R. GLENN

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MATTHEW

RAFFERTY

Macroeconomics

Macroeconomics

R. GLENN HUBBARD

COLUMBIA UNIVERSITY

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QUINNIPIAC UNIVERSITY

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

For Lucy
—Anthony Patrick O'Brien

For Sacha
—Matthew Rafferty

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Tony O'Brien, Award-Winning Professor and Researcher



Anthony Patrick O'Brien is a professor of economics at Lehigh University. He received a Ph.D. from the University of California, Berkeley, in 1987. He has taught principles of economics, money and banking, and intermediate macroeconomics for more than 20 years, in both large sections and small honors classes. He received the Lehigh University Award for Distinguished Teaching. He was formerly the director of the Diamond Center for Economic Education and was named a Dana Foundation Faculty Fellow and Lehigh Class of 1961 Professor of Economics. He has been a visiting professor at the University of California, Santa Barbara, and Carnegie Mellon University. Professor O'Brien's research has dealt with such issues as the evolution of the U.S. automobile industry, sources of U.S. economic

competitiveness, the development of U.S. trade policy, the causes of the Great Depression, and the causes of black—white income differences. His research has been published in leading journals, including American Economic Review; Quarterly Journal of Economics; Journal of Money, Credit, and Banking; Industrial Relations; Journal of Economic History; Explorations in Economic History; and Journal of Policy History.

Matthew Rafferty, Professor and Researcher



Matthew Christopher Rafferty is a professor of economics and department chairperson at Quinnipiac University. He has also been a visiting professor at Union College. He received a Ph.D. from the University of California, Davis, in 1997 and has taught intermediate macroeconomics for 15 years, in both large and small sections. Professor Rafferty's research has focused on university and firm-financed research and development activities. In particular, he is interested in understanding how corporate governance and equity compensation influence firm research and development. His research has been published in leading journals, including the *Journal of Financial and Quantitative Analysis, Journal of Corporate Finance, Research Policy*, and the *Southern Economic Journal*. He has worked as a consultant

for the Connecticut Petroleum Council on issues before the Connecticut state legislature. He has also written op-ed pieces that have appeared in several newspapers, including the *New York Times*.

Preface

Why a New Intermediate Macroeconomics Text?

The students enrolled in today's intermediate macroeconomics courses are either undergraduates or master's students who are likely to become entrepreneurs, managers, bankers, stock brokers, accountants, lawyers, or government officials. Very few students will pursue a Ph.D. in economics. Given this student profile, we believe it is important for the course to move from emphasizing models for their own sake to using theory to understand real-world, relevant examples and current policies that are in today's news headlines.

We believe that short-run macroeconomic policy plays too small a role in current texts. There was a time when it seemed self-evident that policy should be the focus of a course in intermediate macroeconomics. The extraordinary macroeconomic events surrounding the Great Depression, World War II, and the immediate postwar era naturally focused the attention of economists on short-run policy measures. But by the 1970s, the conventional Keynesian—neoclassical synthesis of Samuelson, Hansen, and Hicks had come to seem inadequate to many economists. To summarize briefly, the complicated evolution of macroeconomic theory during those years, conventional macroeconomics was seen as being inadequately grounded in microeconomic foundations and as being too neglectful of long-run considerations.

Although macroeconomic theory evolved rapidly during the 1970s and 1980s, intermediate macroeconomic textbooks largely remained unchanged. Only in the 1990s did the first generation of modern intermediate textbooks appear. These new texts dramatically refocused the intermediate course. The result was a welcome emphasis on the long run and on microfoundations. The Solow growth model, rather than the Keynesian *IS–LM* model, became the lynchpin of these texts.

While in many ways we agree with the focus on the long run and on microfoundations, we have found ourselves in our own courses increasingly obliged to supplement existing texts with additional material.

Our Approach

It is important to note that our aim is certainly not to revolutionize the teaching of the intermediate macroeconomics course. Rather, we would like to shift its emphasis. We elaborate on our approach in the next sections.

A Modern Short-Run Model That Is Appropriate for the Intermediate Course (Chapters 9–11)

"After developing the theory (i.e., the IS-LM-MP model), they used the model to analyze the 2007–09 recession. . . . I really like this approach. And students? Well, they don't like it, they love it . . . when we apply theory to the checkerboard of real life."

William Hart, Miami University

"IS-MP is a major innovation."

James Butkiewicz, University of Delaware

"I absolutely love the IS–MP model, I think it is more realistic and has been a long time coming. Morphs the theory in well with the graphs that are shown. Clear, and I love the tables like Table 9.2."

Nate Perry, Mesa State College

"The integration of current economic events with the theory in the chapter is a strength." Soma Ghosh, Albright College In the texts of the 1980s and earlier, the *IS–LM* model held center stage. The *IS–LM* model provided a useful way for instructors to present the major points of the Keynesian model of how short-run GDP is determined. Investigating the slopes of the *IS* and *LM* curves gave students some insights into the policy debates of the 1960s and early 1970s. In 2011, the *IS–LM* model has two obvious pedagogical shortcomings:

- The Keynesians versus Monetarists debates, while substantively important, are now a part of the history of macroeconomics.
- The assumption of a constant money supply used in constructing the LM curve no longer correctly describes the policy approach of the Fed or the central banks of other developed countries. When central banks target interest rates rather than the money stock, the LM curve is no longer as useful as it once was in discussing monetary policy.

We do believe that the *IS* curve story provides a good account of the sources of fluctuations in real GDP in the short run when prices are fixed. But, because the Fed targets interest rates rather than the money stock, we substitute a monetary policy, *MP*, curve for the *LM* curve. The result is similar to the *IS*–*MP* model first suggested by David Romer. We cover the *IS*–*MP* model in Chapter 9, "*IS*–*MP*: A Short-Run Macroeconomic Model." We include a full appendix on the *IS*–*LM* model at the end of this chapter for those who wish to cover that model. We use the *IS*–*MP* model to analyze monetary policy in Chapter 10, "Monetary Policy in the Short Run," and fiscal policy in the short run in Chapter 11, "Fiscal Policy in the Short Run."

Significant Coverage of Financial Markets, Beginning with Chapter 3

"Integrating finance, as opposed to having only a separate chapter, is a strength."

John Dalton, Wake Forest University

"I'm really glad to see financial markets given more coverage in Chapter 3 and throughout the book—this is one of its best features."

David Gulley, Bentley College

"VERY relevant material and also missing from many other books (or at least the one I use)."

John Brock, University of Colorado

One of the most fundamental observations about conventional monetary policy is that, while the Fed has substantial influence over short-term nominal interest rates, long-term real interest rates have a much larger impact on the spending decisions of households and firms. To understand the link between nominal short-term rates and real long-term rates, students need to be introduced to the role of expectations and the term structure of interest rates. We provide a careful, but concise, discussion of the term structure in Chapter 3, "The Financial System," and follow up this discussion in Chapter 9, "IS—MP: A Short-Run Macroeconomic Model," and Chapter 10, "Monetary Policy in the Short Run," by analyzing why the Fed's interest rate targeting may sometimes fail to attain its goals.

The conventional story of central bank targeting of interest rates or monetary aggregates is told in terms of the commercial banking system, so an overview of commercial banks is included in all texts. The explosion in securitization in the past 20 years has caused tremendous changes in the financial system and, recently, in Fed policy. Although securitization has been an important part of the financial system for years, its significance for Fed policy only became clear with the problems in the markets for mortgage-backed securities that developed during 2007. We provide an overview of securitization in Chapter 3, including a discussion of the increased importance of investment banks. Interest rate targeting is simply no longer the be all and end all of Fed policy. The events of 2008 have made it clear that an exclusive focus on commercial banks provides too narrow an overview of the financial system.

Early Discussion of Long-Run Growth (Chapters 4 and 5)

"Excellent discussions of potential GDP and aggregate production function [in Chapter 4]."

Satyajit Ghosh, University of Scranton

"The authors are very methodical in their presentation of the model and derivation of the equations [Chapter 5]. Also, I feel the material is well explained. Other books I've read don't do a good job of contextualizing the importance of long-run growth and the relevance of the various determinants of growth. I think this chapter does a pretty remarkable job of that. Especially good is the progression through the various components of the Solow model before it finally arrives at technology—a fine job."

Douglas Campbell, University of Memphis

Students need to be able to distinguish the macroeconomic forest—long-run growth—from the macroeconomic trees—short-run fluctuations in real GDP, employment, and the rate of inflation. Because many macroeconomic principles texts put a heavy emphasis on the short run, many students enter the intermediate macro course thinking that macroeconomics is *exclusively* concerned with short-run fluctuations. The extraordinary success of the market system in raising the standard of living of the average person in the United States and the other currently developed economies comes as surprising news to many students. Students know where we are today, but the economic explanation of how we got here is unfamiliar to many of them.

In addition, it makes sense to us for students to first understand both a basic model of long-run growth and the determination of GDP in a flexible-price model before moving on to the discussion of short-run fluctuations and short-run policy. In Chapter 4, "Determining Aggregate Production," we show the determination of GDP in a classical model and also discuss the difference between flexible price models and fixed price models. We place this discussion in a broader context of the reallocation of resources. In other words, we emphasize that, for example, the decline in spending on residential construction during 2006–2009 affects short-run real GDP not just because prices are sticky but also because, in the short run, resources cannot be reallocated frictionlessly to new uses. Although economists think of this resource reallocation problem as being fundamentally a question of prices being inflexible in the short run and flexible in the long run, our experience is that students are confused if the dichotomy between the long run and the short run is told entirely in terms of price flexibility.

Modern Federal Reserve Policy and Its Broadened Emphasis Beyond Interest Rate Targeting

The developments of 2007–2009 have demonstrated that the Fed has moved beyond the focus on interest rate targeting that had dominated policy since the early 1980s. To understand the broader reach of Fed policy, students need to be introduced to material, in particular the increased importance of investment banking and role of securitization in modern financial markets, that is largely missing from competing texts. In addition, recent Fed policy initiatives require extended discussion of issues of moral hazard. While these discussions are common in money and banking texts, they have been largely ignored in intermediate macro texts. We cover these topics in Chapter 6, "Money and Inflation," Chapter 10, "Monetary Policy in the Short Run," and Chapter 12, "Aggregate Demand, Aggregate Supply, and Monetary Policy."

Integration of International Topics

When the crisis in subprime mortgages began, Federal Reserve Chairman Ben Bernanke famously observed that it was unlikely to cause much damage to the U.S. housing market,

much less the wider economy. (Of course, Bernanke was hardly alone in making such statements.) As it turned out, the subprime crisis devastated not only the U.S. housing market but the U.S. financial system, the U.S. economy, and the economies of most of the developed world. That a problem in one part of one sector of one economy could cause a worldwide crisis is an indication that a textbook on macroeconomics must take seriously the linkages between the U.S. and other economies. We cover these linkages throughout the text. In discussing each topic, we provide data not just for the United States, but for many other countries. We also explore such issues as the European sovereign debt crisis and the increased coordination of monetary policy among central banks.

12 Core Chapters

"I like the long-run-first arrangement. I appreciate the "Extensions" at the end; do them as time permits in the term. The inclusion of IS-LM as an appendix alongside the more current IS-MP model is an excellent idea. I like the relatively limited number of chapters, it's less daunting to students."

Christopher Burkart, University of West Florida

"I like it. It is good to have the financial system early in the book. I always struggle teaching that section since I find it very important for the development of the course."

Luisa Blanco, Pepperdine University

This text consists of 12 core chapters and 3 "extension" chapters. Many instructors subscribe to the idea that fewer topics covered well is better than many topics covered superficially. However, it can be difficult to find a concise text. We achieve brevity in two ways: First, we ignore almost entirely the "dueling schools of thought" approach. We do this for several reasons: Although this approach at one time provided a useful way of organizing textbooks, it no longer represents well the actual views of the profession. Emphasizing differences among economists obscures for students the broad areas of macroeconomics on which a professional consensus exists. Finally, most students find detailed discussions of disagreements among economists to be dull and unhelpful in understanding today's policy issues.

Our second key to achieving brevity in the core presentation is to push all nonessential topics to a separate Part 4, "Extensions," at the end of the text. While many of the topics covered in the three chapters in Part 4—long-run fiscal challenges (Chapter 13, "Fiscal Policy and the Government Budget in the Long Run"), the microfoundations of consumption and investment decisions (Chapter 14, "Consumption and Investment"), and the balance of payments (Chapter 15, "Balance of Payments, Exchange Rates, and Macroeconomic Policy")—are important (and we typically cover many of them in our own courses), they are not essential to the basic macroeconomic story. In our view, it is better for instructors to present students with the key ideas in a relatively brief way with minimum distractions and then consider additional material during the last few weeks of the course when students have mastered the key ideas.

Flexible Chapter Organization

We have written the text to provide instructors with considerable flexibility. Instructors who wish to emphasize the short run can begin by covering Chapters 1-3 (Part 1, "Introduction"), and then jump to Chapters 8-12 (Part 3, "Macroeconomics in the Short Run: Theory and Policy"), before covering Chapters 4–7 (Part 2, "Macroeconomics in the Long Run: Economic Growth"). We have arranged content so that nothing in Chapters 8-12 requires knowledge of the discussion in Chapters 4–7.

Instructors wishing to omit the Solow model of long-run growth can skip Chapters 4, 5, and 13 without loss of continuity.

Special Features

We have developed a number of special features. Some are similar to the features that have proven popular and effective aids to learning in the Hubbard/O'Brien Principles of Economics textbook and the Hubbard/O'Brien Money, Banking, and the Financial System textbook, while others were developed specifically for this book.



At the end of Chapter 1, we noted key issues and questions that serve as a framework for the book. Here are the key issue and question for this chapter:

Issue: Some countries have experienced rapid rates of long-run economic growth, while other countries have grown slowly, if at all. estion: Why isn't the whole world rich?

Answering the Key Question

At the beginning of this chapter, we asked the question: "Why isn't the whole world rich?"

Key Issue-and-Question Approach

To provide a roadmap for the book, we use an issue-question framework that shows why learning macroeconomics gives students the

tools they need to analyze intelligently some of the important issues of our time. See pages 16-17 of Chapter 1, "The Long and Short of Macroeconomics," for a complete list of the 14 issues and questions. We start each subsequent chapter with a key issue and key question and end each of those chapters by using the concepts introduced in the chapter to answer the question.

Contemporary Opening Cases and An Inside Look News Articles

Continued from page 143

"[This book] is very closely related to the current issues and real world. Students should enjoy reading those examples and stories."

Liaoliao Li, Kutztown University

"Engages students in macroeconomics with interesting real-life examples and questions." Fabio Mendez, University of Arkansas

"I like how they break down the article and guide the student into understanding what the article is pointing to. I do this in class sometimes, and I do find students sometimes don't know what they should be looking for."

Janice Yee, Worcester State University

CHAPTER 9 IS-MP: A Short-Run Macroeconomic Model

LEARNING OBJECTIVES

After studying this chapter, you should be able to:

9.1 Explain how the IS curve represents the relationship between the real interest rate and aggregate expenditure (pages 304–312)

Use the monetary policy, MP, curve to show how the interest rate set by the central bank helps to determine the output gap (pages 312–319)

9.3 Use the IS-MP model to understand why real GDP fluctuates (pages 319–327)

9.4 Understand the role of the Phillips curve in the IS-MP model (pages 327–338)

9.5 Use the IS-MP model to understand the performance of the U.S. economy during t recession of 2007–2009 (pages 339–342)

9A Use the IS-LM model to illustrate macroeconomic equilibrium (pages 353–362)

THE LEHMAN BROTHERS BANKRUPTCY AND THE GREAT RECESSION OF 2007-2009

In December 1930, the Bank of United States, a large private bank located in New York City, collapsed. The bank ran into trouble in part because an unusually high percentage of its loans were in real estate. By the fall of 1930, the prices of houses, as well as office buildings and other commercial real estate, were falling, and borrowers were defaulting no mortgages. The fallier of the Bank of United States triggered a wave of banking failures that

PTCY AND THE GREAT RECESSION OF 2007–2009

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"I really like the international applications, as I have many students who are coming from overseas."

Serife Nuray Akin, University of Miami

"Similar to the benefit of the solved problems, but with an emphasis on more relatable 'real world' issues. These are nice because they are not straightforward applications of the concepts, which force students to apply and link multiple concepts."

Guy Yamashiro, California State University, Long Beach

A common complaint among students is that economics is too dry and abstract. At the intermediate level, students will inevitably have to learn a greater amount of model building and algebra than they

encountered in their principles course. Nevertheless, a real-world approach can keep students interested. We open each chapter with a real-world example—drawn from either policy issues in the news or the business world—to help students begin the chapter with a greater understanding that the material to be covered is directly relevant. We revisit the example within the chapter to reinforce the link between macroeconomics and the real world.

We close each chapter with An Inside Look, a two-page feature that shows students how to apply the concepts from the chapter to the analysis of a news article. This feature presents an excerpt from an article, an analysis of the article, one or more graphs, and critical thinking questions. Several articles deal with policy issues. Articles are from sources such as the Wall Street Journal, the Economist, and Bloomberg BusinessWeek.



The following are some examples:

Chapter 3, "The Financial System"

Opens with "The Wonderful World of Credit," a discussion of how consumer and small business access to bank loans contributed to the financial crisis.

Ends with "Credit Market Easing for Small Businesses," a news article and analysis about the improving credit market for small business and possible effects on employment.

Chapter 7, "The Labor Market"

Opens with "Ernst & Young and Pharmaceutical Firms Are Hiring, So What's the Problem?", a discussion of how some firms during the financial crisis continued to seek and hire skilled workers.

Ends with "Unemployment Rate Falls, yet Remains Significantly Lower than Underemployment Rate," a news article and analysis about unemployment measures.

Chapter 8, "Business Cycles"

Opens with "Ford Rides the Business Cycle Rollercoaster," a discussion of Ford sales during business cycles.

Ends with "New Vehicle Sales Increase by 11 Percent in 2010," a news article and analysis about positive sales results for the close of 2010 but a caution about how rising gas prices could affect future sales.

Chapter 9, "IS-MP: A Short-Run Macroeconomic Model"

Opens with "The Lehman Brothers Bankruptcy and the Great Recession of 2007–2009." Ends with "Largest Financial Overhaul Package since Great Depression Signed into Law," a news article about the financial reform bill that President Obama signed into law in 2010.

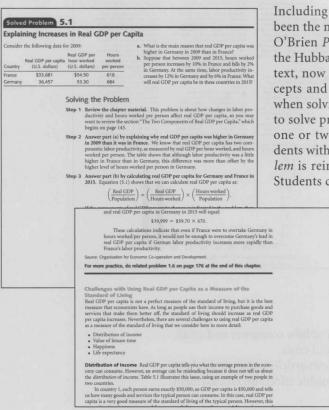
Solved Problem Feature

"The step-by-step approach to the problem is very clear and makes the material digestible to the students by breaking it down. The tie-in to end-of-chapter exercises is excellent. The student can very quickly see where to go for more practice."

Francis Mummery, California State University Fullerton

"I appreciate the connection between the solved problem and one of the end-of-chapter problems—this is an excellent idea. Breaking the problem down into small steps seems like a good way to lead students through and develop good problem-solving habits."

Christopher Burkart, University of West Florida



Including solved problems in the text of each chapter may have been the most popular pedagogical innovation in the Hubbard and O'Brien *Principles of Economics* text, now in its third edition, and the Hubbard and O'Brien *Money, Banking, and the Financial System* text, now in its first edition. Students have fully learned the concepts and theories only when they are capable of applying them when solving problems. Certainly, most instructors expect students to solve problems on examinations. Our *Solved Problems* highlight one or two important concepts in each chapter and provide students with step-by-step guidance in solving them. Each *Solved Problem* is reinforced by a related problem at the end of the chapter. Students can complete related *Solved Problems* on MyEconLab and

receive tutorial help. Here are examples of the *Solved Problems* in the book:

- Solved Problem 1.2: Do Rising Imports Lead to a Permanent Reduction in U.S. Employment? (Chapter 1, "The Long and Short of Macroeconomics")
- Solved Problem 3.3: Using the Loanable Funds Model to Analyze the U.S. Economy in 2010 (Chapter 3, "The Financial System")
- Solved Problem 10.4: Did the Federal Reserve Make the Great Depression Worse? (Chapter 10, "Monetary Policy in the Short Run")

Making the Connection Feature

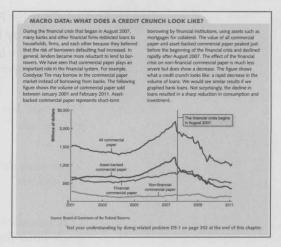
Each chapter includes two to four *Making the Connection* features that present real-world reinforcement of key

concepts and help students learn how to interpret what they read on the Web and in newspapers. Most *Making the Connection* features use relevant, stimulating, and provocative news stories, many focused on pressing policy issues. Here are some examples:

- Will China's Standard of Living Ever Exceed That of the United States? (Chapter 5, "Long-Run Economic Growth")
- Job Security and Job Hiring at France Télécom SA (Chapter 7, "The Labor Market")
- The Bankruptcy of Lehman Brothers, the Financial Crisis, and the Financing of Investment (Chapter 9, "*IS–MP*: A Short-Run Macroeconomic Model")
- "Too Big to Fail"—The Legacy of Continental Illinois (Chapter 10, "Monetary Policy in the Short Run")
- State and Local Government Spending During the 2007–2009 Recession (Chapter 11, "Fiscal Policy in the Short Run")

Macro Data Feature

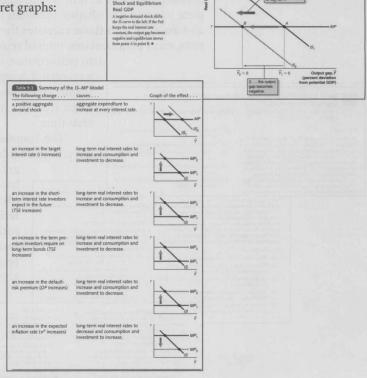
Most chapters include a *Macro Data* feature that explains the sources of macroeconomic data and often cites recent studies using data. This feature helps students apply data to a recent event. An exercise related to each feature appears at the end of the chapter so instructors can test students' understanding.



Graphs and Summary Tables

We use four devices to help students read and interpret graphs:

- 1. Detailed captions
- 2. Boxed notes
- 3. Color-coded curves
- 4. Summary tables with graphs



End-of-Chapter Problems Written Around the Award-Winning MyEconLab and Grouped by Learning Objective

"I like that this book asks students to interpret quotes from policymakers, speeches and from newspaper articles."

George Hall, Brandeis University

"There are lots of questions and problems for each section and some good data problems also."

Soma Ghosh, Albright College

"Organizing the problems by topic is a wonderful idea that will help both instructors and students."

Kevin Sylwester, Southern Illinois University

"The summary-exercise-summary-exercise breakdown is stellar. This makes it so much easier for students to follow the material and know where to look in the chapter if necessary for additional reinforcement of key ideas."

Francis Mummery, California State University, Fullerton

Each chapter ends with a Summary, Review Questions, Problems and Applications, and Data Exercises. The problems are written to be fully compatible with MyEconLab, an online course management, testing, and tutorial resource. Using MyEconLab, students can complete select end-of-chapter problems online, get tutorial help, and receive instant feedback and assistance on those exercises they answer incorrectly. Instructors can access sample tests, study plan exercises, tutorial resources, and an online Gradebook to keep track of stu-

dent performance and time spent on the exercises. MyEconLab has been

a successful component of the Hubbard and O'Brien Principles of Economics and Money, Banking, and the Financial System texts because it helps students improve their grades and helps instructors manage class time.

The Summary, Review Questions, and Problems and Applications are grouped under learning objectives. The goals of this organization

are to make it easier for instructors to assign problems based on learning objectives, both in the book and in MyEconLab, and to help students efficiently review material that they find difficult. If students have difficulty with a particular learning objective, an instructor can easily identify which end-of-chapter questions and problems support that objective and assign them as homework or discuss them in class.

> We include one or more end-ofchapter problems that test students' understanding of the content presented in each Solved Problem, Making the Connection, Macro Data, and chapter opener. Instructors can cover a feature in class and assign the corresponding problem for homework. The Test Item File also includes test questions that pertain to these special features.

9.1 The IS Curve: The Relationship Between Real Interest Rates and Aggregate Expenditure Explain how the IS curve represents the relationship between the real interest rate and aggregate expenditure.

The F. MF model consists of an IS curve, an MP curve, and 18 Flore in the Source down the reliationship between the real interest rate downs, the real interest rate and output. The MF curve those the reliationship between the real interest rate interest rate interest rate interest rate interest rate interests, consumption and investment expenditures decrease, so real GDP also decreases. As the real interest rate decreases, consumption and investment expenditures increase, or real GDP also decreases. As the real interest rate decreases, consumption and investment expenditures increase when real interest rate consumers to the result in the real interest rate consumers to the real interest rate decreases.

COPP also decreases. As the real interest rate decreases, consumption and investment expenditures increase when real interest rate could shift the IS curve to the left.

COPP also decreases. As the real interest rate decreases, consumption and investment expenditures increases are altered to the right.

COPP also decreases. As the real interest rate decreases, consumption and investment expenditures increases when real interest rate could shift the IS curve to the left.

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COPP also decreases. As the real interest rate decreases, consumption and investment expenditures increases when real interest rate could shift the IS curve to the left.

Courve t

1.6 Explain how the IS curve represents equilibrius the goods market.

1.7 Why is the IS curve downward sloping?

- 1.2 How might actual investment spending be different from planned investment spending?

- b. The government increases transfer payments without changing taxes.
 c. Consumers feel wealthier and want to spend d. Prices rise in the rest of the world, making U.S.

I.11 Draw a graph of the goods market and identify the equilibrium level of GDP. Then use your graph to show the effect of each of the following changes:

a. Households become more pessimistic and

- 3.3 [Related to Solved Problem 9.3 on page 325] In the early 1990s, Japan's economy experienced a number of shocks due to the bursting of bubbles in real estate and the stock market.

 - 3% to nearly 20%. The causes of the depression were in some ways similar to the causes of the 2007–2009 recession in the United States. Earlier financial dergealation led to a boarn in this case largely financed by foreign borrowing. An aast largely financed by foreign control of the state of the

- c. If this increase in the growth rate of the mone supply is expected to be permanent, is it likely that the expected inflation rate will remain con-stant? Briefly explain.



Supplements

The authors and Pearson Education/Prentice Hall have worked together to integrate the text, print, and media resources to make teaching and learning easier.



MyEconLab is a powerful assessment and tutorial system that works hand-in-hand with *Macroeconomics*. MyEconLab includes comprehensive homework, quiz, test, and tutorial options, allowing instructors to manage all assessment needs in one program. Here are the key features of MyEconLab:

- Select end-of-chapter Questions and Problems, including algorithmic, graphing, and numerical questions and problems, are available for student practice or instructor assignment.
- Test Item File multiple-choice questions are available for assignment as homework.
- The Custom Exercise Builder allows instructors the flexibility of creating their own problems or modifying existing problems for assignment.
- The powerful Gradebook records each student's performance and time spent on the Tests and Study Plan and generates reports by student or chapter.

A more detailed walk-through of the student benefits and features of MyEconLab can be found at the beginning of this book. Visit **www.myeconlab.com** for more information on and an online demonstration of instructor and student features.

MyEconLab content has been created through the efforts of Melissa Honig, executive media producer; and Noel Lotz and Courtney Kamauf, content leads.

Instructor's Manual

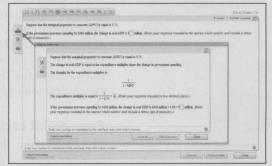
Edward Scahill of the University of Scranton prepared the *Instructor's Manual*, which includes chapter-by-chapter summaries, key term definitions, teaching outlines with teaching tips, and solutions to all review questions and problems in the book.

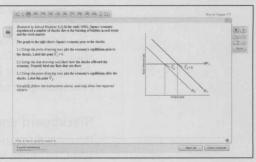
The solutions were prepared by Leonie Stone of State University of New York at Geneseo. The *Instructor's Manual* is available for download from the Instructor's Resource Center (www.pearsonhighered.com/hubbard).

Test Item File

Randy Methenitis of Richland College prepared the Test Item File, which includes more than 1,500 multiple-choice, short-answer, and essay questions. Test questions are annotated with the following information:

- Difficulty: 1 for straight recall, 2 for some analysis, 3 for complex analysis
- Type: Multiple-choice, short-answer, essay
- Topic: The term or concept the question supports
- Learning objective: The major sections of the main text and its end-of-chapter questions and problems are organized by learning objective. The test item file questions





- continue with this organization to make it easy for instructors to assign questions based on the objective they wish to emphasize.
- Advanced Collegiate Schools of Business (AACSB) Assurance of Learning Standards: Communication; Ethical Reasoning; Analytic Skills; Use of Information Technology; Multicultural and Diversity; and Reflective Thinking
- Page number: The page in the main text where the answer appears allows instructors to direct students to where supporting content appears.
- Special feature in the main book: Chapter-opening story, the Key Issue and Question, Solved Problem, Making the Connection, Macro Data, and An Inside Look.

The Test Item File is available for download from the Instructor's Resource Center (www.pearsonhighered.com/hubbard).

The multiple-choice questions in the Test Item File are also available in TestGen software for both Windows and Mac computers, and questions can be assigned via MyEconLab. The computerized TestGen package allows instructors to customize, save, and generate classroom tests. The TestGen program permits instructors to edit, add, or delete questions from the Test Item Files; analyze test results; and organize a database of tests and student results. This software allows for extensive flexibility and ease of use. It provides many options for organizing and displaying tests, along with search and sort features. The software and the Test Item Files can be downloaded from the Instructor's Resource Center (www.pearsonhighered.com/hubbard).

PowerPoint Lecture Presentation

The PowerPoint slides were prepared by Andre Neveu of James Madison University. Instructors can use the slides for class presentations, and students can use them for lecture preview or review. These slides include all the graphs, tables, and equations in the textbook.

Student versions of the PowerPoint slides are available as PDF files. These files allow students to print the slides and bring them to class for note taking. Instructors can download these PowerPoint presentations from the Instructor's Resource Center (www.pearsonhighered.com/hubbard).

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Class Testers, Reviewers, and Other Contributors

The guidance and recommendations of the following instructors helped us to craft the content, organization, and features of this text. While we could not incorporate every suggestion from every reviewer, we carefully considered each piece of advice we received. We are grateful for the hard work that went into their reviews and truly believe that their feedback was indispensable in developing this text. We appreciate their assistance in making this the best text it could be; they have helped teach a new generation of students about the exciting world of macroeconomics.

Special thanks to Edward Scahill of the University of Scranton for preparing many of the *Making the Connection* features, Randy Methenitis for preparing the *An Inside Look* news feature that ends each chapter, and Leonie Stone of State University of New York at Geneseo for preparing many of the end-of-chapter questions and problems.

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We also appreciate the thoughtful comments of our reviewers and focus group participants. They brought home to us once again that there are many ways to teach a macroeconomics class. We hope that we have written a text with sufficient flexibility to meet the needs of most instructors. We carefully read and considered every comment and suggestion we received and incorporated many of them into the text. We believe that our text has been greatly improved as a result of the review process.

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