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Essentials of Economics

FIFTH EDITION

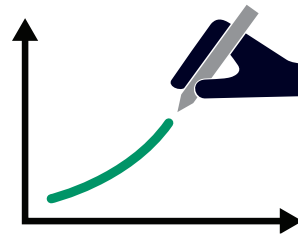
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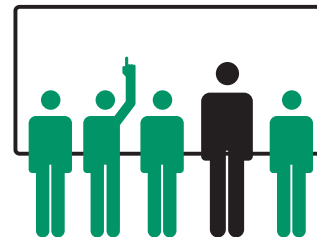
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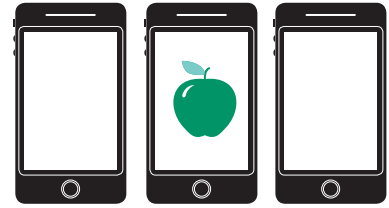
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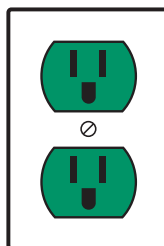
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Essentials of Economics

Fifth Edition

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For Constance, Raph, and Will
—*R. Glenn Hubbard*

For Cindy, Matthew, Andrew, and Daniel
—*Anthony Patrick O'Brien*

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Chapter Title	Chapter Opener	Making the Connection	An Inside Look
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Chapter 8: Technology, Production, and Costs	Will the Cost of MOOCs Revolutionize Higher Education?	UPS Uses Technology to Deal with a Surge in Holiday Packages • Adam Smith's Famous Account of the Division of Labor in a Pin Factory • The Colossal River Rouge: Diseconomies of Scale at Ford Motor Company	See MyEconLab for a news article and analysis.
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Chapter 11: Monopolistic Competition and Oligopoly	Is Chipotle the New McDonald's?	Is the Trend toward Healthy Eating a Threat to Chipotle's Market Niche? • Are All Cupcakes the Same? • Hard Times in Atlantic City • Do Airlines Collude on Capacity to Keep Prices High?	See MyEconLab for a news article and analysis.
Chapter 12: GDP: Measuring Total Production and Income	Ford Motor Company Rides the Business Cycle	Adding More of Lady Gaga to GDP • Why Do Many Developing Countries Have Such Large Underground Economies? • How Did the Standard of Living in Nigeria Almost Double Overnight?	See MyEconLab for a news article and analysis.

Chapter Title	Chapter Opener	Making the Connection	An Inside Look
Chapter 13: Unemployment and Inflation	Why Is JPMorgan Chase Laying Off Workers?	Eight Million Workers Are Missing! • How Should We Categorize Unemployment at JPMorgan Chase? • What’s So Bad about Falling Prices?	See MyEconLab for a news article and analysis.
Chapter 14: Economic Growth, the Financial System, and Business Cycles	Economic Growth and the Business Cycle at Corning, Inc.	The Connection between Economic Prosperity and Health • Can India Sustain Its Rapid Growth? • Ebenezer Scrooge: Accidental Promoter of Economic Growth? • Can a Recession Be a Good Time for a Business to Expand?	See MyEconLab for a news article and analysis.
Chapter 15: Aggregate Demand and Aggregate Supply Analysis	The Fortunes of Delta Air Lines Follow the Business Cycle	Which Components of Aggregate Demand Changed the Most during the 2007–2009 Recession? • How Sticky Are Wages? • Does It Matter What Causes a Decline in Aggregate Demand? • How Long Is the Long Run in Macroeconomics? • Karl Marx: Capitalism’s Severest Critic	See MyEconLab for a news article and analysis.
Chapter 16: Money, Banks, and the Federal Reserve System	Can Greece Function without Banks?	Apple Didn’t Want My Cash! • Are Bitcoins Money? • Would You Borrow from an Online Peer-to-Peer Lender? • The German Hyperinflation of the Early 1920s	See MyEconLab for a news article and analysis.
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Chapter 18: Fiscal Policy	Does Government Spending Create Jobs?	Is Spending on Social Security and Medicare a Fiscal Time Bomb? • Why Was the Recession of 2007–2009 So Severe? • Do We Depend Too Much on the Fed? • Did Fiscal Policy Fail during the Great Depression?	See MyEconLab for a news article and analysis.
Chapter 19: Comparative Advantage, International Trade, and Exchange Rates	President Obama, Nike, and Free Trade	Would New Balance Be Helped or Hurt By the Trans-Pacific Partnership? • Smoot-Hawley, the Politics of Tariffs, and the Cost of Protecting a Vanishing Industry • Protecting Consumer Health or Protecting U.S. Firms from Competition?	See MyEconLab for a news article and analysis.

PREFACE

Our approach in this new edition remains what it was in the first edition, published more than 10 years ago: To provide students and instructors with an economics text that delivers complete economics coverage with many real-world business examples. Our goal has been to teach economics in a “widget-free” way by using real-world business and policy examples. We are gratified by the enthusiastic response from students and instructors who have used the first five editions of this book and who have made it one of the best-selling economics textbooks on the market.

Much has happened in the U.S. and world economies since we prepared the previous edition. We have incorporated many of these developments in the new real-world examples in this edition and also in the digital resources.

Digital Resources

While our basic approach of placing applications in the forefront of the discussion remains the same, this new edition has been thoroughly revised. We have a wide array of digital resources for students and instructors to use with either the eText version of the book or the MyEconLab supplement to the printed text. Below is an overview. Please see Preface pages 13–17 for more details.

Digital Features Located in MyEconLab

MyEconLab is a unique online course management, testing, and tutorial resource. It is included with the eText version of the book or as a supplement to the print book. Students and instructors will find the following online resources to accompany this edition:

- **Videos.** There are more than 66 *Making the Connection* features in the book that provide real-world reinforcement of key concepts. Each feature is accompanied by a two- or three-minute video of the author explaining the key point of that *Making the Connection*. Related assessment is included with each video, so students can test their understanding. The goal of these videos is to summarize key content and bring the applications to life. In our experience, many students benefit from this type of online learning and assessment.
- **Concept Checks.** Each section of each learning objective concludes with an online Concept Check that contains one or two multiple-choice, true/false, or fill-in questions. These checks act as “speed bumps” that encourage students to stop and check their understanding of fundamental terms and concepts before moving on to the next section. The goal of this digital resource is to help students assess their progress on a section-by-section basis, so they can be better prepared for homework, quizzes, and exams.
- **Animations.** Graphs are the backbone of introductory economics, but many students struggle to understand and work with them. Each of the 168 numbered figures in the text has a supporting animated version online. The goal of this digital resource is to help students understand shifts in curves, movements along curves, and changes in equilibrium values. Having an animated version of a graph helps students who have difficulty interpreting the static version in the printed text. Graded practice exercises are included with the animations. In our experience, many students benefit from this type of online learning.

- **Interactive Solved Problems.** Many students have difficulty applying economic concepts to solving problems. The goal of this digital resource is to help students overcome this hurdle by giving them a model of how to solve an economic problem by breaking it down step by step. Each of the 38 *Solved Problems* in the printed text is accompanied by a similar problem online, so students can have more practice and build their problem-solving skills. These interactive tutorials help students learn to think like economists and apply basic problem-solving skills to homework, quizzes, and exams. The goal is for students to build skills they can use to analyze real-world economic issues they hear and read about in the news. Each *Solved Problem* in MyEconLab and the digital eText also includes at least one additional graded practice exercise for students.
- **Graphs Updated with Real-Time Data from FRED.** Select graphs are continuously updated online with the latest available data from FRED (Federal Reserve Economic Data), which is a comprehensive, up-to-date data set maintained by the Federal Reserve Bank of St. Louis. Students can display a pop-up graph that shows new data plotted in the graph. The goal of this digital feature is to help students understand how to work with data and understand how including new data affects graphs.
- **Interactive Problems and Exercises Updated with Real-Time Data from FRED.** The end-of-chapter problems in eight chapters, beginning with Chapter 6, include *Real-Time Data Exercises* that use the latest data from FRED. The goals of this digital feature are to help students become familiar with this key data source, learn how to locate data, and develop skills in interpreting data.

New to the Fifth Edition Chapters

- All companies in the chapter openers have been either replaced with new companies or updated with current information.
- Chapters 1–4 include new *An Inside Look* news articles and analyses to help students apply economic thinking to current events and policy debates. Additional news articles and analyses are updated weekly on MyEconLab.
- There are 27 new *Making the Connection* features to help students tie economic concepts to current events and policy issues.
- There are 12 new *Solved Problems*. This feature helps students break down and answer economic problems step by step.

New Chapter Openers, *Making the Connections*, *Solved Problems*, and *Inside Looks*

Here are the new or heavily revised chapter-opening business cases and accompanying *Inside Look* news articles. The business or issue introduced in the chapter opener is revisited within the chapter in either a *Making the Connection* or a *Solved Problem*. The following are new to this edition. Please see the detailed table of contents for the list of features for all chapters.

Chapter 1, “Economics: Foundations and Models,” opens with a new discussion of whether smart devices will revolutionize health care and closes with *An Inside Look* newspaper article and analysis of how Google is adding to its growing list of technological innovations by partnering with Swiss pharmaceutical company Novartis to develop smart contact lenses to help patients manage diabetes. New *Solved Problem 1.1* examines how managers at medical technology firm OraSure use marginal analysis to make an advertising decision. A new *Making the Connection* examines how opportunity costs can help us understand why many students have stopped attending college football games.

Chapter 2, “Trade-offs, Comparative Advantage, and the Market System,” opens with a new discussion of the manufacturing decisions managers at Tesla Motors face and closes with *An Inside Look* that discusses the resources Apple has assembled to meet an aggressive plan to develop and produce an electric vehicle as early as 2020. A new *Making the Connection* uses Sir Arthur Conan Doyle’s legendary character Sherlock Holmes to illustrate copyright laws for books and movies.

Chapter 3, “Where Prices Come From: The Interaction of Demand and Supply,” opens with a new discussion of the market for smartwatches and closes with *An Inside Look* that examines how the Apple smartwatch is inspiring the development of other wearable devices. There are three new *Making the Connections*: “Are Smartwatches Substitutes for Smartphones?”; “Tough Times for Big Macs and Golf”; and “Demand and Supply Trashes Plastic Recycling.”

Chapter 4, “Market Efficiency and Market Failure,” opens with an updated discussion of how Airbnb and the sharing economy affects rent control policy in San Francisco and closes with *An Inside Look* that examines why government officials in Malibu, California, imposed a tax on short-term rentals of apartments booked through Airbnb. A new *Making the Connection* examines why investors expect Uber to be very profitable.

Chapter 5, “The Economics of Health Care,” opens with a new discussion of how the Patient Protection and Affordable Care Act of 2010 could affect the health care plan at T. Cain Grocery, which operates five Piggly Wiggly supermarkets in Alabama and Florida. New *Solved Problem 5.4* shows students how to use the demand and supply model to explain changes in health care spending. A new *Making the Connection* discusses the increasing importance of health care in the U.S. economy.

Chapter 6, “Firms, the Stock Market, and Corporate Governance,” opens with a new discussion of Twitter and the benefits and costs of becoming a publicly owned firm. New *Solved Problem 6.2* analyzes why Warren Buffett likes mutual funds, and new *Solved Problem 6.4* discusses whether Dodd-Frank will improve corporate governance. There are two new *Making the Connections*: “Why Are Fewer Young People Starting Businesses?” and “Why Are Many People Poor Stock Market Investors?”

Chapter 7, “Consumer Choice and Elasticity,” opens with an updated discussion of a failed pricing strategy at J. C. Penney. There are two new *Making the Connections*: “Is Uber Price Gouging?” and “Why Does Amazon Care about Price Elasticity?”

Chapter 8, “Technology, Production, and Costs,” opens with a new discussion of MOOCs (massive open online courses). A new *Making the Connection* explains how UPS adopted new technology to deliver more packages with the same number of workers and planes. A new *Solved Problem* in the appendix discusses how firms respond to differences in input price ratios.

Chapter 9, “Firms in Perfectly Competitive Markets,” opens with a new discussion of cage-free eggs. New *Solved Problem 9.4* examines when managers should shut down an oil well.

Chapter 10, “Monopoly and Antitrust Policy,” includes a new *Making the Connection* that examines whether the National Collegiate Athletic Association (NCAA) should be considered a monopoly. New *Solved Problem 10.5* shows students how to determine a pricing strategy for a MOOC (massive open online course).

Chapter 11, “Monopolistic Competition and Oligopoly,” opens with a new discussion of the sources of Chipotle Mexican Grill’s success. There are four new *Making the Connections*: “Is the Trend toward Healthy Eating a Threat to Chipotle’s Market Niche?”; “Are All Cupcakes the Same?”; “Hard Times in Atlantic City”; and

“Do Airlines Collude on Capacity to Keep Prices High?” New *Solved Problem 11.3* examines Buffalo Wild Wings’ strategy to differentiate its restaurants.

Chapter 12, “GDP: Measuring Total Production and Income,” opens with updated coverage of how the business cycle affects Ford Motor Company and includes a new *Making the Connection* about how calculating GDP changes the way the standard of living in Nigeria is measured.

Chapter 13, “Unemployment and Inflation,” opens with a new discussion of JPMorgan’s 2015 decision to lay off workers. There are two new *Making the Connections*: “Eight Million Workers Are Missing!” and “How Should We Categorize Unemployment at JPMorgan Chase?” New *Solved Problem 13.5* shows students how to use data to calculate real hourly wages.

Chapter 14, “Economic Growth, the Financial System, and Business Cycles,” opens with a new discussion of how Corning has experienced long-run growth while experiencing the ups and downs of the business cycle. New *Solved Problem 14.1* focuses on the connection between productivity and prosperity, and new *Solved Problem 14.2* shows students how to apply the loanable funds model to analyze the effect of budget deficits.

Chapter 15, “Aggregate Demand and Aggregate Supply Analysis,” opens with a new discussion of the effect of the business cycle on Delta Air Lines and includes a new *Making the Connection* that discusses how unusually long it took following the 2007–2009 recession for real GDP and employment to return to the levels achieved at the business cycle peak.

Chapter 16, “Money, Banks, and the Federal Reserve System,” opens with a new discussion of the 2015 banking crisis in Greece and includes a new *Making the Connection* on peer-to-peer lending.

Chapter 17, “Monetary Policy,” opens with a new discussion of the connection between monetary policy and borrowers in Europe paying negative nominal interest rates on bank loans. Two new *Making the Connections* examine the connection between central bank policies of quantitative easing and negative interest rates, and why the Federal Reserve usually ignores fluctuations in food and energy prices.

Chapter 18, “Fiscal Policy,” opens with a new discussion of the effects of federal government spending to rebuild a highway leading to the Golden Gate Bridge. A new *Making the Connection* discusses whether macroeconomic policy is too dependent on the Federal Reserve. New *Solved Problem 18.6* analyzes the effects of the Greek government attempting to balance its budget during a recession.

Chapter 19, “Comparative Advantage, International Trade, and Exchange Rates,” opens with a new discussion about how Bayer deals with fluctuating exchange rates. There are three new *Making the Connections*: “Would New Balance Be Helped or Hurt by the Trans-Pacific Partnership?”; “Smoot-Hawley, the Politics of Tariffs, and Protecting a Vanishing Industry”; and “Protecting Consumer Health or Protecting U.S. Firms from Competition?” New *Solved Problem 19.2* analyzes how Subaru is affected by fluctuations in the value of the yen.

Other Changes to Chapters

- Chapter 14 includes a new section that discusses why firms like Corning are particularly vulnerable to fluctuations in demand during the business cycle.
- We have added the following new tables to present information in an easy-to-read format: Table 1.1, “Issues in Microeconomics and Macroeconomics”; Table 10.2, “Federal

Government Standards for Horizontal Mergers”; and Table 17.3, “Treasury and Fed Actions at the Beginning of the Financial Crisis.”

- To make room for the new content described earlier, we have cut approximately 25 *Making the Connections* and 10 *Solved Problems* from the previous edition and transferred some of them to the book’s *Instructor’s Manual*, where they are available for instructors who wish to continue using them.
- Figures and tables have been updated with the latest data available.
- Many of the end-of-chapter problems have been either replaced or updated. To most chapters, we have added one or two new problems that include graphs for students to analyze. Select chapters have a category called *Real-Time Data Exercises*. Some of these exercises have been updated for this new edition.
- Finally, we have gone over the text literally line by line, tightening the discussion, rewriting unclear points, and making many small changes. We are grateful to the many instructors and students who made suggestions for improvements in the previous edition. We have done our best to incorporate as many of those suggestions as possible.

The Foundation: Contextual Learning and Modern Organization

We believe a course is a success if students can apply what they have learned to both their personal lives and their careers, and if they have developed the analytical skills to understand what they read in the media. That’s why we explain economic concepts by using many real-world business examples and applications in the chapter openers, graphs, *Making the Connection* features, *An Inside Look* features, and end-of-chapter problems. This approach helps both business majors and liberal arts majors become educated consumers, voters, and citizens. In addition to our widget-free approach, we have a modern organization and place interesting policy topics early in the book to pique student interest.

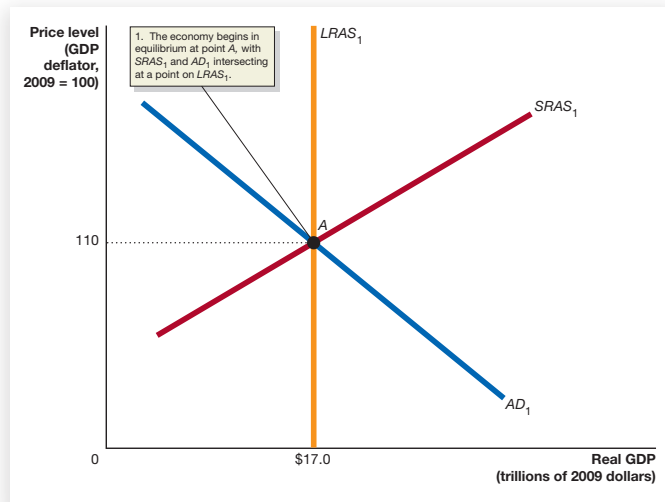
We are convinced that students learn to apply economic principles best if they are taught in a familiar context. Whether they become artists, social workers, bankers, or government employees, students benefit from understanding economics. Though business students will have many opportunities to see economic principles in action in various courses, liberal arts students may not. We therefore use many diverse real-world business and policy examples to illustrate economic concepts and develop educated consumers, voters, and citizens. Here are a few highlights of our approach to microeconomics:

- **A strong set of introductory chapters.** The introductory chapters provide students with a solid foundation in the basics. We emphasize the key ideas of marginal analysis and economic efficiency. In Chapter 4, “Market Efficiency and Market Failure,” we use the concepts of consumer and producer surplus to measure the economic effects of price ceilings and price floors as they relate to the familiar examples of rental properties and the minimum wage. (We revisit consumer and producer surplus in Chapter 15, “Monopoly and Antitrust Policy,” where we examine the effect of market power on economic efficiency, and in Chapter 19, “Comparative Advantage, International Trade, and Exchange Rates,” where we discuss outsourcing and analyze government policies that affect trade.) In Chapter 6, “Firms, the Stock Market, and Corporate Governance,” we provide students with a basic understanding of how firms are organized, raise funds, and provide information to investors. We also illustrate how in a market system entrepreneurs meet consumer wants and efficiently organize production.

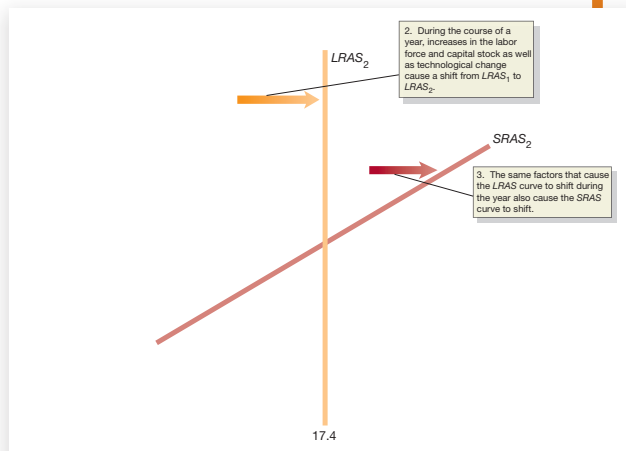
- **Early coverage of policy issues.** To expose students to policy issues early in the course, we discuss health care policy in Chapter 1, “Economics: Foundations and Models”; rent control and the minimum wage in Chapter 4, “Market Efficiency and Market Failure”; health care policy in Chapter 5, “The Economics of Health Care”; and government policy toward illegal drugs in Chapter 7, “Consumer Choice and Elasticity.”
- **A modern approach to macroeconomics.** Students come to study macroeconomics with a strong interest in understanding events and developments in the economy. We try to capture that interest and develop students’ economic intuition and understanding. We present macroeconomics in a way that is modern and based in the real world of business and economic policy. And we believe we achieve this presentation without making the analysis more difficult. We avoid the recent trend of using simplified versions of intermediate models, which are often more detailed and complex than what students need to understand the basic macroeconomic issues. Instead, we use a more realistic version of the familiar aggregate demand and aggregate supply model to analyze short-run fluctuations and monetary and fiscal policy. We also avoid the “dueling schools of thought” approach often used to teach macroeconomics at the principles level. We emphasize the many areas of macroeconomics where most economists agree. And we present throughout real business and policy situations to develop students’ intuition. Here are a few highlights of our approach to macroeconomics:
 - **A broad discussion of macro statistics.** Many students pay at least some attention to the financial news and know that the release of statistics by federal agencies can cause movements in stock and bond prices. A background in macroeconomic statistics helps clarify some of the policy issues encountered in later chapters. In Chapter 12, “GDP: Measuring Total Production and Income,” and Chapter 13, “Unemployment and Inflation,” we provide students with an understanding of the uses and potential shortcomings of the key macroeconomic statistics, without getting bogged down in the minutiae of how the statistics are constructed. So, for instance, we discuss the important differences between the payroll survey and the household survey for understanding conditions in the labor market. We explain why financial markets react more strongly to news from the payroll survey. We provide a discussion of the employment–population ratio, which is not covered in some other books but which many economists regard as a key measure of labor market performance. Chapter 17, “Monetary Policy,” discusses why the Federal Reserve prefers to measure inflation using the core personal consumption expenditures price index rather than the consumer price index.
 - **Early coverage of long-run topics.** We place key macroeconomic issues in their long-run context in Chapter 14, “Economic Growth, the Financial System, and Business Cycles.” Chapter 14 puts the business cycle in the context of underlying long-run growth and discusses what actually happens during the phases of the business cycle. We believe this material is important if students are to have the understanding of business cycles they will need to interpret economic events; this material is often discussed only briefly or omitted entirely in other books.
 - **A dynamic model of aggregate demand and aggregate supply.** We take a fresh approach to the standard aggregate demand and aggregate supply ($AD-AS$) model. We realize there is no good, simple alternative to using the $AD-AS$ model when explaining movements in the price level and in real GDP. But we know that more instructors are dissatisfied with the $AD-AS$ model than with any other aspect of the macro principles course. The key problem, of course, is that $AD-AS$ is a static model that attempts to account for dynamic changes in real GDP and the price level. Our approach retains the basics of the $AD-AS$ model but makes it more accurate

and useful by making it more dynamic. We emphasize two points: (1) Changes in the position of the short-run (upward-sloping) aggregate supply curve depend mainly on the state of expectations of the inflation rate and (2) the existence of growth in the economy means that the long-run (vertical) aggregate supply curve shifts to the right every year. This “dynamic” AD–AS model provides students with a more accurate understanding of the causes and consequences of fluctuations in real GDP and the price level. Chapter 15, “Aggregate Demand and Aggregate Supply Analysis,” includes a three-layer, full-color acetate for the key introductory dynamic AD–AS graph (Figure 15.8, “A Dynamic Aggregate Demand and Aggregate Supply Model,” on page 518 and reproduced to the right). We created this acetate to help students see how the graph builds step by step and to help make the graph easier for instructors to present. The acetate will help instructors who want to use dynamic AD–AS in class but believe the model needs to be developed carefully. We introduce this model in Chapter 15 and use it to discuss monetary policy in Chapter 17, “Monetary Policy,” and fiscal policy in Chapter 18, “Fiscal Policy.” The material on dynamic AD–AS is presented in self-contained sections in Chapters 15, 17, and 18, so instructors may safely omit the sections on the dynamic AD–AS model without any loss in continuity to the discussion of macroeconomic theory and policy.

- **Coverage of both the demand-side and supply-side effects of fiscal policy.** Our discussion of fiscal policy in Chapter 18, “Fiscal Policy,” carefully distinguishes between automatic stabilizers and discretionary fiscal policy. We also provide significant coverage of the supply-side effects of fiscal policy.



The first acetate overlay adds the shifts in the long- and short-run aggregate supply curves.



The second acetate overlay adds the shifts in the aggregate demand curve to complete the dynamic model.

