Chapter 1
Introducing Money and the Financial System

1. ◼ Brief Chapter Summary and Learning Objectives

1.1 Key Components of the Financial System (pages 2–15)

Identify the key components of the financial system.

• Financial assets, financial institutions, the Federal Reserve and financial regulators are the key components of the financial system.

• There are many different types of financial assets with distinctive characteristics.

• Financial institutions are distinguished by how they transfer funds from savers or lenders to borrowers.

• There are various regulators that provide oversight to different sectors of the financial system.

1.2 The Financial Crisis of 2007–2009 (pages 16–19)

Provide an overview of the financial crisis of 2007–2009.

• The financial crisis of 2007-2009 provides an opportunity to explore the role and significance of the financial system in the economy.

1.3 Key Issues and Questions About Money, Banking and the Financial System (pages 19–21)

Explain the key issues and questions concerning the financial system.

• Beginning with Chapter 2, the start of each chapter highlights one key issue and a related question. Answers to the questions appear at the end of the chapters, using analysis from the chapters.

1. ◼ Key Terms

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| **Asset**, p. 2. Anything of value owned by a person or a firm.**Bond**, p. 3. A financial security issued by a corporation or a government that represents a promise to repay a fixed amount of money.**Bubble**, p. 16. An unsustainable increase in the price of a class of assets.**Commercial bank**, p.6. A financial firm that serves as a financial intermediary by taking in deposits and using them to make loans.**Diversification**, p. 13. Splitting wealth among many different assets to reduce risk.**Dividend**, p. 3.A payment that a corporation makes to its shareholders.**Federal funds rate**, p. 13.The interest rate that banks charge each other on short-term loans. **Federal Reserve**, p. 11. The central bank of the United States; usually referred to as “the Fed.”**Financial asset**, p. 2. An asset that represents a claim on someone else for a payment.**Financial crisis**, p. 16.A significant disruption in the flow of funds from lender to borrowers.**Financial intermediary**, p. 4. A financial firm, such as a bank, that borrows funds from savers and lends them to borrowers.**Financial liability**, p. 4. A financial claim owed by a person or a firm.**Financial market**, p. 2. A place or channel for buying or selling stocks, bonds, and other securities.**Foreign exchange**, p. 4. Units of foreign currency.**Information**, p. 14. Facts about borrowers and about expectations of returns on financial assets. |  | **Interest rate** The cost of borrowing funds (or the payment for lending funds), usually expressed as a percentage of the amount borrowed.**Liquidity** The ease with which an asset can be exchanged for money.**Monetary policy** The actions the Federal Reserve takes to manage the money supply and interest rates to pursue macroeconomic policy objectives.**Money**, p. 3. Anything that is generally accepted in payment for goods and services or to pay off debts.**Money supply**, p. 3. The total quantity of money in the economy.**Portfolio**, p. 8. A collection of assets, such as stocks and bonds.**Primary market**, p. 9. A financial market in which stocks, bonds, and other securities are sold for the first time.**Risk sharing**, p. 13. A service the financial system provides that allows savers to spread and transfer risk.**Secondary market**, p. 9. A financial market in which investors buy and sell existing securities.**Securitization**, p. 4. The process of converting loans and other financial assets that are not tradable into securities.**Security**, p. 2. A financial asset that can be bought and sold in a financial market.**Stock**, p. 3. Financial securities that represent partial ownership of a firm; also called equities. |

1. ◼ Chapter Outline

You Get a Bright Idea … but Then What?

The importance of borrowing and lending to an economy can be demonstrated by the process taken when a company has an idea for a new product. A lot of money will have to be spent before any revenue is received from sales of the new product. Nearly every entrepreneur faces the same challenge. The role of the financial system is to channel funds from savers to businesses. During the economic crisis that began in 2007, the financial system was disrupted and large sections of the U.S. economy were cut off from the flow of funds they needed to thrive. The result was the worst recession the world had experienced since the Great Depression. Officials of the U.S. Treasury Department and the Federal Reserve took strong actions to restore financial markets. Although some of these actions were controversial, most economists believe that some government intervention was necessary to pull the economy out of a deep recession.

Teaching Tips

This chapter contains two innovations worth noting: an overview of the Federal Reserve System and a brief account of the financial crisis of 2007-2009. Federal Reserve policy plays an important role in most money and banking courses. Because of the variety of new policies the Fed implemented during the financial crisis, many instructors have begun discussing the Fed earlier in their courses. In their own teaching, the authors found that they couldn’t always rely on students recalling the basics of how the Fed operates from their principles courses. So they included an overview in this first chapter.

Many students have become more interested in the financial system due to the financial crisis of
2007–2009. However, many have also formed opinions based on incomplete or erroneous information. Discussion of the financial crisis at the beginning of the semester can help to motivate the study of money, banking, and financial markets while at the same time highlighting the need to grasp fundamental concepts underlying the system, including financial assets, financial institutions, and the regulatory players and process.

Instructors who prefer to leave discussion of the Federal Reserve and the financial crisis for later in the course should feel free to do so by omitting these sections of the chapter. None of the discussion in later chapters directly requires knowledge of these topics.

**1.1 Key Components of the Financial System (pages 2–15)**

Learning Objective: Identify the key components of the financial system.

A. Financial Assets

 Financial assets can be divided among five categories: money, stocks, bonds, foreign exchange, and securitized loans. Moneyis anything that people are willing to accept in payment for goods and services or to pay off debts. Stocks, also called *equities*, are financial securities that represent partial ownership of a firm. When you buy a bond issued by a corporation or a government, you are lending the corporation or the government a fixed amount of money. Foreign exchange refers to units of foreign currency. Loans that banks could sell on financial markets became securities, so the process of converting loans into securities is known as securitization.

B. Financial Institutions

 The financial system is made up of two types of financial institutions: banks and other financial intermediaries and financial markets. Funds flow from lenders to borrowers indirectly through financial intermediaries, such as banks, or directly through financial markets. Commercial banks are the most important financial intermediaries. Some financial intermediaries, such as savings-and-loans, savings banks, and credit unions, are legally distinct from banks, although these “nonbanks” operate in a very similar way by taking in deposits and making loans. Other financial intermediaries include investment banks, insurance companies, pension funds, mutual funds and hedge funds. Financial markets are places or channels for buying and selling stocks, bonds, and other securities.

C. The Federal Reserve and Other Financial Regulators

 The federal government of the United States has several agencies that are devoted to regulating the financial system, including: the Securities and Exchange Commission, which regulates financial markets; the Federal Deposit Insurance Corporation, which insures deposits in banks; the Office of the Comptroller of the Currency, which regulates federally chartered banks; the Federal Reserve System, which is the central bank of the United States; and the Consumer Finance Protection Bureau, which was created by Congress to protect consumers from fraud and deceptive practices in financial markets. Two of the major roles of the Fed are serving as the lender of last resort and conducting monetary policy. Monetary policy is the actions the Federal Reserve takes to manage the money supply and interest rates to pursue macroeconomic policy objectives such as high levels of employment, low rates of inflation, high rates of growth, and stability of the financial system. Figure 1.2 on page 12 shows the location of the 12 districts of the Federal Reserve System.

D. What Does the Financial System Do?

 The financial system provides three key financial services: risk sharing, liquidity, and information. Risk sharing gives savers and borrowers ways to reduce the uncertainty to which they are exposed. Liquidity is a measure of how easily an asset can be converted to cash. The financial system gathers and communicates information about borrowers’ circumstances.

Teaching Tips

Page15 of the main text includes a *Solved Problem*, which shows students how to solve an economic problem by breaking it down step by step. Encourage students to read the *Solved Problems* in each chapter because this feature can help them solve homework problems on their own and develop skills needed to perform well on exams.

1.2 The Financial Crisis of 2007–2009 (pages 16–19)

 Learning Objective: Provide an overview of the financial crisis of 2007–2009.

A. Origins of the Financial Crisis

 The origins of the financial crisis lie in large part in the housing bubble of 2000–2005. Many economists believe that changes in the market for mortgages played a key role in the housing bubble. By the 2000s, significant changes had taken place in the mortgage market. First, investment banks became significant participants in the secondary market for mortgages. Second, by the height of the housing bubble in 2005 and early 2006, lenders had greatly loosened the standards for obtaining a mortgage loan. The decline in housing prices that began in 2006 led to rising defaults among subprime and Alt-A borrowers, borrowers with adjustable-rate mortgages, and borrowers who had made only small down payments. By mid-2007, the decline in the value of mortgage-backed securities and the large losses suffered by commercial and investment banks began to cause turmoil in the financial system. Many investors refused to buy mortgage-backed securities, and some investors would only buy bonds issued by the U.S. Treasury. Banks began to restrict credit to all but the safest borrowers. The flow of funds from savers to borrowers, on which the economy depends, began to be greatly reduced.

B. The Deepening Crisis and the Response of the Fed and Treasury

 Some economists and policymakers criticized the Fed and the Treasury for arranging the sale of the investment bank Bear Stearns to JP Morgan Chase in March 2008. The main concern was with moral hazard: the possibility that managers of other financial firms would make risky investments if they believed that the government would also save them from bankruptcy. In September 2008 the Fed and Treasury allowed another investment bank, Lehman Brothers, to go bankrupt. The fallout from the Lehman Brothers bankruptcy had widespread repercussions, including a sharp decline in most types of lending. In October 2008, Congress passed the *Troubled Asset Relief Program (TARP)*, under which the Treasury provided funds to commercial banks in exchange for stock in those banks. These actions by the Fed and the Treasury were meant to restore the flow of funds from savers to borrowers.

1.3 Key Issues and Questions About Money, Banking, and the Financial System (pages 18–20)

 Learning Objective: Explain the key issues and questions the concerning the financial system. .

 This section lists the issues and questions that are addressed in the main text, beginning with chapter 2.

Teaching Tip

Pages 19–21 list the “Issues and Questions” that serve as a roadmap for the topics the book will explore in the remaining chapters.

1. ◼ Solutions to the End-of-Chapter Questions, Problems, and Data Exercises

1.1 Key Components of the Financial System

 Learning Objective: Identify the key components of the financial system.

Review Questions

1.1 a. Money: Anything that people are willing to accept in payment for goods and services or to pay off debts.

b. Stocks: Financial securities that represent partial ownership of a firm.

c. Bonds: Financial securities issued by a corporation or government to borrow money, in exchange for the rights to interest and principal payments.

d. Foreign Exchange: Units of foreign currency.

e. Securitized Loans: Loans that are tradable–that can be bought and sold in financial markets.

 No, every financial asset is not a financial security. Only a financial asset that can be bought and sold in a financial market is a financial security.

 Yes, it is possible that a saver’s asset could be a borrower’s liability. For example, a bond issued by a corporation is a liability to the corporation because it represents a loan that corporation is legally obliged to pay back. From the point of view of the saver who buys the bond, however, the bond is an asset because it represents a financial claim on the corporation that issued the bond.

1.2 With direct finance, one party lends directly to the other party. Buying the stock of a firm’s initial public offering (IPO) is direct financing. Direct financing requires financial markets. Indirect finance involves three parties: the borrower, the lender, and a financial intermediary who accepts the savings of the first party and independently lends those savings to the other party. A bank is an example of indirect finance because it accepts deposits from savers and lends the funds to borrowers. Indirect finance involves financial intermediaries.

1.3 The financial system is highly regulated because, when left largely alone the financial system has experienced periods of instability that have led to economic recessions.

1.4 The Federal Reserve is the central bank of the United States. The president appoints the members of the Board of Governors with the consent of the Senate. The Federal Reserve’s initial responsibility was to act as a lender of last resort. As the financial system and banking system have evolved, the Fed’s role has expanded from being a lender of last resort to include the conduct of monetary policy to manage inflation, unemployment, and the stability of the financial system.

1.5 The financial system provides these services to savers:

 i. Risk sharing, which allows savers to spread and transfer risk.

 ii. Liquidity, which is the ease with which an asset can be exchanged for money.

iii. Collection and communication of information about borrowers and expectations of returns on financial assets.

Problems and Applications

1.6 Disagree. Insurance companies specialize in contracts to protect their policyholders from the risk of financial loss. These companies invest the insurance premiums they collect in stocks, bonds, and mortgages. Insurance companies channel funds from savers to borrowers, which makes them financial intermediaries.

1.7 The president singled out banks because of their important role as financial intermediaries in the economy providing credit to households and businesses. Without bank loans to pay for inventories, help meet payrolls, and fund long-term capital projects, many businesses would have to cut back on operations or shut down.

1.8 a. Banks intermediating between savers and borrowers refers to banks receiving deposits from many savers and then making loans to qualified borrowers. The intermediation between savers and borrowers represents indirect finance where the savers and borrowers do not deal directly with one another.

b. Borrowers on a peer-to-peer lending site can get a loan that they could not qualify for from a bank and at an interest rate lower than the interest rate charged on credit cards. Savers on a peer-to-peer lending site can get a higher interest rate than they would receive on bank savings accounts, many bonds, and other financial assets.

1.9 An IRA is an individual retirement account and a 401(k) is a retirement savings plan sponsored by an employer. IRAs and 401(k) accounts allow households to invest in stocks and bonds which have a higher rate of return in the long run than bank deposits and the income deposited in IRAs and 401(k) accounts is not taxed until the funds are withdrawn during retirement.

1.10 Directly lending your funds to someone for a car or business loan decreases your liquidity (your money would be tied up in the loans), increases your risk (the loans may default), and increases your cost of determining whether the loans would be paid off. Depositing your funds in a bank allows you to withdraw your money when needed, transfers the risk of default to the bank, and eliminates your need to evaluate the loan.

1.11 Direct finance would make the process of an individual buying a car or a house much more difficult. The car or house buyer would either have to accumulate the savings to pay for the car or house, or find someone willing to lend them the funds. Direct finance, as opposed to indirect finance through financial intermediaries, incurs more risk, less liquidity, and greater information costs. These drawbacks would increase the interest rate that the lender charges and reduce the number of loans.

1.12 Lenders win because the repayment rate on mortgages would increase. Borrowers win because they would be more likely to afford their payments. Securitization slices the mortgages into numerous pieces because the mortgages are bundled together with similar mortgages in mortgaged-backed securities. Securitization makes renegotiating the loan more difficult because the bank does not own the loan; investors who purchased mortgage-backed securities generally own the loan. Moreover, the cost of negotiation with every investor holding the security may be prohibitively costly. These difficulties substantially reduce the liquidity of mortgaged-backed securities and the amount of risk-sharing they provided was much less than expected. Also, the originators of some of the mortgage loans did a poor job of gathering information about the borrowers, particularly borrowers with poor credit histories.

1.2 The Financial Crisis of 2007–2009

 Learning objective: Provide an overview of the financial crisis of 2007–2009.

Review Questions

2.1 A bubble is an unsustainable increase in the price of a class of assets. Many economists believe that there was a housing bubble in the United States between 2000 and 2005 because, among other things, housing prices rose rapidly from 2000 to the beginning of 2006 and then fell more than 30% from 2006 to 2009.

2.2 Investment banks became significant participants in the secondary market for mortgages. Investment banks began buying mortgages, bundling large numbers of them together as mortgage-backed securities, and reselling them to investors. Also, lenders greatly loosened their standards for granting a mortgage loan. A subprime borrower is a borrower with a flawed credit history. Alt-A borrowers are borrowers who simply state their incomes, but do not document their incomes.

2.3 The decline in housing prices led to rising defaults among subprime and Alt-A borrowers, borrowers with adjustable rate mortgages, and borrowers who had made only small down payments. As a result, mortgage-backed securities declined in value, causing losses for the investment institutions that owned them.

2.4 The Federal Reserve aggressively lowered interest rates and made loans to commercial banks and to investment banks. Congress passed the Troubled Asset Relief Program (TARP) under which the U.S. Treasury provided funds to commercial banks in exchange for stock in those banks. The Fed and U.S. Treasury also worked together to find a buyout partner for the investment bank Bear Stearns, and the Fed provided an $85 billion loan to American International Group (AIG). Moral hazard is the possibility that managers of a financial firm will take on riskier investments because they believe that the federal government will save them from bankruptcy. The Federal Reserve’s actions were controversial because many people believed that the actions would create moral hazard problems.

Problems and Applications

2.5 There can be no bubble in automobiles and refrigerators because they do not gain value over time. If an increase in demand causes the prices of automobiles or refrigerators to rise, manufactures can easily increase production, which should cause prices to quickly fall to their previous levels. Increasing the supply of houses is more time consuming and can be difficult to achieve in some urban areas or in places where zoning restrictions make new construction difficult.

2.6 The primary issue involved in measuring housing prices is that houses are not homogeneous goods. Because no two houses are exactly the same, the price of an “average” house can be difficult to determine. In addition, in constructing an index of housing prices, economists need to decide whether to use the sale price as the value of the house, or the appraised value. Even if the housing index is based solely on selling prices, it may not account for quality improvements (renovations to the home) or declines (the quality of neighborhood schools has deteriorated). There are any number of other features of a home or a neighborhood that are not easily identifiable from an index number.

2.7 The secondary mortgage market allows banks to transfer the risk of holding mortgage loans to investors who buy mortgage-backed securities. Access to the funds from these investors allows banks to offer a lower interest rate than if the banks held the loans themselves. The Federal government has intervened in the housing market to promote ownership by creating Fannie Mae and Freddie Mac. The federal government believes that there are positive externalities to home ownership. Neighborhoods become more stable with less litter, vandalism, and crime when more of the people who live there own their homes rather than rent them. Because individual homebuyers don’t take this externality into account when deciding whether to purchase a home, an inefficiently small number of homes may be purchased. Government intervention may result in a more efficient quantity of homes being purchased. Economists and policymakers debate how large the positive externality associated with homeownership may be and whether establishing Fannie Mae and Freddie Mac was the best way to deal with the externality.

Data Exercises

D1.1On the website of the Bureau of Economic Analysis, click on gross domestic product under U.S. Economic Accounts, and then click on percent change from preceding period (Excel). The graph below shows the annual percentage change in real GDP (in chained 2009 dollars) for 2000-2015. Movements in real GDP correspond well, but not perfectly, to movements in the Case-Shiller price index of houses from 2000 through 2015. From 2000 through 2005, the Case-Shiller price index of houses increased, as did real GDP. The decline in housing prices, which started in 2006, preceded the decline in real GDP, which began in 2008. Both housing prices and real GDP declined in 2008 and 2009. Real GDP rose through the 2010 to 2015 period, but housing prices did not begin to rise until 2012.

