Economics of Money Banking and Financial Markets Business School Edition 5th edition Mishkin Solutions Manual

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PART TWO

Overviews of the Textbook Chapters and Teaching Tips

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Chapter 1
Why Study Money, Banking, and Financial Markets?

Before embarking on a study of money, banking, and financial markets, the student must be convinced that this subject is worth studying. Chapter 1 pursues this goal in two ways. First, it shows the student that money and banking is an exciting field because it focuses on economic phenomena that affect everyday life. Second, using eight figures, this chapter encourages the student to look at data that bear on the central issues in this field. An additional purpose of Chapter 1 is to provide an overview for the entire book, previewing the topics that will be covered in later chapters, and to indicate how the book will be taught.

In teaching this chapter, the most important goal should be to get the student excited about the material. I have found that talking about the data presented in the figures helps achieve this goal. Furthermore, it shows the student that the subject matter of money and banking has real-world implications that the student should care about.

The appendix to this chapter reviews concepts regarding the definitions of aggregate output, income, and the price level that the student already has seen in an economic principles course. Since these concepts are extremely important, it might be worthwhile to have your students read this appendix outside of class to jog their memories.

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Chapter 2
An Overview of the Financial System

Chapter 2 is an introductory chapter that contains the background information on the structure and operation of financial markets that is needed in later chapters of the book. This chapter allows the instructor to branch out to various choices of later chapters, thus allowing different degrees of coverage of financial markets and institutions.

The most important point to transmit to the student is that financial markets and financial intermediaries are crucial to a well-functioning economy because they channel funds from those who do not have a productive use for them to those who do. Professors who emphasize financial markets and institutions in their course will want to teach this chapter in detail, and those who focus on international issues will want to spend some time on the section "Internationalization of Financial Markets." However, those who slant their course to monetary theory and policy may want to give this chapter a more cursory treatment. No matter how much class time is devoted to this chapter, I have found that it is a good reference chapter for students. You might want to tell them that if in later chapters they do not recall what some financial instrument is or who regulates whom, they can refer back to this chapter, especially to summary tables, such as Tables 3 and 5.

The chapter introduces Global boxes, which are sprinkled throughout the text, to get students to recognize the growing importance of the global economy. The Global box in this chapter gets students to think about how the financial system in the United States is both similar to and different from financial systems in other countries.

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Chapter 3
What Is Money?

Before becoming immersed in the study of money and banking, the student must understand how money is defined and measured. The first half of Chapter 3 discusses the definition of money: how the economist's definition differs from that of common speech, the functions of money, and a historical view of how what serves as money has changed over time. The second half of the chapter describes the tricky issues involved in applying the definition of money in order to measure it.

Once the student understands what money is, the most important point to get across to him or her is that economists are not exactly sure how to measure money. This presents to policymakers a serious problem: Although they might want to control the money supply to affect the economy, they are not sure which measure of money is the right one to control. In many situations, knowing which measure of money is the right one is not crucial because different measures (such as Ml and M2) move together. But, as Figure 1 illustrates, this is sometimes not the case, presenting the policymaker with a dilemma.

This chapter introduces FYI boxes, which highlight dramatic historical episodes, interesting ideas, and intriguing facts to keep students excited about the material.

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Chapter 4
Understanding Interest Rates

In my years of teaching money and banking, I have found that students have trouble with what I consider to be easy material because they do not understand what an interest rate is: that it is negatively associated with the price of a bond, that it differs from the return on a bond, and that there is an important distinction between real and nominal interest rates.

This chapter spends more time on these issues than does any other competing textbook. Furthermore, it contains many numerical applications to drive home the concepts. My experience has been that giving this material so much attention is well rewarded. After putting more emphasis on this material in my money and banking courses, I witnessed a dramatic improvement in students' understanding of bank asset and liability management, portfolio choice, models of the demand for money, and other topics in monetary theory. I have also found that students very much enjoy this chapter because it is so useful to them in their careers.

An appendix to the chapter, which can be found in MyLab Economics, provides more detail on how interest-rate risk can be measured with the concept of McCauley's duration. This is a basic financial tool that is used by practitioners and so will be of great interest to students who plan careers in the financial industry.

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Chapter 5
The Behavior of Interest Rates

As is clear in the Preface to the textbook, I believe that money and banking is taught effectively by emphasizing a few economic principles and then applying them over and over again to the subject matter of this exciting field. Chapter 5 introduces one of these basic economic principles: the theory of portfolio choice. This theory indicates that there are four primary factors that influence people's decisions to hold assets: wealth, expected returns, risk, and liquidity. The simple idea that these four factors explain the demand for assets is, in fact, an extremely powerful one. It is used continually throughout the study of money and banking and makes it much easier for the student to understand how interest rates are determined, how banks manage their assets and liabilities, why financial innovation takes place, how prices are determined in the stock market and the foreign exchange market, and how various theories explain the demand for money.

For instructors who have a greater finance orientation in their course and so want to discuss the theory of portfolio choice in more detail, I have provided an appendix in MyLab Economics that describes finance models of asset pricing.

One teaching device that I have found helps students develop their intuition is the use of summary tables such as Table 1 in class. I use the blackboard to write a list of changes in variables that affect the demand for an asset and then ask students to fill in the table by reasoning how demand responds to each change. This exercise gives them good practice in developing their analytic abilities. I use this device continually throughout my course and in this book, as is evidenced from similar summary tables in later chapters. I recommend this approach highly.

Chapter 5 goes on to lay out two partial equilibrium approaches to the determination of interest rates: supply and demand in the bond market and the liquidity preference framework (supply and demand in the money market). As is made clear in this chapter, these approaches are not inconsistent with each other but are two different and useful ways of looking at the same thing. (A third approach to the determination of interest rates used by some practitioners in financial markets is the so-called loanable funds framework. An appendix to the chapter found in MyLab Economics shows how the supply and demand analysis of the bond market developed in this chapter relates to the loanable funds framework.)

An important feature of the analysis in this chapter is that supply and demand is always done in terms of stocks of assets, not in terms of flows. Recent literature in the professional journals almost always analyzes the determination of prices in financial markets with an asset-market approach: that is, stocks of assets are emphasized rather than flows. The reason for this is that keeping track of stocks of assets is easier than dealing with flows. Correctly conducting analysis in terms of flows is very tricky, for example, when we encounter inflation. Thus, there are two reasons for using a stock approach rather than a flow approach: (1) it is easier and (2) it is more consistent with modern treatment of asset markets by economists.

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Another important feature of this chapter is that it lays out supply and demand analysis of the bond and money markets at a similar level to that found in principles of economics textbooks. The *ceteris paribus* derivation of supply and demand curves with numerical examples are presented, the concept of equilibrium is carefully developed, the factors that shift the supply and demand curves are outlined, and the distinction between movements along a demand or supply curve and shifts in the curve are clearly drawn. My feeling is that the step-by-step treatment in this chapter is worthwhile because supply and demand analysis is such a basic tool throughout the study of money, banking, and financial markets. I have found that even those students who have had excellent training in their principles course find that this chapter provides a valuable review of supply and demand analysis.

This chapter is also designed to show the student how useful economic analysis can be. In teaching my class, I bring the previous day's *Wall Street Journal* "Credit Markets" column into class and then use it to conduct a case discussion using the supply and demand analysis of the bond market developed in the chapter. My students very much like the resulting case discussions and have told me that they are better than case discussions in other classes because the material is so current. The application at the end of the chapter encourages students to use all they have learned in this chapter to analyze an important issue to policymakers—the relationship between money and interest rates.

The second appendix to the chapter that can be found in MyLab Economics shows how the analysis developed in the chapter can be applied to understanding how any asset's price is determined. Many students like the application to the gold market because this commodity piques almost everybody's interest and I teach this material in my class.

Some practitioners use an alternative approach to interest-rate determination, the loanable funds framework. A third appendix in MyLab Economics discusses this framework and shows how it is similar to the analysis of supply and demand analysis for the bond markets in the text.

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Chapter 6
The Risk and Term Structure of Interest Rates

Chapter 6 applies the tools the students learned in Chapter 5 to understand why and how various interest rates differ. In courses that emphasize financial markets, this chapter is important because students are curious about the risk and term structure of interest rates. On the other hand, professors who focus on monetary theory and policy in their courses might want to skip this chapter. The book has been designed so that skipping this chapter will not hinder the student's understanding of later chapters.

A particularly attractive feature of this chapter is that it gives students a feel for the interaction of data and theory. As becomes clear in the discussion of the term structure, theories are modified because they cannot explain the data. On the other hand, theories do help to explain the data, as the applications on interpreting yield curves in the 1980–2017 period and on the impact of the global financial crisis on the Baa-Treasury spread demonstrates.

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Chapter 7
The Stock Market, the Theory of Rational Expectations, and Efficient Market Hypothesis

Because the stock market is of such great interest to students, this chapter discusses theories of how stocks are priced and how information is incorporated into stock prices. Laying out the simple models of the one-period valuation model, the generalized dividend valuation model, and the Gordon growth model gives students the tools to understand how stock prices are determined. Two applications show students how relevant these models are by applying them to see how monetary policy influences stock prices.

An important development in monetary theory that has far-reaching implications for the way we evaluate economic policy is the theory of rational expectations. Chapter 7 explains this theory and its application to financial markets, which is referred to as the efficient market hypothesis. Although the theory of rational expectations can be laid out in mathematical terms, I have found that it is best to give the students an example such as Joe Commuter's expectations to give them an intuitive sense of what "rational expectations" means. When provided with a graphic example like that used in the text, students have no trouble understanding the theory of rational expectations, which is really just good common sense.

The implications of rational expectations theory become much clearer when this theory is used to understand behavior in the financial markets as in the efficient market hypothesis. Another area of exciting new research has been on the validity of rational expectations and efficient markets, and this is discussed in more detail in an appendix to the chapter, which can be found in MyLab Economics. Research has been dredging up fascinating anomalies that cast doubt on these theories. This chapter has therefore been written to give a more balanced view of these theories: It reflects this latest research, including a discussion of the new field of behavioral finance, which applies concepts from other social sciences such as anthropology, sociology, and particularly psychology, to understand the often anomalous behavior of security prices.

Students particularly enjoy the application of rational expectations (efficient market hypothesis) theory to provide a practical guide to investing in the stock market. This application captures the attention of even the most disinterested student because all of us are interested in how to get rich (or, at least, in how to keep from getting poor). This application also gives students practice using the reasoning that they learned earlier in the chapter. In addition, the theory is confronted with evidence that shows the student important implications for the real world.

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Chapter 8
An Economic Analysis of Financial Structure

The development of the literature in economics on asymmetric information and financial structure in recent years now enables financial institutions to be taught with basic economic principles rather than placing emphasis on a set of facts that students may find boring and so will forget after the final exam. This chapter provides an outline of this literature to the student and provides him or her with an economic understanding of why our financial system is structured the way it is. In addition, it emphasizes the ideas of adverse selection and moral hazard, which are basic economic concepts that are useful in understanding principles of bank credit risk management in Chapter 9, principles of bank regulation in Chapter 10, the economics of financial regulation in Chapter 11, and financial crises in Chapter 12.

The chapter begins with a discussion of eight basic facts about financial structure. Students find some of these facts to be quite surprising—the relative unimportance of the stock market as a source of financing investment activities, for example—which piques their interest and stimulates them to want to understand the economics behind our financial structure. The next two sections then explain these facts by providing an understanding of how transaction costs and asymmetric information affect financial structure. My experience with teaching this material is that it is very intuitive and therefore easy for students to learn. Furthermore, students find the material inherently exciting because it explains phenomena that they know are important in the real world. I have also found that it helps students to learn facts about the financial system because they now have a framework to make sense out of all these facts.

Two applications give students practice with using the concepts in the earlier asymmetric information analysis. They examine the role of financial development on economic growth and whether China is a counter-example to the importance of financial development. Students find these applications to be very stimulating because there is something inherently exciting about economic growth. These applications can be skipped without loss of continuity, especially for courses focusing on financial institutions.

The chapter has been designed to keep the textbook very flexible. The concepts of adverse selection and moral hazard were explained in Chapter 2 and are explained again in Chapter 9, so that Chapter 8 does not have to be covered in order to teach this or later chapters. Furthermore, the applications at the end of the chapter do not need to be covered in order to teach other chapters in the book.

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Chapter 9
Banking and the Management of Financial Institutions

Although this chapter performs the conventional function of outlining what banks (depository institutions) do and what their balance sheets look like, it also emphasizes the economic way of thinking about how banks manage their assets and liabilities to make a profit. Three tools are used throughout this chapter and the rest of the book—the asymmetric information concepts of adverse selection and moral hazard, introduced in Chapter 2, the theory of portfolio choice developed in Chapter 5, and T-accounts, introduced in this chapter. In teaching this material, it is worth emphasizing to the student that mastery of these tools will pay high dividends in helping them to learn (and perform well on exams) in this course.

The economics of bank management is important, not only because it will help students comprehend the operation of banks, the most important of our financial intermediaries, but also because bank management affects the money supply, as shown in Chapter14. The first three sections of the chapter—"The Bank Balance Sheet," "Basic Banking," and "General Principles of Bank Management"—place particular emphasis on the question of why banks hold excess reserves, since banks' decisions about the amount of excess reserves they hold play an important role in the money supply process.

The subsection, "Capital Adequacy Management," and the final three sections in the chapter, "Managing Credit Risk," "Managing Interest-Rate Risk," and "Off-Balance-Sheet Activities," discuss issues that have become increasingly important in recent years. Many instructors may therefore want to include this material in their courses, yet none of this material is essential to understanding later chapters, so it can be skipped without any loss of continuity. The application on how a capital crunch caused a credit crunch during the global financial crisis particularly piques the interest of students because it shows how changes in banks' behaviors can have major effects on the economy.

Chapter 9 has two appendices in MyLab Economics. The first outlines duration gap analysis and the second discuses how to measure bank performance. For instructors who are teaching students who might want to go into the financial industry, these appendices can give these students extra tools that they can use in their future jobs.

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Chapter 10
Economic Analysis of Financial Regulation

Chapter 10 stresses the economic way of thinking by conducting an economic analysis using the adverse selection and moral hazard concepts to show why our regulatory system takes the form it does and how it can lead to banking crises.

An appendix in MyLab Economics has a much more extensive discussion of the banking and S&L crisis in the 1980s, which is still relevant today because many of the same forces that caused the banking and S&L crisis caused the recent subprime financial crisis as well as the bailout of Fannie Mae and Freddie Mac. The appendix also has a detailed discussion of the principal-agent problem and how it explains the political economy of the banking crisis. This material is highly stimulating to students because it helps them understand how our political system affects our economic system. Also students, like all of us, enjoy reading about scandals, and this is why the Charles Keating story in the FYI box makes the principal-agent problem come alive. A second appendix in MyLab Economics goes into more detail on banking crises in other countries. This material will be useful to instructors who want to give their course a more international focus.

Note that Chapter 8 does not need to be covered in order to teach this chapter. However, if Chapter 8 is covered in class, Chapter 10 is a nice application of the analysis in that chapter. Indeed, the instructor might want to stress in class the counterparts in private financial markets to the methods financial regulators use to cope with adverse selection and moral hazard.

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Chapter 11
Banking Industry: Structure and Competition

Chapter 11 supplements Chapter 2 by going into much greater detail about the structure of the banking system. This chapter differs from conventional chapters on the banking industry in other money and banking textbooks by stressing a more dynamic, analytical framework than in other books. In particular, it provides an analytic framework for understanding the process of financial innovation in which financial institutions respond to changes in the financial environment by searching for innovations that are likely to be profitable. This framework is then used to show how financial innovation and changes in the ability to process information have led to a decline in the traditional banking business and to fundamental changes in the structure of the banking industry.

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Chapter 12
Financial Crises

Financial crises are inherently interesting because they are so dramatic. This has become even more the case with the recent global financial crisis that has had such devastating consequences for not only the U.S. economy, but for Europe as well. Indeed, teaching this material on the financial crises has engaged students' interest more than anything else I have taught in my entire career of over thirty years of teaching.

This chapter makes use of an asymmetric information analysis (agency theory) to explain the dynamics and adverse impact of financial crises. Teaching Chapter 8 in full is not necessary to cover Chapter 12 as long as the instructor goes over the concepts of asymmetric information, adverse selection, and moral hazard. Although Chapter 12 defines these concepts, many instructors will prefer to cover these concepts in more detail using the material in the first part of Chapter 8.

After defining the basic asymmetric information concepts, the chapter outlines the dynamics of financial crises in advanced economics by separating crises into three phases: the initial phase in which financial innovation or liberalization occurs, but is deeply flawed, so it leads to a credit boom and bust, the second phase of a banking crisis, and the third phase, which only occurs in the worst financial crises, of debt-deflation, in which a decline in the price level causes a further deterioration in household and businesses balance sheets. Figure 1 is particularly useful to get students to see the sequence of events and dynamics of financial crises, and going through all the stages in the figure helps students get the big picture of what is happening during financial crises.

Students will be most interested in using the analysis to discuss the application on recent financial crisis in 2007–2009, which was the worst financial crisis to hit the world since the Great Depression. Nonetheless, the application on the Great Depression is worth covering because it contains so many lessons for today.

For those instructors who would like to internationalize their course, a chapter available in MyLab Economics extends the analysis to *emerging market economies*, economies in an early stage of market development that have recently opened up to the flow of goods, services, and capital from the rest of the world.

The chapter ends with a discussion of where financial regulation might be heading in the aftermath of the global financial crisis. Instead of lecturing on this issue, I have the students themselves speculate on what measures may be needed to prevent a crisis like this from happening again. This gets them to apply the concepts in the chapter and makes for a very spirited discussion.

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Chapter 13
Nonbank Finance

This chapter supplements Chapter 2 by going into greater detail about the structure and regulation of nonbank financial institutions. To again stress the economic way of thinking, the chapter has a section that applies the concepts of moral hazard and adverse selection to explain many principles of insurance management. These concepts are also utilized in a section on government financial intermediation to look at the potential crisis that is brewing because of government loan guarantees. In addition, this chapter differs from more conventional chapters in other textbooks by stressing a more dynamic, analytical framework that explains why many nonbank financial institutions have been growing so rapidly in recent years.

Student interest can also be stimulated by class discussion of special interest boxes on whether social security should be privatized, the AIG blowup, and the bailout of Fannie Mae and Freddie Mac during the global financial crisis.

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Chapter 14
Financial Derivatives

The treatment of financial derivatives markets (forwards, futures, options, and swaps) in this book differs markedly from that in other money and banking textbooks. Financial derivatives are approached from the perspective of managers of financial institutions, and this is why this material is placed in the financial institutions part of the book. Rather than go into a lot of facts about these different markets, this chapter focuses on how the markets work and how they can be used to hedge the risk faced by financial institutions. This approach makes more sense to students who now clearly see why studying these markets and their operation is relevant.

One problem that I have encountered in teaching students about financial derivatives is that many do not find the financial derivative contracts to be particularly intuitive. In order to get them to understand how these contracts work, I find it helps to first discuss what hedging is and drive home the principal that hedging risk involves engaging in a financial transaction that offsets a long position by taking an additional short position, or vice versa. Then I find it important to walk them through a numerical example in class that shows them what the profits are for these contracts given different outcomes. In addition, to hammer home how these contracts work, this chapter contains several applications that provide specific examples of how hedges are conducted with financial futures, forward contracts, options, and swaps. I know of no other money and banking textbook that takes as applied an approach to teaching students about financial futures and forward contracts as I do in this book. My experience is that only with applications of the type found in this chapter can students have any real understanding of what financial derivatives are all about.

Other money and banking textbooks tend to give only a cursory treatment of what profits arise for a holder of an option contract given different market outcomes. They may have a figure illustrating the profits, but do not give a detailed explanation of how profits are generated. I think that this is a terrible mistake because students often do not find financial derivatives contracts to be particularly intuitive, and this is particularly true for the options contract. This chapter takes a different approach by containing an extensive explanation and discussion of Figure 1, which outlines the profits and losses that occur on financial options and futures contracts depending on what happens to the price of bonds. To get the students to understand these contracts and what their differences are, the instructor needs to carefully walk the students through the numerical example of Figure 1. My experience in class suggests that unless this is done, many students will just not understand what these financial derivatives, and particularly options, are all about.

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Chapter 15
Conflicts of Interest in the Financial Industry

Recent corporate and accounting scandals have attracted tremendous public attention and are of particular interest to students because resulting bankruptcies have cost employees of these firms their jobs and their pensions, and because the scandals may have hampered the efficient functioning of the financial system.

In addition, the growing concerns about the proliferation and effects of conflicts of interest have resulted in the decision of many business schools to add business ethics courses to their curriculums. This chapter allows the instructor to discuss ethical issues, but with the analysis grounded on the asymmetric information concepts featured so prominently in this book.

When I teach this material, I start by emphasizing that conflicts of interest occur when people who are supposed to act in the interests of the investing public by providing them with reliable information instead have incentives (conflicting interests) to deceive the public to benefit themselves and their corporate clients.

I then encourage the students to discuss which conflicts of interest arise in different sectors of the financial services industry. Then I emphasize how central information issues are in understanding why conflicts of interest occur and what remedies make sense to deal with them. The key point that comes out of this analysis is that conflicts of interest are only damaging if they reduce information flows in financial markets. This information-based framework for evaluating conflicts of interest raises two key points: (1) The fact that a conflict of interest exists does not necessarily have adverse consequences and (2) even if incentives to exploit conflicts of interest remain strong, eliminating the economies of scope that create the conflicts of interest may be harmful because it might reduce the flow of reliable information.

The chapter ends by describing five approaches to remedying conflicts of interest: (1) leave it to the market, (2) regulate for transparency, (3) supervisory oversight, (4) separation of functions, and (5) socialization of information production. Teaching the case at the end of the chapter that applies the analysis to Sarbanes-Oxley, the Global Legal Settlement, and the Dodd-Frank Bill of 2010 hammers home the basic concepts of the chapter and shows the students that the asymmetric information approach developed in this chapter can help them understand how conflicts of interest should be dealt with.

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Chapter 16
Central Banks and the Federal Reserve System

Chapters 16–19 explore in detail how monetary policy is conducted. Although most professors covering monetary theory will want to include much of this material in their courses, later chapters on monetary theory do not directly depend on Chapters 16–19, so they can be skipped without loss of continuity. Other professors covering monetary theory may prefer to teach this material after they have taught the chapters on monetary theory.

The chapter starts by discussing how the central bank in the United States—the Federal Reserve System—operates. The basic point that should be driven home in class is that although the Federal Reserve System has a complicated bureaucratic structure, in practice it functions like a single central bank, headquartered in Washington, D.C. Students should enjoy the discussion of how foreign central banks are structured, and how foreign central banks are similar to or differ from the central bank in the United States.

To help the instructor spice up the discussion of the Federal Reserve, I try to provide an inside view of the Fed by including material on such topics as the political genius of the way the Federal Reserve was set up to preserve its independence, the special role of the Federal Reserve Bank of New York and the research staff in the Federal Reserve System, how a typical FOMC meeting is conducted, the evolution of the Fed's communication strategy , how Ben Bernanke and Janet Yellen's style differs from that of the former Chairman of the Fed, Alan Greenspan, and how the foreign exchange and open market desks at the Federal Reserve Bank of New York operate. To feature this new material I have included some of it in a set of special interest boxes, titled "Inside the Fed," which provide insights on how the Federal Reserve System operates although they are based on information that is entirely in the public domain.

Students seem to particularly enjoy the next section in the chapter that discusses the theory of bureaucratic behavior and the related issue of whether or not central banks should be independent. Thus, I recommend focusing on these topics, rather than the detail of the Fed's and other central banks' structures, which can be tedious.

In addition to the institutional detail on the Fed that is usually found in money and banking textbooks, Chapter 16 also tries to provide the student with a feel for what motivates central bankers. Furthermore, discussing the theory of bureaucratic behavior shows students that the economic way of thinking is useful in understanding a wider range of problems than they might otherwise have thought.

Until recently, the Federal Reserve had no significant rivals in the central banking world. This changed in January 1999 with the startup of the European Central Bank (ECB), which now conducts monetary policy for countries that are members of the European Monetary Union, which in total have a population that exceeds that of the United States and a GDP comparable to that of the United States. Because of growing interest by students in the workings of the European Central Bank, the chapter has an extensive discussion of the structure and independence of the European Central Bank. To motivate the students, I focus on how the ECB is similar to the Federal Reserve, and how it differs. The chapter also contains brief descriptions of the structure and independence of three other important central banks of interest to students: the Bank of Canada, the Bank of England, and the Bank of Japan.

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Chapter 17
The Money Supply Process

This chapter provides an analysis of how the money supply is determined. One point that needs to be emphasized at the outset is that the money supply is not determined solely at the whim of the central bank; rather, there are two other players in the money supply process who also play an important role: banks and depositors. Chapter 17 first extensively discusses the simple model of multiple deposit creation, even though it is unrealistic and does not feature all of the players, because it illustrates the basic principles used later in the chapter. The critique of the simple model of multiple deposit creation then leads to a discussion of the money multiplier and a more complete treatment of the money supply process.

I have found that going over the summary Table 1 with students in class is an excellent device to help them review the money supply model; it gives them an overall and complete picture of how the money supply is determined.

Chapter 17 ends with an application on quantitative easing and the money supply in recent years. There has been tremendous confusion about this topic in the media because many pundits claim that quantitative easing has led to an explosion of high-powered money that will be highly inflationary. However, as the application shows, a change in the Fed's rules so that it could pay interest on reserves meant that a massive expansion of the Fed's balance sheet during and after the global financial crisis resulted in only a moderate increase in the money supply. This application should convince students that the analysis they have learned is not mere theory, but a useful means of explaining topics that are hotly debated in the media.

This chapter has four appendices in MyLab Economics: The first provides more detail on the Fed's balance sheet and the factors that affect the monetary base; the second derives the M2 money multiplier and explains the intuition behind it; the third provides an economic analysis of what determines the currency ratio; and the fourth looks at how bank panics during the 1930s affected the money supply. Some instructors may want to cover this material in class because it shows how money supply analysis can be extended to monetary aggregates other than M1 and provides more detail on how the money supply is determined. In addition, it provides students with additional practice in using the concepts they have learned in the chapter.

For instructors who would prefer to deemphasize discussion of the money supply process in their course, this chapter can easily be skipped. I have also found that I can skip this chapter.

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Chapter 18
Tools of Monetary Policy

Chapter 18 examines in detail the tools at the Fed's (and the European Central Bank's) disposal for conducting monetary policy. To fully understand how these tools are used in the conduct of monetary policy, this chapter shows how they affect the federal funds rate directly. Students are introduced to the nitty gritty of how the Fed wields these tools and are exposed to current debates on whether Fed policymaking could be made more effective by altering their use of these tools.

To keep the material in this chapter from being too descriptive, I have started the chapter with an analytic analysis of how Federal Reserve actions influence the federal funds rate. This analysis reflects the changes in the way the market for reserves works because the Fed now pays interest on reserves.

One topic that frequently does not get enough attention in money and banking courses is the lender-of-last-resort function of discounting. I feel this function should be stressed in class because students find it inherently interesting in the wake of the recent massive operations by the Fed during the global financial crisis. Also students will be particularly interested in the section on the nonconventional monetary policy tools used to combat the financial crisis and the Great Recession. Students particularly like to hear about real-world examples of monetary policy actions to avoid banking and financial panics. It is particularly worth discussing in class the examples in the Inside the Fed box on the Federal Reserve's lender-of-last-resort facilities during the global financial crisis.

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Chapter 19
The Conduct of Monetary Policy: Strategy and Tactics

Chapter 19 outlines the goals, strategies, and tactics of central bank policymaking. It starts by laying out modern theories of central banking: It first discusses the price stability goal and the role of a nominal anchor in solving the time-inconsistency problem and then discusses the other goals of monetary policy and why price stability is now viewed as the primary goal of monetary policy.

The time-inconsistency problem is one of the most important ideas in monetary theory in the last thirty years. I illustrate the time-inconsistency problem in class by using the example of how many people cannot stick to a diet even though they know this is the right thing for them to do in the long run. Many other examples can bring this idea home to the student. Another good example is the fact that it is optimal not to give in to children when they are behaving badly, but parents still have a tendency to renege on this optimal plan. A third example is that governments usually provide funds to rebuild in coastal areas after a hurricane, even though it is not optimal to build in areas that are likely to be ravaged by hurricanes. You might ask the students to think of other examples in order to hammer home this important idea.

The chapter then goes on to discuss two monetary policy strategies. The first is inflation targeting, which involves announcement of an inflation target objective, with a commitment by the central bank to achieve it. The Fed has been considering adoption of an inflation target, and I was a strong proponent of this policy framework when I was a governor of the Federal Reserve. The second, what I refer to as the "Just Do It" approach, is the one the Federal Reserve used before it adopted inflation targeting, which entails a strong commitment to control inflation, but without an explicit inflation target. There is an additional monetary policy strategy that central banks used in the past, but not currently—monetary targeting. For those instructors who would like to cover this material, I have provided an appendix to Chapter 16 found in MyLab Economics that covers monetary targeting. I have found that discussing the pros and cons of different monetary policy strategies piques students' interest. One teaching technique is to have students debate which strategy is best.

The chapter concludes the discussion of monetary policy strategy first, with a section on lessons from the global financial crisis. Then it discusses a particularly hot topic in central banking circles after the crisis, the debate on how central banks should respond to asset-price bubbles. Asset-price bubbles are particularly interesting to students because they involve huge booms in asset prices and then crashes, which are very dramatic. The issue of what should be done about asset-price bubbles is very controversial, and so one way of teaching this material is to stage a debate in class with two opposing views: that central banks should not respond at all, which is the position associated with Alan Greenspan, or alternatively, that monetary policy should try to preemptively prick bubbles.

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The chapter then moves on to discuss monetary policy tactics: in particular, what policy instrument should be chosen to conduct monetary policy. Figures 3 and 4 illustrate why targeting on a monetary aggregate like nonborrowed reserves implies a loss of control of interest rates like the federal funds rate, while targeting on the federal funds rate implies a loss of control of monetary aggregates. This analysis can also be done in terms of the supply and demand for money framework. Indeed, covering this topic is an excellent way of providing students with another application to give them practice with the supply and demand analysis for the market for reserves or the market for money.

The second tactical issue is how to set a target for the federal funds rate with the so-called Taylor rule. Discussion of the Taylor rule helps students understand that the Fed focuses not only on inflation but also on fluctuations around potential output. The role of the output gap in setting monetary policy follows from Phillips curve theory and the validity of the NAIRU concept. The Phillips curve and NAIRU are very controversial of late, and a discussion of the controversy can engage students in understanding how difficult it is for the Federal Reserve to decide on the appropriate stance of monetary policy.

The chapter has a second appendix in MyLab Economics that provides a historical discussion of how the Fed has conducted monetary policy over the last 90 years. It presents students with many real-world examples that make the study of monetary policy more concrete. It also provides students with a review of the money supply process and how the Fed's policy tools work, thus giving them another pass at this material, which should solidify their understanding of it. Finally, it will give students some perspective on where monetary policy may be heading in the future.

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Chapter 20
The Foreign Exchange Market

Chapter 20 explains behavior in the foreign exchange market by using a modern asset-market approach to exchange rate determination. This asset-market approach is now the dominant method of analyzing exchange rate movements in the literature, and it has major advantages over the more conventional treatment of the foreign exchange market typically found in money and banking textbooks.

As the second application in the chapter indicates, the asset-market approach, in contrast to earlier approaches emphasizing import and export demand, can be used to explain a feature of the foreign exchange market that has received much attention in the press in recent years: the high volatility of exchange rates. This phenomenon is not well explained by the earlier flow approach because it does not predict that exchange rates should be highly volatile.

The asset-market approach is developed in several steps. First, the long-run determinants of the exchange rate are laid out, and then the information about the long-run determinants is embedded in a model of the short-run determination of exchange rates. The key idea that must be transmitted to the student is that the demand for domestic currency (say dollar) assets is determined by the relative expected return on these assets.

To help students achieve an intuitive grasp of how the relative expected return on domestic assets, and hence the demand curve shifts, tell them to put themselves in the shoes of an investor who is thinking about putting his or her money into foreign or domestic assets. When a factor changes, have them ask themselves whether at the same exchange rate they would earn a higher expected return on domestic assets—if so, the demand curve has shifted to the right. This kind of thinking will help them manipulate the demand curve so they can predict which way the exchange rate changes. Several summary tables in the chapter should help students master the material, and I have found that using them in class helps greatly in clarifying the discussion.

The four applications in the chapter on the response of exchange rates to changes in interest rates, why exchange rates are so volatile, the relationship between the value of the dollar and interest rates, and the effect of global financial crisis on the dollar can all be used in class to show students that the material they have learned has practical uses.

In teaching my class, I again bring the previous day's *Wall Street Journal* "Currency Trading" column into class and then conduct a case discussion of the column using the analysis developed in the chapter. The case discussion is always very lively and the students love it.

Some instructors like to teach the foreign exchange market at the same time they discuss the bond market and stock market which is what I do. They can do this by teaching this chapter immediately after Chapter 7 if they so choose.

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Chapter 21
The International Financial System

Chapter 21 shows why international financial transactions have important implications for the conduct of monetary policy. The beginning of the chapter explains how foreign exchange market intervention affects the exchange rate, a country's international reserves, and the money supply. It then discusses the balance of payments, but this sometimes-dry topic can be spiced up for students by a discussion of the box on why large current account deficits worry economists.

The chapter then goes on to discuss the evolution of the international financial system and how fixed exchange rate systems work. Two applications in this section make the material come alive for students. The first examines the September 1992 foreign exchange crisis and recent foreign exchange crises in emerging market countries This application captures the imagination of students because huge profits were made during this crises and because government intervention in the markets was massive. The second examines how China has accumulated over $4 trillion of international reserves, a subject of great interest to students. These applications also give students further practice with the model of the foreign exchange market developed in Chapter 20.

The currency and financial crises in in recent years have caused policymakers throughout the world to focus on how the architecture of the international financial system might be reformed in order to limit the threat of financial crises. Concerns about international financial architecture have led to a lively debate, to say the least, about the role of the International Monetary Fund and capital controls. I use the discussion in the text on these subjects to stimulate a lively debate among the students, which gets them to realize that what happens outside the United States is still of tremendous importance to us. The next section on international considerations and monetary policy explains how international financial transactions and movements in the exchange rate can affect monetary policy, and this material is closely related to the discussion in Chapter 19 about the conduct of monetary policy.

The final section on exchange rate targeting can be staged as a debate in class of the pros and cons of fixed versus flexible exchange rate regimes and can be linked to the discussion of international financial architecture. Debates can also be staged on the desirability of exchange rate targeting versus other monetary policy strategies such as inflation targeting.

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Chapter 22
Quantity Theory, Inflation, and the Demand for Money

Chapter 22 discusses two of the basic building blocks of monetary theory, the quantity theory of money and the demand for money, examining how these theories can explain inflation in the long run, This material is more appropriate for a course that emphasizes monetary theory, and many professors will prefer not to cover it. Later chapters do not depend on this material, so dropping it from your course will not hinder students' ability to understand later chapters.

The chapter starts with the quantity theory of money. The key equation to get students to understand is the equation of exchange in Equation 2, which is then transformed into the quantity theory Equation 4. The quantity theory embedded in Equation 6 is then tested in the application, "Testing the Quantity Theory of Money," which shows that the theory helps explain long-run inflation.

Using the quantity theory, the next section of the chapter discusses how budget deficits can lead to inflation. Students find this discussion particularly interesting because of the current debates in Congress on reigning in budget deficits. The key to getting students to understand why budget deficits matter to inflation is to emphasize the government budget constraint in Equation 7. The application on the Zimbabwean hyperinflation is fun to discuss in class, not only because it illustrates how budget deficits lead to high inflation but also because Robert Mugabe is famous for destroying his country and hyperinflation is one manifestation of his disastrous policies.

This chapter then describes the two basic approaches to theories of the demand for money: Keynesian theories and portfolio-choice theories. This seems to be the natural way to organize this material. It is important to emphasize in class that a central question in monetary theory is whether the demand for money is affected by changes in interest rates, because this issue is crucial to how we view money's effect on aggregate economic activity. This is why the discussion in this chapter always focuses on the role of interest rates in the demand for money.

The chapter ends with a discussion of the current state of empirical evidence on the demand for money, and it focuses on two basic questions that are central in monetary theory: (1) How sensitive is the demand for money to changes in interest rates? and (2) Is the demand for money function stable over time? The discussion here is nontechnical but should give the student a feel for how empirical research in economics is done. A far more extensive discussion of the empirical evidence can be found in an appendix to this chapter in MyLab Economics. If students in the course have some training in regression analysis, a professor may want to spend more time on the empirical work on money demand. An excellent supplementary reading in this case is Goldfeld's article, "The Demand for Money Revisited," listed in the footnotes in the appendix. This article is very clearly written and demonstrates how high-quality empirical work should be done.

To satisfy professors who want to include more detail on Keynesian theories of money demand, a second appendix found in MyLab Economics provides a treatment of the Baumol-Tobin and the Tobin mean-variance models.

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Chapter 23
Aggregate Demand and Supply Analysis

The basic tool used to analyze the role of money in the economy in this book is a dynamic aggregate demand and supply analysis. The aggregate demand/aggregate supply model in this book differs from that in many other textbooks because it is inherently dynamic and emphasizes the interaction of inflation and economic activity. In contrast to older *AD/AS* frameworks that have the price level on the vertical axis, the dynamic *AD*/AS approach in this textbook has inflation on the vertical axis.

There are several advantages to the approach used here. First, students have to learn only one model to understand fluctuations in output and inflation, the *AD/AS* model here, while older approaches require two models, the ISLM model and then a separate *AD/AS* model. Learning just one model is almost always easier than learning two. Second, the dynamic *AD/AS* model used here directly allows analysis of the interaction of inflation and economic activity, a key feature of modern macroeconomic analysis. Third, because the model directly builds in expectations as a central element, it can far more directly deal with current policy discussions about the importance of credibility to the success of macro policies and the benefits of adopting a strong nominal anchor like an inflation target in conducting monetary policy.

The chapter starts with a discussion of the aggregate demand curve. In teaching this material, it is again useful in class to make use of the teaching device of the Summary Table 1, which summarizes what factors cause the aggregate demand and supply curves to shift. Listing changes in the variables that shift the *AD* curve and then asking students to fill in the tables by saying which way the curve will shift and the reasons behind the shift will give them the practice they need to master the aggregate demand curve.

The chapter then develops the remaining building block of the *AD/AS* framework, the aggregate supply curve. This chapter develops the aggregate supply intuitively, stressing that the long-run aggregate supply curve is a vertical line determined by the amount of capital in the economy, the amount of labor supplied at full (the natural rate level of) employment, and the available technology. It develops the short-run aggregate supply curve using the intuition that there are three factors that drive inflation: (1) expectations of inflation, (2) output gap, and (3) price (supply) shocks. The Summary Table 2 can be used to hone students' intuition by listing changes in the variables that shift the short-run *AS* curve and then asking students to fill in the tables by saying which way the curve will shift and the reasons behind the shift. This intuitive approach to understanding the aggregate supply curve works extremely well with students, but some instructors will want to delve deeper into the theory behind the short-run aggregate supply curve and show that it is developed from a Phillips curve analysis and Okun's law. The appendix at the end of the chapter allows them to do this. The next step is to describe the equilibrium in *AD/AS* analysis, while getting across the key point that there are two equilibria. The short-run equilibrium occurs at the intersection of the *AD* curve with the short-run *AS* curve, while the long-run equilibrium occurs at the intersection of the *AD* curve and the long-run aggregate supply curve. The chapter then shows them how the economy has a self-correcting mechanism

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because over time, a sequence of short-run equilibria lead the economy to go to the long-run equilibrium at which output returns to potential and the economy is at full employment.

The rest of the chapter shows how inflation and equilibrium output changes as a result of either aggregate demand shocks or aggregate supply (inflation) shocks. To drive home the analysis and also show students how useful the *AD/AS* model is, the chapter goes through a large number of applications. The first two, "The Volcker Disinflation, 1980–1986" and "Negative Demand Shocks, 2001–2004" demonstrate how the economy responded to demand shocks. The next two "Negative Supply Shocks, 1973–1975" and 1978–1980," and "Positive Supply Shocks, 1995–1999," demonstrate how the economy responded to supply shocks. The application, "Negative Supply and Demand Shocks and the 2007–2009 Financial Crisis," shows how the economy can be devastated by the double whammy of adverse supply and demand shocks. The chapter ends with two applications involving foreign countries, "The United Kingdom and the 2007–2009 Financial Crisis" and "China and the 2007–2009 Financial Crisis," to show how useful the *AD/AS* model is in explaining foreign business cycle episodes, just as it is for U.S. business cycle episodes. All of these applications are self-contained, so an instructor can pick and choose the ones he or she would like to teach in class. However, I think there is nothing more fun than to explain important historical episodes, which all of the applications do, and show how powerful economic models can be used to explain real-world phenomena.

In order to bring international factors into the aggregate demand and supply analysis of the chapter, net exports are included in the definition of aggregate demand. This enables the instructor to discuss how international trade flows can affect aggregate output and inflation. If the instructor wants to stick with a closed-economy framework, he or she can easily ignore the material in the chapter that deals with international trade by just leaving net exports out of his or her discussion. None of the basic analysis in this or later chapters will be affected by this choice. However, if the instructor wants to fully internationalize the course, he or she might want to teach Chapters 20 and 21, which provide a more complete description of how monetary policy affects foreign exchange rates, before teaching this chapter.

For those instructors who want to spend more time on monetary theory and delve deeper into the dynamic *AD/AS* model, the chapter has four appendices available in MyLab Economics. The first, "The Effects of Macroeconomic Shocks on Asset Prices," is worth teaching to students who are interested in pursuing careers in finance. It shows how the *AD/AS* model can explain how macroeconomic events that students are seeing reported in the media every day affect both stock prices and interest rates. The second appendix in MyLab Economics provides a numerical example of aggregate demand and supply analysis, while the third, "The Algebra of the Aggregate Demand and Supply Model," develops all the results described in the chapter algebraically. These two appendices allow the instructor to bring in more mathematics to the treatment of monetary theory for students who are more mathematically inclined. The last appendix formally demonstrates that the Taylor principle is necessary for inflation stability and thus provides the rationale for why a central bank has to raise the real interest rate as inflation rises, giving the *MP* curve an upward slope.

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Chapter 24
Monetary Policy Theory

Chapter 24 brings a new set of actors into the *AD/AS* framework—policymakers—and develops the theory behind monetary policy making, examining how monetary policymakers react to shocks to the economy in order to stabilize both inflation and economic activity. One unique feature of the dynamic *AD/AS* framework in this book is that it can address policy questions that other frameworks cannot, such as "When does stabilizing inflation, stabilize output (i.e., when does the divine coincidence occur)?"

The chapter starts by seeing how policymakers respond to shocks to aggregate demand or aggregate supply to achieve these objectives. The analysis in the chapter makes clear that stabilizing inflation stabilizes economic activity, so there is no policy tradeoff, except when there are shocks to aggregate demand or permanent shocks to aggregate supply. On the other hand, temporary shocks to aggregate supply do involve a policy tradeoff because in this case stabilizing inflation does not stabilize economic activity.

Another big issue in macroeconomics is whether policymakers should be activist—i.e., respond aggressively to fluctuations in economic activity—or alternatively, not respond and be nonactivist. One way of bringing home to the students the importance of this issue is to discuss in class the box on the activist/nonactivist debate over the Obama fiscal stimulus package.

The chapter also discusses what causes inflation and one of the most famous adages in macroeconomics, coined by Milton Friedman: "Inflation is always and everywhere a monetary phenomenon." It then delves more deeply into why inflationary monetary policy occurs. The *AD/AS* model shows that overly expansionary monetary policy that leads to high inflation can occur when the policymakers try to achieve high employment targets. The application on the Great Inflation shows students that this is not just a theoretical possibility, but actually occurred from the late 1960s to the early 1980s.

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Chapter 25
Transmission Mechanisms of Monetary Policy

Chapter 25 discusses the transmission mechanisms of monetary policy so that students can understand how monetary policy affects the economy. The two applications on monetary transmission mechanisms during the Great Recession and the lessons this research provide to monetary policymaking for Japan also stimulate student interest.

An appendix in MyLab Economics discusses the empirical evidence on whether or not money is important to aggregate economic activity and provides the student with an understanding of the transmission mechanisms of monetary policy. I teach this material because it gives students a feel for how tricky it is to interpret empirical evidence in economics and other social sciences. The appendix starts off by dichotomizing evidence into two types: reduced-form versus structural-model evidence. I have found that the best way to teach the difference between these two types of evidence and the advantages and disadvantages of each type is to give several analogies. The link between coffee drinking and heart disease mentioned in the chapter is one useful analogy; others include the link between cholesterol and heart disease or jogging and long life. Explaining why correlation does not imply causation is also helped by stories such as the boxes on the Russian folktale or how to lose an election in Box 2. Students find these stories to be fun, and they really drive the point home.

Once students understand the advantages and disadvantages of reduced-form versus structural-model evidence, encourage them to discuss the problems with the Keynesian and monetarist evidence described in the appendix in order to give them practice in using this knowledge. An important point to stress is that evidence is much easier to interpret if we have controlled experiments in which an event is exogenous; we can then look for what happens afterward. The ability to conduct controlled experiments in the hard sciences is one reason why empirical evidence in these sciences is so much more persuasive than in economics. This discussion also suggests why economists frequently look for exogenous events in evaluating empirical evidence: It makes the evidence stronger and easier to interpret, as is the case for monetarist historical evidence.

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MyLab Chapter 1
Financial Crises in Emerging Market Economies

This MyLab chapter is for instructors who want to have a more international orientation of their courses. It extends the analysis in Chapter 12 on financial crises to economies that are just entering the world marketplace. The analysis is parallel to that in Chapter 12, with Figure 1, which is similar to Figure 1 in Chapter 12, outlining the dynamics of financial crises in emerging market economies. Then the chapter takes students through two detailed applications, South Korea in 1997–1998 and Argentina in 2001–2002, to illustrate how useful the analysis in the chapter is.

I have found that my students particularly enjoy the discussion of the crazy government policies that promote financial crises in emerging market countries, and I spend a lot of time on this in the case on South Korea because of the perverse policies to help out the chaebols, who had an enormous influence on South Korean politics. Similarly, I spend a lot of time in the case on Argentina discussing how severe fiscal imbalances led to policies that encouraged banks to take on government debt, which eventually was to be their downfall.

Once the case discussions are finished, students can use the material at the end of the chapter to debate differing policies to prevent future emerging market financial crises. They also enjoy the global box on the Icelandic financial crisis, because it illustrates how advanced economies can find themselves in similar circumstances to emerging market economies and be subjected to the enormous costs of financial crises.

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MyLab Chapter 2
The *IS* Curve

This MyLab chapter introduces the basic concept of aggregate demand and develops one of the key building blocks of the AD/AS model, the *IS* curve. The framework here is pretty conventional, first outlining the components of planned expenditure—consumption expenditure, planned investment spending, government purchases, and net exports. Then the chapter goes into detail about goods market equilibrium, when planned equals actual expenditure, and shows how this equilibrium generates the *IS* curve, the relationship between the real interest rate and equilibrium output. Spending a fair amount of time in class on the concept of goods market equilibrium, and why the economy will gravitate to this equilibrium, is worthwhile because this concept is so important to short-run macroeconomic analysis.

One element of the framework here that is not conventional is that I build directly into the *IS* curve the impact of financial frictions on aggregate demand. After the global financial crisis, it is now imperative to discuss the interaction of finance and the macroeconomy and this is done at the outset in this textbook's discussion of monetary theory.

The chapter then goes on to provide a deeper understanding of the *IS* curve by explaining the intuition behind it, using a numerical example to explain it with mathematics Then the chapter takes the student through all the factors that shift the *IS* curve and explains the intuition for how each factor shifts the *IS* curve. The application of the Vietnam War buildup from 1964 to 1969 and its effect on the economy shows that the *IS* curve analysis is a useful one for explaining interesting historical episodes (and the Vietnam War period is one close to my heart because it had such a big impact on my generation). Discussion of the application on the fiscal stimulus package of 2009 also shows students that the analysis in this chapter is useful for understanding more recent events.

One teaching device that I have found helps students develop their intuition is the use of Summary Table 1 in class. You can use the blackboard to write a list of changes in variables that shift the *IS* curve and ask students to fill in the table by saying which way the *IS* curve shifts in response to each change and explaining what the reasoning is. This exercise gives them good practice in developing their analytic abilities. I use this device continually throughout this part of the book, as is evidenced from similar summary tables in later chapters. I recommend this approach highly.

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MyLab Chapter 3
The Monetary Policy and Aggregate Demand Curves

MyLab Chapter 3 develops two other building blocks of the *AD/AS* framework, the monetary policy curve and the aggregate demand curve. It explains why monetary policymakers raise interest rates when inflation rises so that there is a positive relationship between real interest rates and inflation, which is called the monetary policy (*MP*) curve. It also explains that shifts in monetary policy involve autonomous easing or tightening of monetary policy, which involve changes in the real interest rate for a given level of inflation. Students often struggle with the difference between *movements along* the *MP* Curve and *shifts* in the *MP* curve. Two applications help clarify this for students: Movement Along the *MP* Curve: The Rise in the Federal Funds Rate Target, 2004–2006," and "Autonomous Monetary Easing at the Onset of the 2007–2009 Financial Crisis." These two applications provide useful illustration to cover in class to hammer home the distinction between movements along and shifts in the *MP* curve.

The chapter then goes on to use the *MP* curve with the *IS* curve from the previous chapter to derive the aggregate demand (*AD*) curve, a key element in the *AD/AS* framework. The *AD* curve has the usual downward slope, but in contrast to the more traditional *AD* curve in other textbooks, it displays a negative relationship between inflation (instead of the price level) and aggregate demand. The *AD* curve is derived both graphically and with a numerical example to hone students' intuition, and students are shown that the factors that shift the *IS* curve are the same ones that shift the *AD* curve in exactly the same direction.

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MyLab Chapter 4
The Role of Expectations in Monetary Policy

Over the last thirty years, the role of the public and the market's expectations has moved to the front and center of the thinking about how the macro economy works. MyLab Chapter 4 discusses the most widely used theory to describe the formation of household and business expectations—rational expectations—and develops it from microeconomic principles. Using the *AD/AS* model developed earlier in the book, it then explores how this theory has shaped current policy-making and debates.

The chapter starts by using the concept of rational expectations introduced in Chapter 7 to discuss one of the most important ideas in macroeconomics in the last thirty years, the Lucas critique, which says that macro-econometric relationships based on past data will change when the way policy is done is changed, so that policy evaluation with these models can be very misleading. The intuition behind the Lucas critique is illustrated in an application with a simple example using the consumption function. There are numerous other examples an instructor might want to discuss in class.

The chapter next turns to a set of policy issues. The first is the debate over whether policymakers should follow rules or instead conduct policy with complete discretion, in which policy is conducted on a day-to-day basis. The argument for rules is based on the time-inconsistency problem, another one of the most important ideas in macroeconomics over the last thirty years. The problem with discretion is that policymakers can't commit to good long-run strategies. Instead they have incentives to renege on the good strategy and therefore pursue policy that leads to poor outcomes. I like to illustrate this concept in class by presenting everyday examples. One is how we eat. We don't want to eat unhealthy food, but when we see that juicy hamburger, we just can't resist it. Another example is the inability to stay on a diet, as discussed in the text. I also like discussing the problem of child rearing and the temptation to give in to bad behavior. This example also illustrates why having a rule helps solve the time-inconsistency problem. Rules, however, "are made to be broken," as the adage says. The application "The Political Business Cycle and Richard Nixon" provides a graphic historical example of the time-inconsistency problem at work, while the second Policy and Practice box, "The Demise of Monetary Targeting in Switzerland," illustrates how following rules can lead to policy mistakes. A solution to the problems with both rules and complete discretion is provided by the concept of "constrained discretion," a term that Ben Bernanke and I coined in a paper published in 1997. Constrained discretion imposes rule-like behavior on policymakers by imposing a discipline on them, but one that allows for some flexibility. This is exactly the approach in the policy framework of inflation targeting, which was discussed in Chapter 19.

The next policy issue the chapter discusses is the role of credibility and a nominal anchor. Here, the rational expectations conclusion that expectations about policy affect inflation expectations is embedded in the *AD/AS* model, which is then used to show that having a credible commitment to a nominal anchor produces better outcomes on both inflation and output when there are either demand or supply shocks. To demonstrate to students that the analysis is relevant to real-world outcomes, it is worth discussing in class the application "A Tale of Three Oil Shocks" to show

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that a surge in oil prices has adverse affects on the economy when the commitment to a nominal anchor is weak, as occurred in the two oil price shocks in the 1970s. On the other hand, when the Federal Reserve commitment to the nominal anchor of controlling inflation was strong, then an oil price shock like that in 2007 did not have as adverse consequences (although the financial crisis did).

Students also enjoy historical examples showing how credibility is critical to the success of anti-inflation policies. The box on ending the Bolivian hyperinflation drives home the importance of credibility because it is so dramatic. The application that discusses credibility and the Reagan budget deficits asks the student to use the analysis he or she has learned in this chapter to see if Reagan's budget deficits might have made anti-inflation policy in that period less successful. The application not only gives students additional practice in using the material they have learned but also shows them that this material is important in current policy debates.

The final section of the chapter discusses different approaches to establishing a credible nominal anchor. Besides the approaches of inflation targeting, outlined in Chapter 19, and exchange rate targeting, discussed in Chapter 21, this chapter discusses a variant of the inflation targeting approach, nominal GDP targeting, that has received a lot of attention lately. It also discusses an additional approach, the appointment of inflation hawks (dubbed "conservative" by Ken Rogoff) to head central banks. The Inside the Fed box, "The Appointment of Paul Volcker," shows students that this strategy has indeed been used in the past when Paul Volcker was appointed as Fed Chairman in 1979.

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MyLab Chapter 5
The *ISLM* Model

This chapter, in MyLab Economics, allows instructors to teach the *ISLM* model if they so choose. It lays out the *ISLM* model step by step by deriving the *LM* curve and then putting the *IS* curve developed in MyLab Chapter 2 and the *LM* curve in one diagram and explains why equilibrium occurs at their intersection. The application in the middle of the chapter on the Economic Stimulus Act of 2008 livens up the material and should convince the student that Keynesian analysis does have something to say about real-world phenomena.

The chapter goes on to discuss the effects of monetary and fiscal policy. It proceeds in a step-by-step fashion to make it easier for the student to learn the material: (1) it outlines the factors that shift the *LM* curve; (2) it shows how the shifts in the *LM* and *IS* curves cause changes in the equilibrium level of the interest rate and aggregate output; and (3) it discusses the effectiveness of monetary versus fiscal policy.

The application on targeting money supply versus interest rates shows how the *ISLM* model has something important to say about an issue raised in Chapter 19: Should the Fed conduct monetary policy by targeting the monetary aggregates or interest rates?

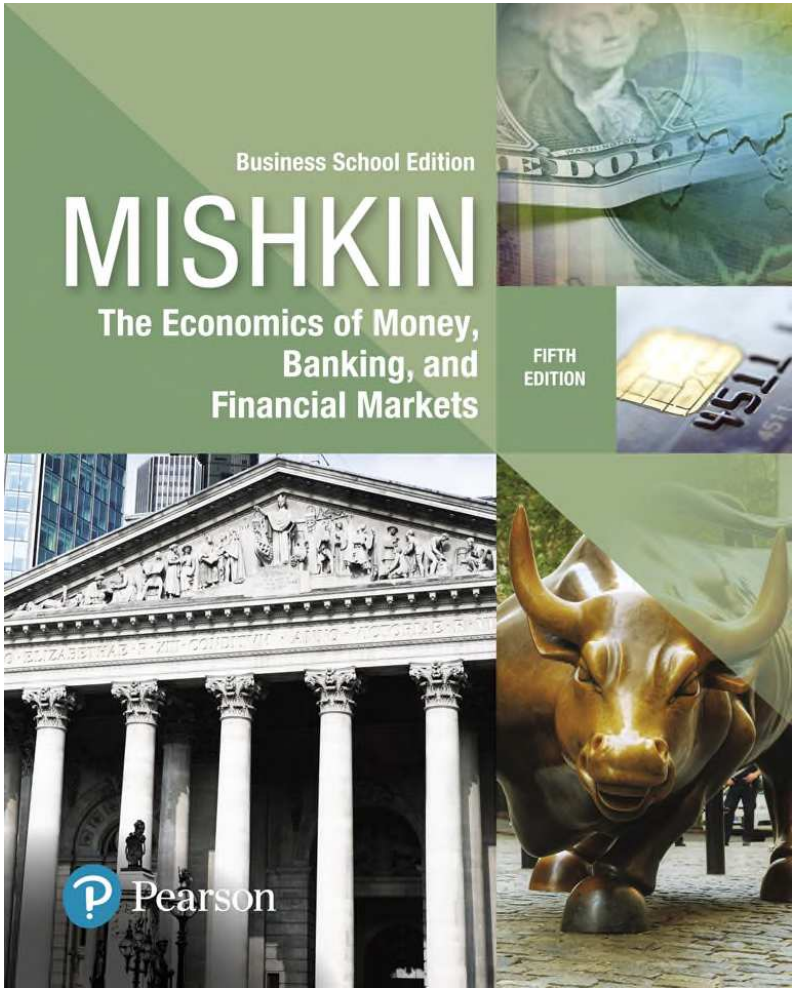
A mathematical appendix provides an algebraic treatment of the *ISLM* model for those instructors who want to make this material more mathematical.

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The Economics of Money, Banking, and Financial Markets

Business School Edition, Fifth Edition



Chapter 2

An Overview of the Financial System

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Preview

- This chapter presents an overview of the study of financial markets and institutions.

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Learning Objectives (1 of 2)

- Compare and contrast direct and indirect finance.
- Identify the structure and components of financial markets.
- List and describe the different types of financial market instruments.
- Recognize the international dimensions of financial markets.

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Learning Objectives (2 of 2)

- Summarize the roles of transaction costs, risk sharing, and information costs as they relate to financial intermediaries.
- List and describe the different types of financial intermediaries.
- Identify the reasons for and list the types of financial market regulations.

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Function of Financial Markets (1 of 2)

- Performs the essential function of channeling funds from economic players that have saved surplus funds to those that have a shortage of funds
- **Direct finance**: borrowers borrow funds directly from lenders in financial markets by selling them securities

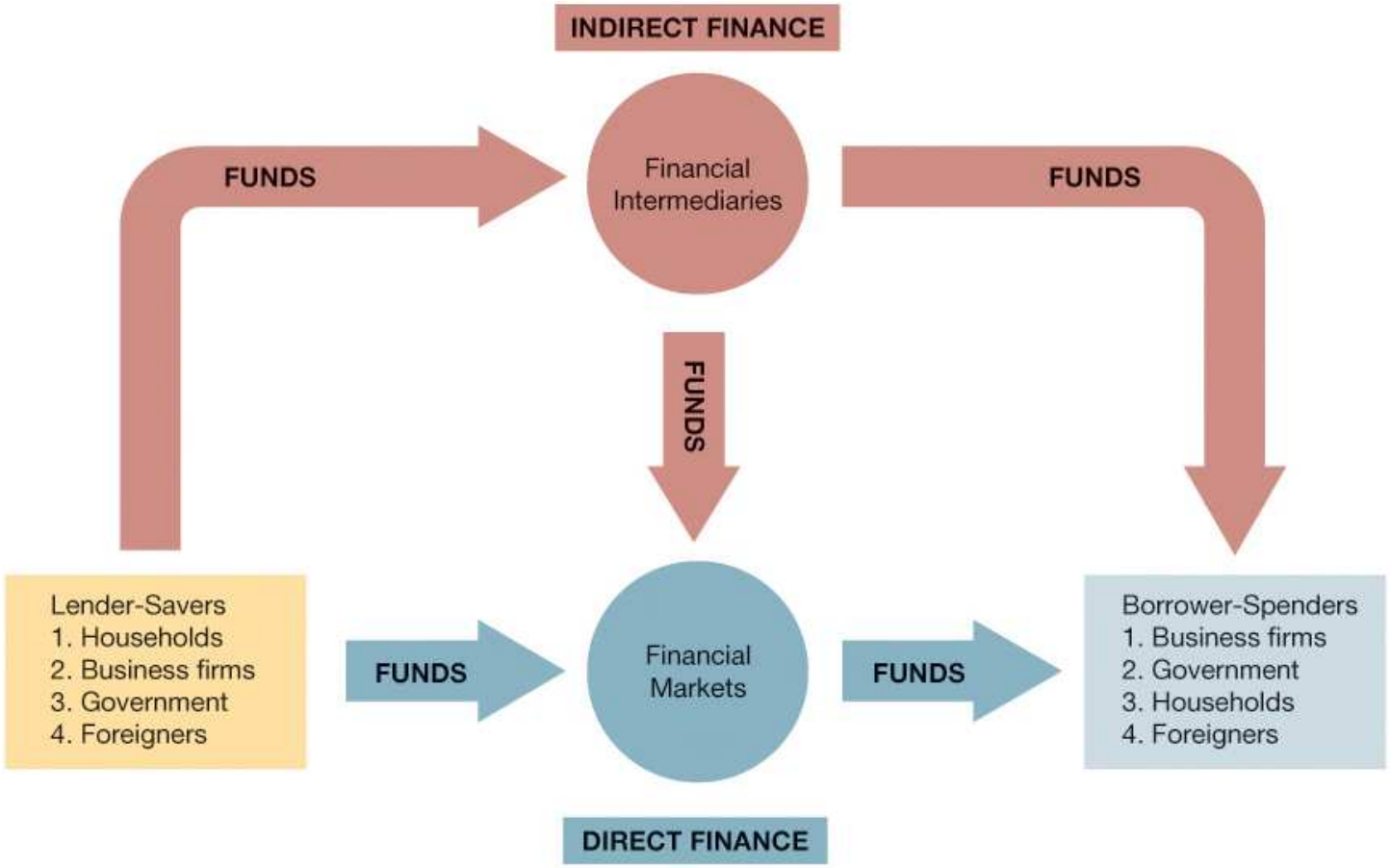
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Function of Financial Markets (2 of 2)

- Promotes economic efficiency by producing an efficient allocation of **capital**, which increases production
- Directly improve the well-being of consumers by allowing them to time purchases better

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Figure 1 Flows of Funds Through the Financial System



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Structure of Financial Markets (1 of 2)

- Debt and Equity Markets
  - Debt instruments (**maturity**)
  - **Equities** (**dividends**)
- Primary and Secondary Markets
  - **Investment banks *underwrite*** securities in **primary markets**.
  - **Brokers** and **dealers** work in **secondary markets**.

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Structure of Financial Markets (2 of 2)

- Exchanges and Over-the-Counter (OTC) Markets:
  - **Exchanges**: NYSE, Chicago Board of Trade
  - **OTC markets**: Foreign exchange, Federal funds
- Money and Capital Markets:
  - **Money markets** deal in short-term debt instruments
  - **Capital markets** deal in longer-term debt and equity instruments

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Financial Market Instruments (1 of 2)

Table 1 Principal Money Market Instruments

	Amount ($ billions, end of year)			
Type of Instrument	**1990**	**2000**	**2010**	**2016**
U.S. Treasury bills	527	647	1,767	1,816
Negotiable bank certificates of deposit (large denominations)	547	1,053	1,923	1,727
Commercial paper	558	1,602	1,058	885
Federal funds and security repurchase agreements	372	1,197	3,598	3,778

Source: Federal Reserve Flow of Funds Accounts; http://www.federalreserve.gov

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Financial Market Instruments (2 of 2)

Table 2 Principal Capital Market Instruments

	Amount ($ billions, end of year)			
Type of Instrument	**1990**	**2000**	**2010**	**2016**
Corporate stocks (market value)	3,530	17,628	23,567	38,685
Residential mortgages	2,676	5,205	10,446	10,283
Corporate bonds	1,703	4,991	10,337	12,008
U.S. government securities (marketable long-term)	2,340	3,171	7,405	12,064
U.S. government agency securities	1,446	4,345	7,598	8,531
State and local government bonds	957	1,139	2,961	3,030
Bank commercial loans	818	1,497	2,001	3,360
Consumer loans	811	1,728	2,647	3,765
Commercial and farm mortgages	838	1,276	2,450	2,850

Source: Federal Reserve Flow of Funds Accounts; http://www.federalreserve.gov

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Internationalization of Financial Markets

- **Foreign Bonds**: sold in a foreign country and denominated in that country's currency
- **Eurobond**: bond denominated in a currency other than that of the country in which it is sold
- **Eurocurrencies**: foreign currencies deposited in banks outside the home country
  - **Eurodollars**: U.S. dollars deposited in foreign banks outside the United States or in foreign branches of U.S. banks
- **World Stock Markets**:
  - help finance corporations in the United States and the U.S. federal government

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Function of Financial Intermediaries: Indirect Finance (1 of 3)

- Lower transaction costs (time and money spent in carrying out financial transactions)
  - Economies of scale
  - Liquidity services
- Reduce the exposure of investors to risk
  - Risk sharing (asset transformation)
  - Diversification

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Function of Financial Intermediaries: Indirect Finance (2 of 3)

- Deal with asymmetric information problems:
  - **Adverse Selection** (before the transaction): try to avoid selecting the risky borrower by gathering information about them
  - **Moral Hazard** (after the transaction): ensure borrower will not engage in activities that will prevent him/her to repay the loan.
    - Sign a contract with restrictive covenants.

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Function of Financial Intermediaries: Indirect Finance (3 of 3)

- Conclusion:
  - Financial intermediaries allow “small” savers and borrowers to benefit from the existence of financial markets.

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Types of Financial Intermediaries (1 of 5)

Table 3 Primary Assets and Liabilities of Financial Intermediaries

Type of Intermediary	Primary Liabilities (Sources of Funds)	Primary Assets (Uses of Funds)
Depository institutions (banks)		
Commercial banks	Deposits	Business and consumer loans, mortgages, U.S. government securities, and municipal bonds
Savings and loan associations	Deposits	Mortgages
Mutual savings banks	Deposits	Mortgages
Credit unions	Deposits	Consumer loans

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Types of Financial Intermediaries (2 of 5)

[**Table 3** Continued]

Type of Intermediary	Primary Liabilities (Sources of Funds)	Primary Assets (Uses of Funds)
Contractual savings institutions		
Life insurance companies	Premiums from policies	Corporate bonds and mortgages
Fire and casualty insurance companies	Premiums from policies	Municipal bonds, corporate bonds and stock, and U.S. government securities
Pension funds, government retirement funds	Employer and employee contributions	Corporate bonds and stock

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Types of Financial Intermediaries (3 of 5)

[**Table 3** Continued]

Type of Intermediary	Primary Liabilities (Sources of Funds)	Primary Assets (Uses of Funds)
Investment intermediaries		
Finance companies	Commercial paper, stocks, bonds	Consumer and business loans
Mutual funds	Shares	Stocks, bonds
Money market mutual funds	Shares	Money market instruments
Hedge funds	Partnership participation	Stocks, bonds, loans, foreign currencies, and many other assets

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Types of Financial Intermediaries (4 of 5)

Table 4 Primary Financial Intermediaries and Value of Their Assets

	Value of Assets ($ billions, end of year)			
Type of Intermediary	**1990**	**2000**	**2010**	**2016**
Depository institutions (banks)				
Commercial banks, savings and loans, and mutual savings banks	4,744	7,687	12,821	16,834
Credit unions	217	441	876	1,238
Contractual savings institutions				
Life insurance companies	1,367	3,136	5,168	6,764
Fire and casualty insurance companies	533	866	1,361	1,908
Pension funds (private)	1,619	4,423	6,614	9,099
State and local government retirement funds	820	2,290	4,779	6,103

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Types of Financial Intermediaries (5 of 5)

[**Table 4** Continued]

	Value of Assets ($ billions, end of year)			
Type of Intermediary	**1990**	**2000**	**2010**	**2016**
Investment intermediaries				
Finance companies	612	1,140	1,589	1,385
Mutual funds	608	4,435	7,873	13,616
Money market mutual funds	493	1,812	2,755	2,728

Source: Federal Reserve Flow of Funds Accounts; https://www.federalreserve.gov/releases/z1/current/data.htm, Tables L110, L114, L115, L116, L118, L120, L121, L122, L127.

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Regulation of the Financial System (1 of 4)

- To increase the information available to investors:
  - Reduce adverse selection and moral hazard problems
  - Reduce insider trading (SEC)

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Regulation of the Financial System (2 of 4)

- To ensure the soundness of financial intermediaries:
  - Restrictions on entry (chartering process).
  - Disclosure of information.
  - Restrictions on assets and activities (control holding of risky assets).
  - Deposit Insurance (avoid bank runs).
  - Limits on competition (mostly in the past):
    - Branching
    - Restrictions on interest rates

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Regulation of the Financial System (3 of 4)

Table 5 Principal Regulatory Agencies of the U.S. Financial System

Regulatory Agency	Subject of Regulation	Nature of Regulations
Securities and Exchange Commission (SEC)	Organized exchanges and financial markets	Requires disclosure of information; restricts insider trading
Commodities Futures Trading Commission (CFTC)	Futures market exchanges	Regulates procedures for trading in futures markets
Office of the Comptroller of the Currency	Federally-chartered commercial banks and thrift institutions	Charters and examines the books of federally chartered commercial banks and thrift institutions; imposes restrictions on assets they can hold
National Credit Union Administration (NCUA)	Federally-chartered credit unions	Charters and examines the books of federally chartered credit unions and imposes restrictions on assets they can hold

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Regulation of the Financial System (4 of 4)

[**Table 5** Continued]

Regulatory Agency	Subject of Regulation	Nature of Regulations
State banking and insurance commissions	State-chartered depository institutions and insurance companies	Charter and examine the books of state-chartered banks and insurance companies, impose restrictions on assets they can hold, and impose restrictions on branching
Federal Deposit Insurance Corporation (FDIC)	Commercial banks, mutual savings banks, savings and loan associations	Provides insurance of up to $250,000 for each depositor at a bank, examines the books of insured banks, and imposes restrictions on assets they can hold
Federal Reserve System	All depository institutions	Examines the books of commercial banks and systemically important financial institutions; sets reserve requirements for all banks

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