The Federal Reserve System: History and Structure

What you will learn in this Module:

- The history of the Federal Reserve System
- The structure of the Federal Reserve System
- How the Federal Reserve has responded to major financial crises
The Federal Reserve System

Who’s in charge of ensuring that banks maintain enough reserves? Who decides how large the monetary base will be? The answer, in the United States, is an institution known as the Federal Reserve (or, informally, as “the Fed”). The Federal Reserve is a central bank—an institution that oversees and regulates the banking system, and controls the monetary base. Other central banks include the Bank of England, the Bank of Japan, and the European Central Bank, or ECB.

A central bank is an institution that oversees and regulates the banking system and controls the monetary base.
An Overview of the Twenty-first Century
American Banking System

Under normal circumstances, banking is a rather staid and unexciting business. Fortunately, bankers and their customers like it that way. However, there have been repeated episodes in which “sheer panic” would be the best description of banking conditions—the panic induced by a bank run and the specter of a collapse of a bank or multiple banks, leaving depositors penniless, bank shareholders wiped out, and borrowers unable to get credit. In this section, we’ll give an overview of the behavior and regulation of the American banking system over the last century.

The creation of the Federal Reserve System in 1913 was largely a response to lessons learned in the Panic of 1907. In 2008, the United States found itself in the midst of a financial crisis that in many ways mirrored the Panic of 1907, which occurred almost exactly 100 years earlier.
In both the Panic of 1907 and the financial crisis of 2008, large losses from risky speculation destabilized the banking system. The Irma and Paul Milstein Division of United States History, New York Public Library

Crisis in American Banking at the Turn of the Twentieth Century

The creation of the Federal Reserve System in 1913 marked the beginning of the modern era of American banking. From 1864 until 1913, American banking was dominated by a federally regulated system of national banks. They alone were allowed to issue currency, and the currency notes they issued were printed by the federal government with uniform size and design. How much currency a national bank could issue depended on its capital. Although this system was an improvement on the earlier period in which banks issued their own notes with no uniformity and virtually no regulation, the national banking regime still suffered numerous bank failures and major financial crises—at least one and often two per decade.

The main problem afflicting the system was that the money supply was not sufficiently responsive: it was difficult to shift currency around the country to respond quickly to local economic changes. (In particular, there was often a tug-of-war between New York City banks and rural banks for adequate amounts of currency.) Rumors that a bank had insufficient currency to satisfy demands for withdrawals would quickly lead to a bank run. A bank run would then spark a contagion, setting off runs at other nearby banks, sowing widespread panic and devastation in the local economy. In response, bankers in some locations pooled their resources to create local clearinghouses that would jointly guarantee a member’s liabilities in the event of a panic, and some state governments began offering deposit insurance on their banks’ deposits.

However, the cause of the Panic of 1907 was different from those of previous crises; in fact, its cause was eerily similar to the roots of the 2008 crisis. Ground zero of the 1907 panic was New York City, but the consequences devastated the entire country, leading to a deep four-year recession. The crisis originated in institutions in New York known as trusts, bank-like institutions that accepted deposits but that were originally intended to manage only inheritances and estates for wealthy clients. Because these trusts were supposed to engage only in low-risk activities, they were less regulated, had lower reserve requirements, and had lower cash reserves than national banks. However, as the American economy boomed during the first decade of the twentieth century, trusts began speculating in real estate and the stock market, areas of speculation forbidden to national banks. Being less regulated than national banks, trusts were able to pay their depositors higher returns. Yet trusts took a free ride on national banks’ reputation for soundness, with depositors considering them equally safe. As a result, trusts grew rapidly: by 1907, the total assets of trusts in New York City were as large as those of national banks. Meanwhile, the trusts declined to join the New York Clearinghouse, a consortium of New York City national banks that guaranteed one another’s soundness; that would have required the trusts to hold higher cash reserves, reducing their profits. The Panic of 1907 began with the failure of the Knickerbocker Trust, a large New York City trust that failed when it suffered massive losses in unsuccessful stock market speculation. Quickly, other New York trusts came under pressure, and frightened depositors began queuing in long lines to withdraw their funds. The New York Clearinghouse declined to step in and lend to the trusts, and even healthy trusts came under serious assault. Within two days, a dozen major trusts had gone under. Credit markets froze, and the stock market fell dramatically as stock traders were unable to get credit to finance their trades, and business confidence evaporated.

Fortunately, one of New York City’s wealthiest men, the banker J. P. Morgan, quickly stepped in to stop the panic. Understanding that the crisis was spreading and would soon engulf healthy institutions, trusts and banks alike,
he worked with other bankers, wealthy men such as John D. Rockefeller, and the U.S. Secretary of the Treasury to shore up the reserves of banks and trusts so they could withstand the onslaught of withdrawals. Once people were assured that they could withdraw their money, the panic ceased. Although the panic itself lasted little more than a week, it and the stock market collapse decimated the economy. A four-year recession ensued, with production falling 11% and unemployment rising from 3% to 8%.
Concerns over the frequency of banking crises and the unprecedented role of J. P. Morgan in saving the financial system prompted the federal government to initiate banking reform. In 1913 the national banking system was eliminated and the Federal Reserve System was created as a way to compel all deposit-taking institutions to hold adequate reserves and to open their accounts to inspection by regulators. The Panic of 1907 convinced many that the time for centralized control of bank reserves had come. The Federal Reserve was given the sole right to issue currency in order to make the money supply sufficiently responsive to satisfy economic conditions around the country.
The legal status of the Fed, which was created in 1913, is unusual: it is not exactly part of the U.S. government, but it is not really a private institution either. Strictly speaking, the Federal Reserve System consists of two parts: the Board of Governors and the 12 regional Federal Reserve Banks.

The Board of Governors, which oversees the entire system from its offices in Washington, D.C., is constituted like a government agency: its seven members are appointed by the president and must be approved by the Senate. However, they are appointed for 14-year terms, to insulate them from political pressure in their conduct of monetary policy. Although the chair is appointed more frequently—every four years—it is traditional for the chair to be reappointed and serve much longer terms. For example, William McChesney Martin was chair of the Fed from 1951 until 1970. Alan Greenspan, appointed in 1987, served as the Fed’s chair until 2006.

The 12 Federal Reserve Banks each serve a region of the country, known as a Federal Reserve district, providing various banking and supervisory services. One of their jobs, for example, is to audit the books of private-sector banks to ensure their financial health. Each regional bank is run by a board of directors chosen from the local banking and business community. The Federal Reserve Bank of New York plays a special role: it carries out open-market operations, usually the main tool of monetary policy. **Figure 26.1** shows the 12 Federal Reserve districts and the city in which each regional Federal Reserve Bank is located.

Decisions about monetary policy are made by the Federal Open Market Committee, which consists of the Board of Governors plus five of the regional bank presidents. The president of the Federal Reserve Bank of New York is always on the committee, and the other four seats rotate among the 11 other regional bank presidents. The chair of the Board of Governors normally also serves as the chair of the Federal Open Market Committee.

The effect of this complex structure is to create an institution that is ultimately accountable to the voting public because the Board of Governors is chosen by the president and confirmed by the Senate, all of whom are themselves elected officials. But the long terms served by board members, as well as the indirectness of their appointment process, largely insulate them from short-term political pressures.
Figure 26.1 The Federal Reserve System

The Federal Reserve System consists of the Board of Governors in Washington, D.C., plus 12 regional Federal Reserve Banks. This map shows each of the 12 Federal Reserve districts.

Source: Board of Governors of the Federal Reserve System.

The Structure of the Fed
The Effectiveness of the Federal Reserve System

Although the Federal Reserve System standardized and centralized the holding of bank reserves, it did not eliminate the potential for bank runs because banks’ reserves were still less than the total value of their deposits. The potential for more bank runs became a reality during the Great Depression. Plunging commodity prices hit American farmers particularly hard, precipitating a series of bank runs in 1930, 1931, and 1933, each of which started at midwestern banks and then spread throughout the country. After the failure of a particularly large bank in 1930, federal officials realized that the economy-wide effects compelled them to take a less hands-off approach and to intervene more vigorously. In 1932, the Reconstruction Finance Corporation (RFC) was established and given the authority to make loans to banks in order to stabilize the banking sector. Also, the Glass-Steagall Act of 1932, which increased the ability of banks to borrow from the Federal Reserve System, was passed. A loan to a leading Chicago bank from the Federal Reserve appears to have stopped a major banking crisis in 1932. However, the beast had not yet been tamed. Banks became fearful of borrowing from the RFC because doing so signaled weakness to the public. During the midst of the catastrophic bank run of 1933, the new U.S. president, Franklin Delano Roosevelt, was inaugurated. He immediately declared a “bank holiday,” closing all banks until regulators could get a handle on the problem. In March 1933, emergency measures were adopted that gave the RFC extraordinary powers to stabilize and restructure the banking industry by providing capital to banks either by loans or by outright purchases of bank shares. With the new regulations, regulators closed nonviable banks and recapitalized viable ones by allowing the RFC to buy preferred shares in banks (shares that gave the U.S. government more rights than regular shareholders) and by greatly expanding banks’ ability to borrow from the Federal Reserve. By 1933, the RFC had invested over $16 billion (2008 dollars) in bank capital—one-third of the total capital of all banks in the United States at that time—and purchased shares in almost one-half of all banks. The RFC loaned more than $32 billion (2008 dollars) to banks during this period. Economic historians uniformly agree that the banking crises of the early 1930s greatly exacerbated the severity of the Great Depression, rendering monetary policy ineffective as the banking sector broke down and currency, withdrawn from banks and stashed under beds, reduced the money supply.

Although the powerful actions of the RFC stabilized the banking industry, new legislation was needed to prevent future banking crises. The Glass-Steagall Act of 1933 separated banks into two categories, commercial banks, depository banks that accepted deposits and were covered by deposit insurance, and investment banks, which engaged in creating and trading financial assets such as stocks and corporate bonds but were not covered by deposit insurance because their activities were considered more risky. Regulation Q prevented commercial banks from paying interest on checking accounts, in the belief that this would promote unhealthy competition between banks. In addition, investment banks were much more lightly regulated than commercial banks. The most important measure for the prevention of bank runs, however, was the adoption of federal deposit insurance (with an original limit of $2,500 per deposit).

These measures were clearly successful, and the United States enjoyed a long period of financial and banking stability. As memories of the bad old days dimmed, Depression-era bank regulations were lifted. In 1980 Regulation Q was eliminated, and by 1999, the Glass-Steagall Act had been so weakened that offering services like trading financial assets were no longer off-limits to commercial banks.

A commercial bank accepts deposits and is covered by deposit insurance.

An investment bank trades in financial assets and is not covered by deposit insurance.
The Effectiveness of the Federal Reserve... covered by deposit insurance.
The Savings and Loan Crisis of the 1980s

Along with banks, the banking industry also included **savings and loans** (also called S&Ls or **thrifts**), institutions designed to accept savings and turn them into long-term mortgages for home-buyers. S&Ls were covered by federal deposit insurance and were tightly regulated for safety. However, trouble hit in the 1970s, as high inflation led savers to withdraw their funds from low-interest-paying S&L accounts and put them into higher-paying money market accounts. In addition, the high inflation rate severely eroded the value of the S&Ls’ assets, the long-term mortgages they held on their books. In order to improve S&Ls’ competitive position versus banks, Congress eased regulations to allow S&Ls to undertake much more risky investments in addition to long-term home mortgages. However, the new freedom did not bring with it increased oversight, leaving S&Ls with less oversight than banks. Not surprisingly, during the real estate boom of the 1970s and 1980s, S&Ls engaged in overly risky real estate lending. Also, corruption occurred as some S&L executives used their institutions as private piggy banks. Unfortunately, during the late 1970s and early 1980s, political interference from Congress kept insolvent S&Ls open when a bank in a comparable situation would have been quickly shut down by bank regulators. By the early 1980s, a large number of S&Ls had failed. Because accounts were covered by federal deposit insurance, the liabilities of a failed S&L were now liabilities of the federal government, and depositors had to be paid from taxpayer funds. From 1986 through 1995, the federal government closed over 1,000 failed S&Ls, costing U.S. taxpayers over $124 billion dollars.

In a classic case of shutting the barn door after the horse has escaped, in 1989 Congress put in place comprehensive oversight of S&L activities. It also empowered Fannie Mae and Freddie Mac to take over much of the home mortgage lending previously done by S&Ls. Fannie Mae and Freddie Mac are quasi-governmental agencies created during the Great Depression to make homeownership more affordable for low- and moderate-income households. It has been calculated that the S&L crisis helped cause a steep slowdown in the finance and real estate industries, leading to the recession of the early 1990s.

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A **savings and loan (thrift)** is another type of deposit-taking bank, usually specialized in issuing home loans.
The financial crisis of 2008 shared features of previous crises. Like the Panic of 1907 and the S&L crisis, it involved institutions that were not as strictly regulated as deposit-taking banks, as well as excessive speculation. Like the crises of the early 1930s, it involved a U.S. government that was reluctant to take aggressive action until the scale of the devastation became clear. In addition, by the late 1990s, advances in technology and financial innovation had created yet another systemic weakness that played a central role in 2008. The story of Long-Term Capital Management, or LTCM, highlights these problems.

**Long-term Capital (Mis)Management** Created in 1994, LTCM was a hedge fund, a private investment partnership open only to wealthy individuals and institutions. Hedge funds are virtually unregulated, allowing them to make much riskier investments than mutual funds, which are open to the average investor. Using vast amounts of leverage—that is, borrowed money—in order to increase its returns, LTCM used sophisticated computer models to make money by taking advantage of small differences in asset prices in global financial markets to buy at a lower price and sell at a higher price. In one year, LTCM made a return as high as 40%. LTCM was also heavily involved in derivatives, complex financial instruments that are constructed—derived—from the obligations of more basic financial assets. Derivatives are popular investment tools because they are cheaper to trade than basic financial assets and can be constructed to suit a buyer’s or seller’s particular needs. Yet their complexity can make it extremely hard to measure their value. LTCM believed that its computer models allowed it to accurately gauge the risk in the huge bets that it was undertaking in derivatives using borrowed money.

However, LTCM’s computer models hadn’t factored in a series of financial crises in Asia and in Russia during 1997 and 1998. Through its large borrowing, LTCM had become such a big player in global financial markets that attempts to sell its assets depressed the prices of what it was trying to sell. As the markets fell around the world and LTCM’s panic-stricken investors demanded the return of their funds, LTCM’s losses mounted as it tried to sell assets to satisfy those demands. Quickly, its operations collapsed because it could no longer borrow money and other parties refused to trade with it. Financial markets around the world froze in panic. The Federal Reserve realized that allowing LTCM’s remaining assets to be sold at panic-stricken prices presented a grave risk to the entire financial system through the balance sheet effect: as sales of assets by LTCM depressed asset prices all over the world, other firms would see the value of their balance sheets fall as assets held on these balance sheets declined in value. Moreover, falling asset prices meant the value of assets held by borrowers on their balance sheet would fall below a critical threshold, leading to a default on the terms of their credit contracts and forcing creditors to call in their loans. This in turn would lead to more sales of assets as borrowers tried to raise cash to repay their loans, more credit defaults, and more loans called in, creating a vicious cycle of deleveraging. The Federal Reserve Bank of New York arranged a $3.625 billion bailout of LTCM in 1998, in which other private institutions took on shares of LTCM’s assets and obligations, liquidated them in an orderly manner, and eventually turned a small profit. Quick action by the Federal Reserve Bank of New York prevented LTCM from sparking a contagion, yet virtually all of LTCM’s investors were wiped out.

**Subprime Lending and the Housing Bubble** After the LTCM crisis, U.S. financial markets stabilized. They remained more or less stable even as...
stock prices fell sharply from 2000 to 2002 and the U.S. economy went into recession. During the recovery from the 2001 recession, however, the seeds for another financial crisis were planted.

The story begins with low interest rates: by 2003, U.S. interest rates were at historically low levels, partly because of Federal Reserve policy and partly because of large inflows of capital from other countries, especially China. These low interest rates helped cause a boom in housing, which in turn led the U.S. economy out of recession. As housing boomed, however, financial institutions began taking on growing risks—risks that were not well understood.

Traditionally, people were only able to borrow money to buy homes if they could show that they had sufficient income to meet the mortgage payments. Making home loans to people who didn’t meet the usual criteria for borrowing, called subprime lending, was only a minor part of overall lending. But in the booming housing market of 2003–2006, subprime lending started to seem like a safe bet. Since housing prices kept rising, borrowers who couldn’t make their mortgage payments could always pay off their mortgages, if necessary, by selling their homes. As a result, subprime lending exploded. Who was making these subprime loans? For the most part, it wasn't traditional banks lending out depositors’ money. Instead, most of the loans were made by "loan originators,” who quickly sold mortgages to other investors. These sales were made possible by a process known as securitization: financial institutions assembled pools of loans and sold shares in the income from these pools. These shares were considered relatively safe investments since it was considered unlikely that large numbers of home-buyers would default on their payments at the same time.

But that’s exactly what happened. The housing boom turned out to be a bubble, and when home prices started falling in late 2006, many subprime borrowers were unable either to meet their mortgage payments or sell their houses for enough to pay off their mortgages. As a result, investors in securities backed by subprime mortgages started taking heavy losses. Many of the mortgage-backed assets were held by financial institutions, including banks and other institutions playing bank-like roles. Like the trusts that played a key role in the Panic of 1907, these "nonbank banks" were less regulated than commercial banks, which allowed them to offer higher returns to investors but left them extremely vulnerable in a crisis. Mortgage-related losses, in turn, led to a collapse of trust in the financial system. Figure 26.2 shows one measure of this loss of trust: the TED spread, which is the difference between the interest rate on three-month loans that banks make to each other and the interest rate the federal government pays on three-month bonds. Since government bonds are considered extremely safe, the TED spread shows how much risk banks think they’re taking on when lending to each other. Normally, the spread is around a quarter of a percentage point, but it shot up in August 2007 and surged to an unprecedented 4.64 percentage points in October 2008.

Crisis and Response The collapse of trust in the financial system, combined with the large losses suffered by financial firms, led to a severe cycle of deleveraging and a credit crunch for the economy as a whole. Firms found it difficult to borrow, even for short-term operations; individuals found home loans unavailable and credit card limits reduced. Overall, the negative economic effect of the financial crisis bore a distinct and troubling resemblance to the effects of the banking crisis of the early 1930s, which helped cause the Great Depression. Policy makers noticed the resemblance and tried to prevent a repeat performance. Beginning in August 2007, the Federal Reserve engaged in a series of efforts to provide cash to the financial system, lending funds to a widening range of institutions and buying private-sector debt. The Fed and the Treasury Department also stepped in to rescue individual firms that were deemed too crucial to be

The reduction in a firm’s net worth from falling asset prices.

A vicious cycle of deleveraging takes place when asset sales to cover losses produce negative balance sheet effects on other firms and force creditors to call in their loans, forcing sales of more assets and causing further declines in asset prices.

Subprime lending is lending to home buyers who don’t meet the usual criteria for being able to afford their payments.

In securitization a pool of loans is assembled and shares of that pool are sold to investors.
Like FDR, Barack Obama, shown here with his team of economic advisers, was faced with a major financial crisis upon taking office. AP Photo/Charles Dharapak

In September 2008, however, policy makers decided that one major investment bank, Lehman Brothers, could be allowed to fail. They quickly regretted the decision. Within days of Lehman’s failure, widespread panic gripped the financial markets, as illustrated by the late surge in the TED spread shown in Figure 26.2. In response to the intensified crisis, the U.S. government intervened further to support the financial system, as the U.S. Treasury began “injecting” capital into banks. Injecting capital, in practice, meant that the U.S. government would supply cash to banks in return for shares—in effect, partially nationalizing the financial system. This new rescue plan was still in its early stages when this book went to press, and it was too early to judge its success.

It is widely expected that the crisis of 2008 will lead to major changes in the financial system, probably the largest changes since the 1930s. Historically, it was considered enough to insure deposits and regulate commercial banks. The 2008 crisis raised new questions about the appropriate scope of safety nets and regulations. Like the crises preceding it, the financial crisis of 2008 exerted a powerful negative effect on the rest of the economy.
Check Your Understanding

1. What are the similarities between the Panic of 1907, the S&L crisis, and the crisis of 2008?

2. Why did the creation of the Federal Reserve fail to prevent the bank runs of the Great Depression? What measures did stop the bank runs?

3. Describe the balance sheet effect. Describe the vicious cycle of deleveraging. Why is it necessary for the government to step in to halt a vicious cycle of deleveraging?
1. Which of the following contributed to the creation of the Federal Reserve System?
   I. the bank panic of 1907
   II. the Great Depression
   III. the savings and loan crisis of the 1980s
   a. I only
   b. II only
   c. III only
   d. I and II only
   e. I, II, and III

2. Which of the following is a part of both the Federal Reserve System and the federal government?
   a. the Federal Reserve Board of Governors
   b. the 12 regional Federal Reserve Banks
   c. the Reconstruction Finance Corporation
   d. commercial banks
   e. the Treasury Department

3. Which of the following is NOT a role of the Federal Reserve System?
   a. controlling bank reserves
   b. printing currency (Federal Reserve notes)
   c. carrying out monetary policy
   d. supervising and regulating banks
   e. holding reserves for commercial banks

4. Who oversees the Federal Reserve System?
   a. the presidents of the Regional Federal Reserve Banks
   b. the president of the United States
   c. the Federal Open Market Committee
   d. the Board of Governors of the Federal Reserve System
   e. the Reconstruction Finance Corporation

5. Which of the following contributed to the financial crisis of 2008?
   a. subprime lending
   b. securitization
   c. deleveraging
   d. low interest rates leading to a housing boom
   e. all of the above
Tackle the Test: Free-Response Questions

1. a. What group determines monetary policy?
   [Answer Field]

   b. How many members serve in this group?
   [Answer Field]

   c. Who always serves in this group?
   [Answer Field]

   d. Who sometimes serves in this group? Explain.
   [Answer Field]

   Answer (5 points)
   1 point: The Federal Open Market Committee (FOMC)
   1 point: 12
   1 point: Members of the Board of Governors and the New York Federal Reserve bank president
   1 point: 4 of the other 11 Federal Reserve bank presidents
   1 point: The 11 other Federal Reserve bank presidents rotate their service on the FOMC.

2. a. What does the Board of Governors of the Federal Reserve System do?
   [Answer Field]

   b. How many members serve on the group?
   [Answer Field]

   c. Who appoints members?
   [Answer Field]

   d. How long do members serve?
   [Answer Field]

   e. Why do they serve a term of this length?
   [Answer Field]

   f. How long does the chair serve?
   [Answer Field]