 1 Efficiency vs. Equity

Generally speaking, efficiency refers to maximizing the size of the economic pie while equity refers to fairly distributing the pie. Government policies often face a trade-off between the two.

