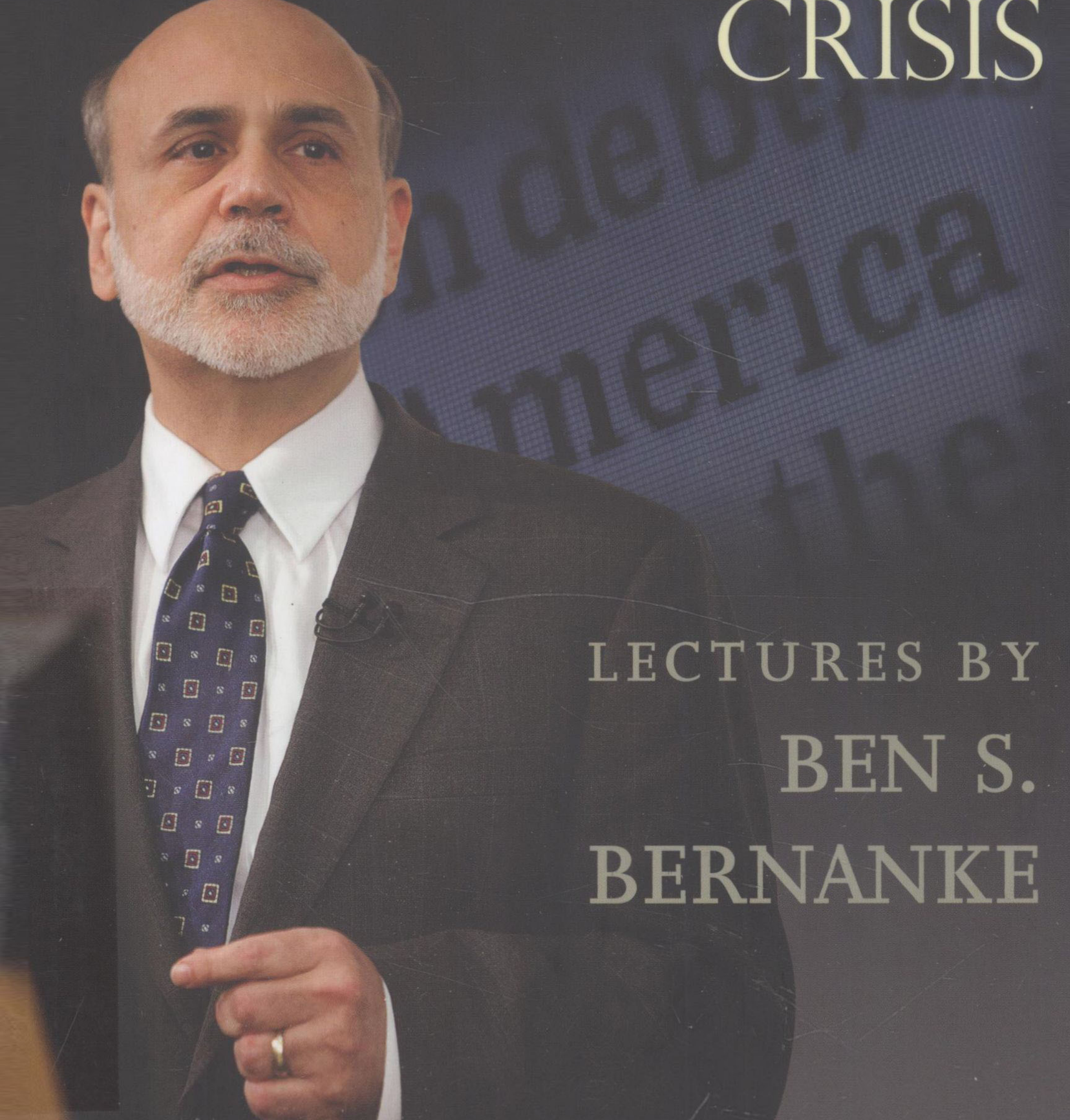
THE FEDERAL RESERVE AND THE FINANCIAL CRISIS



LECTURES BY

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Publisher's Note

The material in this book was originally delivered as a series of lectures by Ben S. Bernanke at George Washington University in March 2012. This book is taken from the transcript of these lectures, and has been edited for readability. Videos of the lectures and presentation slides are available online at http://www.federalreserve.gov/newsevents/lectures

The Federal Reserve
and the Financial Crisis

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LECTURE 1

Origins and Mission of the Federal Reserve

What I want to talk about in these four lectures is the Federal Reserve and the financial crisis. My thinking about this is conditioned by my experience as an economic historian. When one talks about the issues that occurred over the past few years, I think it makes the most sense to consider them in the broader context of central banking as it has been practiced over the centuries. So, even though I am going to focus in these lectures quite a bit on the financial crisis and how the Fed responded, I need to go back and look at the broader context. As I talk about the Fed, I will talk about the origin and mission of central banks in general; in looking at previous financial crises, most notably the Great Depression, you will see how that mission informed the Fed's actions and decisions.

In this first lecture, I will not touch on the current crisis at all. Instead, I will talk about what central banks are, what they do, and how central banking got started in the United States. I will talk about how the Fed engaged with its first great challenge, the Great Depression of the 1930s. In the second lecture, I will pick up the history from there. I will review developments in central banking and with the Federal Reserve after World War II, talking about the conquest of inflation, the Great Moderation, and other developments that occurred after 1945. But in that lecture I will also spend a good bit of time talking about the buildup to the crisis and some of the factors that led to the crisis of 2008–2009. In lecture three, I will turn to more recent events. I will talk about the intense phase of the financial crisis, its causes, its implications, and particularly the response to the crisis by the Federal Reserve and by other policymakers. And then, in the final lecture I will look at the aftermath. I will talk about the recession that followed the crisis, the policy response of the Fed (including monetary policy), the broader response in terms of the changes in financial regulation, and a little bit of forward-looking discussion about how this experience will change how central banks operate and how the Federal Reserve will operate in the future.

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So let's talk in general about what a central bank is. If you have some background in economics you know that a central bank is not a regular bank; it is a government agency, and it stands at the center of a country's monetary and financial system. Central banks are very important institutions; they have helped to guide the development of modern financial and monetary systems and they play a major role in economic policy. There have been various arrangements over the years, but today virtually all countries have central banks: the Federal Reserve in the United States, the Bank of Japan, the Bank of Canada, and so on. The main exception is in cases where there is a currency union, where a number of countries collectively share a central bank. By far the most important example of that is the European Central Bank, which is the central bank for seventeen European countries that share the euro as their common currency. But even in that case, each of the participating countries does have its own central bank, which is part of the overall system of the euro.

Central banks are now ubiquitous; even the smallest countries typically have central banks.

What do central banks do? What is their mission? It is convenient to talk about two broad aspects of what central banks do. The first is to try to achieve macroeconomic stability. By that I mean achieving stable growth in the economy, avoiding big swings—recessions and the like—and keeping inflation low and stable. That is the economic function of a central bank. The other function of central banks, which is going to get a lot of attention in these lectures, is to maintain financial stability. Central banks try to keep the financial system working normally and, in particular, they try to either prevent or mitigate financial panics or financial crises.

What are the tools that central banks use to achieve these two broad objectives? In very simple terms, there are basically two sets of tools. On the economic stability side, the main tool is monetary policy. In normal times, for example, the Fed can raise or lower short-term interest rates. It does that by buying and selling securities in the open market. Usually, if the economy is growing too slowly or inflation is falling too low, the Fed can stimulate the economy by lowering interest rates. Lower interest rates feed through to a broad range of other interest rates, which encourages spending on the acquisition of homes, for example, and on construction, investment by firms, and so on. Lower interest rates generate more demand, more spending, and more investment in the economy, and that creates more thrust in growth. And similarly, if the economy is growing too hot, if inflation is becoming a problem, then the normal tool of central bank is to raise interest rates. Raising the overnight interest rate that the Fed charges banks to lend money, known in the United States as the federal funds rate, feeds higher interest rates through the system. This helps to slow the economy by raising the cost of borrowing, of buying a house or a car, or of investing in capital goods, reducing pressure on an overheating economy. Monetary policy is the basic tool that central banks have used for many years to try to keep the economy on a more or less even keel in terms of both growth and inflation.

The main tool of central banks for dealing with financial panics or financial crises is a little less familiar: the provision of liquidity. In order to address financial stability concerns, one thing that central banks can do is make short-term loans to financial institutions. As I will explain, providing short-term credit to financial institutions during a period of panic or crisis can help calm the market, can help stabilize those institutions, and can help mitigate or end a financial crisis. This activity is known as the "lender of last resort" tool. If financial markets are disrupted and financial institutions do not have alternative sources of funding, then the central bank stands ready to serve as the lender of last resort, providing liquidity and thereby helping to stabilize the financial system.

There is a third tool that most central banks (including the Fed) have, which is financial regulation and supervision. Central banks usually play a role in supervising the banking system, assessing the extent of risk in their portfolios, making sure their practices are sound and, in that way, trying to keep the financial system healthy. To the extent that a financial system can be kept healthy and its risk-taking within reasonable bounds, then the chance of a financial crisis occurring in the first place is reduced. This activity is not unique to central banks, however. In the United States, for example, there are a number of different agencies, such as the Federal Deposit Insurance Corporation (FDIC) and the Office of the Comptroller of the Currency, that work with the Fed in supervising the financial system. Because this is not unique to central banks, I will downplay this for the moment and focus on our two principal tools: monetary policy and lender of last resort activities.

Where do central banks come from? One thing people do not appreciate is that central banking is not a new development. It has been around for a very long time. The Swedes set up a central bank in 1668, three and a half centuries ago. The Bank of England was founded in 1694,[1] and was for many decades, if not centuries, the most important and influential central bank in the world. France established a central bank in 1800. So central bank theory and practice is not a new thing. We have been thinking about these issues collectively as an economics profession and in other contexts for many years.

I need to talk a little bit about what a financial panic is. In general, a financial panic is sparked by a loss of confidence in an institution. The best way to explain this is to give a familiar example. If you have seen the movie *It's a Wonderful Life*, you know that one of the problems Jimmy Stewart's character runs into as a banker is a threatened run on his institution. What is a run? Imagine a situation like Jimmy Stewart's, before there was deposit insurance and the FDIC. And imagine you have a bank on the corner, just a regular commercial bank; let's call it the First Bank of Washington, D.C. This bank makes loans to businesses and the like, and it finances itself by taking deposits from the public. These deposits are called demand deposits, which means that depositors can pull out their money anytime they want, which is important because people use deposits for ordinary activities, like shopping.

Now imagine what would happen if, for some reason, a rumor goes around that this bank has made some bad loans and is losing money. As a depositor, you say to yourself, "Well, I don't know if

[1] The Bank of England was not set up from scratch as a full-fledged central bank; it was originally a private institution that acquired some of the functions of a central bank, such as issuing money and serving as lender of last resort. But over time, central banks became essentially government institutions, as they all are today.

this rumor is true or not. But what I do know is that if I wait and everybody else pulls out their money and I'm the last person in line, I may end up with nothing." So, what are you going to do? You are going to go to the bank and say, "I'm not sure if this rumor is true or not, but, knowing that everybody else is going to pull their deposits out of the bank, I'm going to pull my money out now." And so, depositors line up to pull out their cash.

Now, no bank holds cash equal to all its deposits; it puts that cash into loans. So the only way the bank can pay off the depositors, once it goes through its minimal cash reserves, is to sell or otherwise dispose of its loans. But it is very hard to sell a commercial loan; it takes time, and you usually have to sell it at a discount. Before a bank even gets around to doing that, depositors are at the door asking, "Where is my money?" So a panic can be a self-fulfilling prophecy, leading the bank to fail; it will have to sell off its assets at a discount price and, ultimately, many depositors might lose money, as happened in the Great Depression.

Panics can be a serious problem. If one bank is having problems, people at the bank next door may begin to worry about problems at their bank. And so, a bank run can lead to widespread bank runs or a banking panic more broadly. Sometimes, pre-FDIC, banks would respond to a panic or a run by refusing to pay out deposits; they would just say, "No more; we're closing the window." So the restriction on the access of depositors to their money was another bad outcome and caused problems for people who had to make a payroll or buy groceries. Many banks would fail and, beyond that, banking panics often spread into other markets; they were often associated with stock market crashes, for example. And all those things together, as you might expect, were bad for the economy.

A financial panic can occur anytime you have an institution that has longer-term illiquid assets—illiquid in the sense that it takes time and effort to sell those loans—and is financed on the other side of the balance sheet by short-term liabilities, such as deposits. Anytime you have that situation, you have the possibility that the people who put their money in the bank may say, "Wait a minute, I don't want to leave my money here; I'm pulling it out," and you have a serious problem for the institution.

So how could the Fed have helped Jimmy Stewart? Remember that central banks act as the lender of last resort. Imagine that Jimmy Stewart is paying out the money to his depositors. He has plenty of good loans, but he cannot change those into cash, and he has people at the door demanding their money immediately. If the Federal Reserve was on the job, Jimmy Stewart could call the local Fed office and say, "Look, I have a whole bunch of good loans that I can offer as collateral; give me a cash loan against this collateral." Then Jimmy Stewart can take the cash from the central bank, pay off his depositors, and then, so long as he really is solvent (that is, as long as his loans really are good), the run will be quelled and the panic will come to an end. So by providing short-term loans and taking collateral (the illiquid assets of the institution), central banks can put money into the system, pay off depositors and short-term lenders, calm the situation, and end the panic.

This was something the Bank of England figured out very early. In fact, a key person in the intellectual development of banking was a journalist named Walter Bagehot, who thought a lot about central banking policy. He had a dictum that during a panic central banks should lend freely to whoever comes to their door; as long as they have collateral, give them money. Central banks need to have collateral to make sure that they get their money back, and that collateral has to be good or it has to be discounted. Also, central banks need to charge a penalty interest rate so that people do not take advantage of the situation; they signal that they really need the money by being willing to pay a slightly higher interest rate. If a central bank follows Bagehot's rule, it can stop financial panics. As a bank or other institution finds that it is losing its funding from depositors or other short-term lenders, it borrows from the central bank. The central bank provides cash loans against collateral. The company then pays off its depositors and things calm down. Without that source of funds, without that lender of last resort activity, many institutions would have to close their doors and could go bankrupt. If they had to sell their assets at fire-sale discount prices, that would create further problems because other banks would also find the value of their assets going down. And so, panic—through fear, rumor, or declining asset values—could spread throughout the banking system. So it is very important to get in there aggressively. As a central banker, provide that short-term liquidity and avert the collapse of the system or at least serious stress on it.

Let's talk a little bit specifically about the United States and the Federal Reserve. The Federal Reserve was founded 1914, and concerns about both macroeconomic stability and financial stability motivated the decision of Congress and President Woodrow Wilson to create it. After the Civil War and into the early 1900s, there was no central bank, so any kind of financial stability functions that could not be performed by the Treasury had to be done privately. There were some interesting examples of private attempts to create lender of last resort functions; for example, the New York Clearing House. The New York Clearing House was a private institution; it was basically a club of ordinary commercial banks in New York City. It was called the Clearing House because, initially, that is what it was; it served as a place where banks could come at the end of each day to clear checks against one another. But over time, clearing houses began to function a little bit like central banks. For example, if one bank came under a lot of pressure, the other banks might come together in the clearing house and lend money to that bank so it could pay its depositors. And so in that respect, they served as a lender of last resort. Sometimes, the clearing houses would all agree that they were going to shut down the banking system for a week in order to look at the bank that was in trouble, evaluate its balance sheet, and determine whether it was in fact a sound bank. If it was, it would reopen and, normally, that would calm things down. So there was some private activity to stabilize the banking system.

In the end, though, these kinds of private arrangements were just not sufficient. They did not have the resources or credibility of an independent central bank. After all, people could always wonder whether the banks were acting in something other than the public interest since they were all private institutions. So it was necessary for the United States to get a lender of last resort that could stop runs on illiquid but still solvent commercial banks.

This was not a hypothetical issue. Financial panics in the United States were a very big problem in the period from the restoration of the gold standard after the Civil War in 1879 through the founding of the Federal Reserve. Figure 1 shows the number of banks closing during each of the six major banking panics during that period in the United States.

You can see that in the very severe financial panic of 1893, more than five hundred banks failed across the country, with significant consequences for the financial system and for the economy. Fewer banks failed in the panic of 1907, but the banks that did fail were larger. After the crisis of 1907, Congress began to think that maybe they needed a government agency that could address the problem of financial panics. A twenty-three-volume study was prepared for the Congress about central banking practices, and Congress moved deliberatively toward creating a central bank. The new central bank was finally established in 1914, after yet another serious financial panic. So financial stability concerns were a major reason that Congress decided to create a central bank in the early twentieth century.

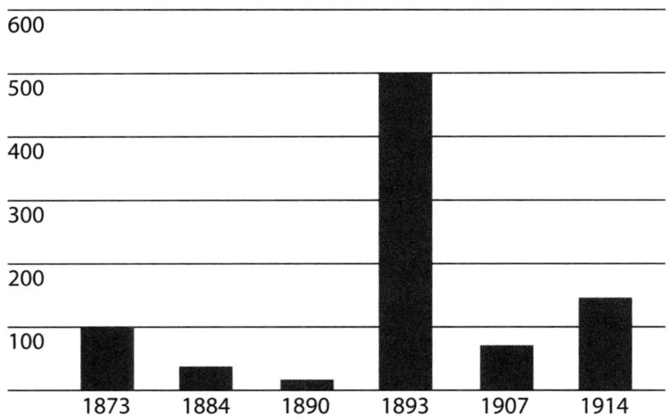

Figure 1. Bank Closings during Banking Panics, 1873–1914
Sources: For 1873–1907, Elmus Wicker, Banking Panics of the Gilded Age (New York: Cambridge University Press, 2006), table 1.3; for 1914, Federal Reserve Board, Banking and Monetary Statistics, 1914–1941.

But remember that the other major mission of central banks is monetary and economic stability. For most of the period from after the Civil War until the 1930s, the United States was on a gold standard. What is a gold standard? It is a monetary system in which the value of the currency is fixed in terms of gold; for example, by law in the early twentieth century, the price of gold was set at $20.67 an ounce. So there was a fixed relationship between the dollar and a certain weight of gold, and that in turn helped set the money supply; it helped set the price level in the economy. There were central banks that helped manage the gold standard, but to a significant extent a true gold standard creates an automatic monetary system and is at least a partial alternative to a central bank.

Unfortunately, a gold standard is far from a perfect monetary system. For instance, it is a big waste of resources: you have to dig up tons of gold and move it to the basement of the Federal Reserve Bank in New York. Milton Friedman used to emphasize that a very serious cost of a gold standard was that all this gold was being dug