PART

4

Central Banking and the Conduct of Monetary Policy

Crisis and Response: The Federal Reserve and the Global Financial Crisis

When the Federal Reserve was confronted with what former Chairman Alan Greenspan described as a "once-in-a-century credit tsunami," it resolved to come to the rescue. Starting in September 2007, the Federal Reserve lowered the federal funds rate target, bringing it down to zero by the end of 2008. At the same time, the Fed implemented large liquidity injections into the credit markets to encourage them to lend again. In mid-August 2007, the Fed lowered the discount rate at which it lent to banks to just 50 basis points above the federal funds rate target, from the normal 100 basis points. Over the course of the crisis, the Fed broadened its provision of liquidity to the financial system well outside its traditional lending to depository institutions. Indeed, after the Fed made loans to assist in the takeover of Bear Stearns by J.P. Morgan in March 2008, Paul Volcker, a former chairman of the Federal Reserve, described the Fed's actions as going to the "very edge of its lawful and implied powers." The number of new Fed lending programs over the course of the crisis spawned a whole new set of acronyms—TAF, TSLF, PDCF, AMLF, CPFF, and MMIFF—making the Fed sound like the Pentagon with code-named initiatives and weapons. Like the Pentagon, the Fed was fighting a war, although its weapons were financial rather than guns, tanks, or aircraft.

The recent global financial crisis demonstrated the importance of central banks like the Federal Reserve to the health of the financial system and the economy. Chapter 14 outlines what central banks are trying to achieve, what motivates them, and how they are set up. Chapter 15 describes how the money supply is determined. In Chapter 16, we look at the tools that central banks like the Fed have at their disposal and how they use them. Chapter 17 extends the discussion of the conduct of monetary policy to focus on the broader picture of central banks' strategies and tactics.

14 Central Banks: A Global Perspective

Learning Objectives

- Recognize the historical context of the development of the Federal Reserve System.
- Describe the key features and functions of the Federal Reserve System.
- Assess the degree of independence of the Federal Reserve.
- Summarize the arguments for and against the independence of the Federal Reserve.
- Identify the ways in which the theory of bureaucratic behavior can help explain Federal Reserve actions.
- Identify the structure and independence of the European Central Bank and discuss central banks around the world.
- Assess the degree of independence of other major central banks around the world.

Preview

Among the most important players in financial markets throughout the world are central banks, the government authorities in charge of monetary policy. Central banks' actions affect interest rates, the amount of credit available, and the money supply, all of which have direct impacts not only on financial markets but also on aggregate output and inflation. To understand the role that central banks play in financial markets and the overall economy, we need to understand how these organizations work. Who controls central banks and determines their actions? What motivates their behavior? Who holds the reins of power?

In this chapter, we look at the institutional structure of major central banks and focus particularly on the Federal Reserve System and the European Central Bank (ECB), two of the most important central banks in the world. We start by examining the elements of the Fed's institutional structure that determine where the true power within the Federal Reserve System lies. By understanding who makes the decisions, we will have a better idea of how they are made. We then examine the reasons behind central bank behavior and whether it is a good idea to make central banks independent by insulating them from politicians. Finally, we look at the structure and independence of other major central banks, particularly the European Central Bank. With this context in place, we will be prepared to comprehend the actual conduct of monetary policy described in the following chapters.

ORIGINS OF THE FEDERAL RESERVE SYSTEM

Of all the central banks in the world, the Federal Reserve System probably has the most unusual structure. To understand how this structure arose, we must go back to before 1913, when the Federal Reserve System was created.

Before the twentieth century, a major characteristic of American politics was the fear of centralized power, as seen in the checks and balances provisions of the Constitution and the preservation of states' rights. This fear of centralized power was one source of American resistance to the establishment of a central bank. Another source was the traditional American distrust of moneyed interests, the most prominent symbol of which was a central bank. The open hostility of the American public to the existence of a central bank resulted in the demise of the first two experiments in central banking, whose function it was to police the banking system: The First Bank of the United States was disbanded in 1811, and the national charter of the Second Bank of the United States expired in 1836 after its renewal was vetoed in 1832 by President Andrew Jackson.

The termination of the Second Bank's national charter in 1836 created a severe problem for American financial markets because there was no lender of last resort that could provide reserves to the banking system in order to avert a bank panic. Hence, in the nineteenth and early twentieth centuries, nationwide bank panics became a regular event, occurring every twenty years or so, culminating in the panic of 1907. The 1907 panic resulted in such widespread bank failures and such substantial losses to depositors that the public was finally convinced that a central bank was needed to prevent future panics.

The hostility of the American public to banks and centralized authority meant great opposition to the establishment of a single central bank like the Bank of England. Fear was rampant that the moneyed interests on Wall Street (including the largest corporations and banks) would be able to manipulate such an institution to gain control over the economy, and that federal operation of the central bank might result in too much government intervention in the affairs of private banks. Serious disagreements existed over whether the central bank should be a private bank or a government institution. Because of the heated debates on these issues, a compromise was struck. In the great American tradition, Congress wrote an elaborate system of checks and balances into the Federal Reserve Act of 1913, which created the Federal Reserve System with its twelve regional Federal Reserve Banks.

STRUCTURE OF THE FEDERAL RESERVE SYSTEM

The writers of the Federal Reserve Act wanted to diffuse power along regional lines, between the private sector and the government, and among bankers, business people, and the public. This initial diffusion of power resulted in the evolution of the Federal Reserve System to include the following entities: the **Federal Reserve Banks**, the **Board of Governors of the Federal Reserve System**, the **Federal Open Market Committee (FOMC)**, the Federal Advisory Council, and around 2,000 member commercial banks.

Federal Reserve Banks

Each of the twelve Federal Reserve districts defined by the Federal Reserve Act of 1913 has one main Federal Reserve Bank, which may have branches in other cities in the district. The locations of these districts, the Federal Reserve Banks, and the Federal Reserve Bank branches are shown in Figure 1. The three largest Federal Reserve Banks in terms of assets are those of New York, Chicago, and San Francisco—combined, they hold more than 50% of the assets (discount loans, securities, and other holdings) of the Federal Reserve System. The New York bank, with around one-quarter of the assets, is the most important of the Federal Reserve Banks.

Each of the Federal Reserve Banks is a quasi-public (part private, part government) institution owned by the private commercial banks in its district that are members of the Federal Reserve System. These member banks have purchased stock in their district Federal Reserve Bank (a requirement of membership), and the dividends paid by that stock are limited by law to 6% annually. The member banks elect six directors for each district bank; three more are appointed by the Board of Governors.

The directors of a district bank are classified into three categories: A, B, and C. The three A directors (elected by the member banks) are professional bankers, and the three B directors (also elected by the member banks) are prominent leaders from industry,

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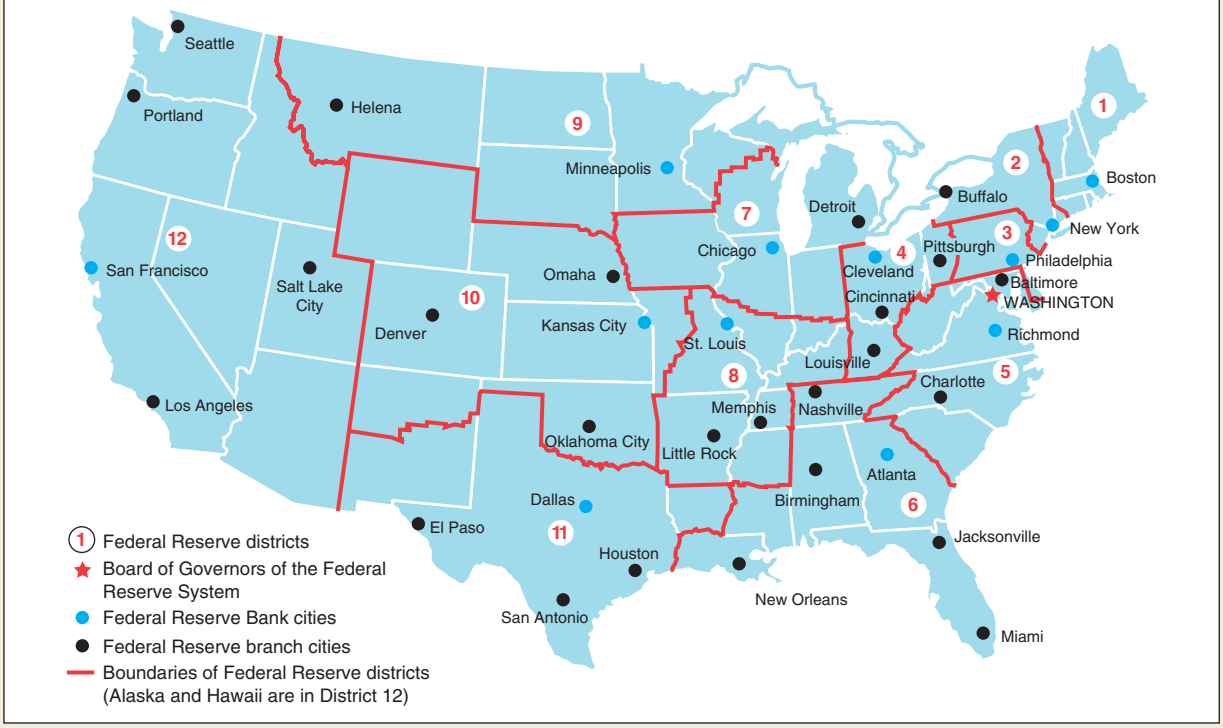

FIGURE 1 Federal Reserve System

The locations of the Federal Reserve districts, the Federal Reserve Banks, and their branches.

Source: Federal Reserve *Bulletin.*

labor, agriculture, or the consumer sector. The three C directors, who are appointed by the Board of Governors to represent the public interest, are not allowed to be officers, employees, or stockholders of banks.

The directors oversee the activities of the district bank, but their most important job is to appoint the president of the bank (subject to the approval of the Board of Governors). Up until 2010, all nine directors participated in this decision, but the Dodd-Frank legislation passed in July 2010 excluded the three class A directors from involvement in choosing the president of the bank. Congress viewed it as inappropriate for bankers to be involved in choosing the president of the Federal Reserve Bank that would have supervisory oversight of these same banks.

The twelve Federal Reserve Banks are involved in monetary policy in several ways:

- Their directors legally "establish" the discount rate (although the discount rate is in practice set at a fixed amount over the federal funds rate target).
- They decide which banks, member and nonmember alike, can obtain discount loans from the Federal Reserve Bank.
- Their directors select one commercial banker from each bank's district to serve on the Federal Advisory Council, which consults with the Board of Governors and provides information that helps in the conduct of monetary policy.

- Five of the twelve bank presidents each have a vote on the Federal Open Market Committee, which directs **open market operations** (the purchase and sale of government securities that affect both interest rates and the amount of reserves in the banking system). The president of the New York Fed is a permanent member of the FOMC, he or she always has a vote on the FOMC, making the New York Fed the most important of all the banks; the other four votes allocated to the district banks rotate annually among the remaining eleven presidents.

The twelve Federal Reserve Banks also perform the following functions:

- Clear checks
- Issue new currency and withdraw damaged currency from circulation
- Administer and make discount loans to banks in their districts
- Evaluate proposed mergers and applications for banks to expand their activities
- Act as liaisons between the business community and the Federal Reserve System
- Examine bank holding companies and state-chartered member banks
- Collect data on local business conditions
- Use their staffs of professional economists to research topics related to the conduct of monetary policy

Member Banks

All *national banks* (commercial banks chartered by the Office of the Comptroller of the Currency) are required to be members of the Federal Reserve System. Commercial banks chartered by the states are not required to be members, but they can choose to join. Currently, about a third of the commercial banks in the United States are members of the Federal Reserve System, having declined from a peak figure of 49% in 1947.

Before 1980, only member banks were required to keep reserves as deposits at the Federal Reserve Banks. Nonmember banks were subject to reserve requirements determined by their states, which typically allowed them to hold much of their reserves in interest-bearing securities. Because at the time no interest was paid on reserves deposited at the Federal Reserve Banks, it was costly to be a member of the system, and as interest rates rose, the relative cost of membership rose, and more and more banks left the system.

This decline in Fed membership was a major concern of the Board of Governors; one reason was that it lessened the Fed's control over the money supply, making it more difficult for the Fed to conduct monetary policy. The chair of the Board of Governors repeatedly called for new legislation requiring all commercial banks to be members of the Federal Reserve System. One result of the Fed's pressure on Congress was a provision in the Depository Institutions Deregulation and Monetary Control Act of 1980: All depository institutions became subject (by 1987) to the same requirements to keep deposits at the Fed, so member and nonmember banks would be on equal footing in terms of reserve requirements. In addition, all depository institutions were given equal access to the Federal Reserve facilities, such as the discount window (discussed in Chapter 16) and Fed check clearing. These provisions ended the decline in Fed membership and reduced the distinction between member and nonmember banks.

Board of Governors of the Federal Reserve System

At the head of the Federal Reserve System is the seven-member Board of Governors, headquartered in Washington, DC. Each governor is appointed by the president of the

United States and confirmed by the Senate. To limit the president's control over the Fed and insulate the Fed from other political pressures, the governors can each serve one full, nonrenewable, fourteen-year term plus part of another term, with one governor's term expiring every other January.[1] The governors (many are professional economists) are required to come from different Federal Reserve districts, so that the interests of one particular region of the country are not overrepresented. The chair of the Board of Governors is chosen from among the seven governors and serves a four-year, renewable term. It is expected that once a new chair is chosen, the old chair will resign from the Board of Governors, even if many years are left in his or her term as a governor.

The Board of Governors is actively involved in the conduct of monetary policy in the following ways:

- All seven governors are members of the FOMC and vote on the conduct of open market operations. Because only twelve voting members are on this committee (seven governors and five presidents of the district banks), the Board has the majority of the votes.
- It sets reserve requirements (within limits imposed by legislation).
- It effectively controls the fixed amount by which the discount rate exceeds the federal funds rate target by means of the "review and determination" process, whereby it approves or disapproves the discount rate "established" by the Federal Reserve Banks.
- The chair of the Board advises the president of the United States on economic policy, testifies in Congress, and speaks on behalf of the Federal Reserve System to the media.

Federal Open Market Committee (FOMC)

The FOMC usually meets eight times a year (about every six weeks) and makes decisions regarding the conduct of open market operations and the setting of the policy interest rate, the **federal funds rate**, which is the interest rate on overnight loans from one bank to another. Indeed, the FOMC is often referred to as the "Fed" in the press. For example, when the media report that the Fed is meeting, they actually mean that the FOMC is meeting. The committee consists of the seven members of the Board of Governors, the president of the Federal Reserve Bank of New York, and the presidents of four other Federal Reserve Banks. The chair of the Board of Governors also presides as the chair of the FOMC. Even though only the presidents of five of the Federal Reserve Banks are voting members of the FOMC, the other seven presidents of the district banks attend FOMC meetings and participate in discussions. Hence they have some input into the committee's decisions.

Because in the past open market operations were the most important policy tool the Fed had for controlling the money supply, and because it is where decisions about **tightening of monetary policy** (a rise in the federal funds rate) or **easing of monetary policy** (a lowering of the federal funds rate) are made, the FOMC is necessarily the focal point for policymaking in the Federal Reserve System. Although reserve requirements and the discount rate are not actually set by the FOMC, decisions in regard to these policy tools are effectively made. The FOMC does not actually carry out securities purchases or sales. Instead, it issues directives to the trading desk at

[1]Although technically the governor's term is nonrenewable, a governor can resign just before his or her term expires and then be reappointed by the president. This explains how one governor, William McChesney Martin, Jr., served for 28 years. Since Martin, the chair from 1951 to 1970, retired from the board in 1970, the practice of allowing a governor to, in effect, serve a second full term has been eliminated, and this is why Alan Greenspan had to retire from the Board after his fourteen-year term expired in 2006.

Inside the Fed The FOMC Meeting

The FOMC meeting takes place in the boardroom on the second floor of the main building of the Board of Governors in Washington, DC. The seven governors and the twelve Reserve Bank presidents, along with the secretary of the FOMC, the Board's director of the Research and Statistics Division and his or her deputy, and the directors of the Monetary Affairs and International Finance Divisions, sit around a massive conference table. Although only five of the Reserve Bank presidents have voting rights on the FOMC at any given time, all actively participate in the deliberations. Seated around the sides of the room are the directors of research for each of the Reserve Banks and other senior board and Reserve Bank officials, who, by tradition, do not speak at the meeting.

The meeting starts with a quick approval of the minutes of the previous meeting of the FOMC. The first substantive agenda item is the report by the manager of system open market operations on foreign currency and domestic open market operations, and other issues related to these topics. After the governors and Reserve Bank presidents finish asking questions and discussing these reports, a vote is taken to ratify them.

The next stage of the meeting is a presentation of the Board staff's national economic forecast by the director of the Research and Statistics Division of the Board. After the governors and Reserve Bank presidents have queried the division director about the forecast, the *go-round* occurs: Each bank president presents an overview of economic conditions in his or her district and the bank's assessment of the national outlook, and each governor, including the chair, gives a view of the national outlook. By tradition, remarks avoid the topic of monetary policy at this time.

The agenda then turns to current monetary policy and the domestic policy directive. The Board's director of the Monetary Affairs Division leads off the discussion by outlining the different scenarios for monetary policy actions and may describe an issue relating to how monetary policy should be conducted. After a question-and-answer period, each of the FOMC members, as well as the nonvoting bank presidents, expresses his or her views on monetary policy and on the monetary policy statement. The chair then summarizes the discussion and proposes specific wording for the monetary policy statement and the directive on the federal funds rate target transmitted to the open market desk, indicating whether the federal funds rate target is to be raised or lowered, say, by 1/4 of a percentage point, or to be left unchanged. The secretary of the FOMC formally reads the proposed statement, and the members of the FOMC vote.*

An informal buffet lunch follows, during which, while eating, the participants hear a presentation on the latest developments in Congress on banking legislation and other legislation relevant to the Federal Reserve. At 2:15 p.m., a public announcement is made about the outcome of the meeting: whether the federal funds rate target and discount rate have been raised, lowered, or left unchanged; and an assessment of the "balance of risks" in the future, whether toward higher inflation or a weaker economy. The postmeeting announcement is an innovation initiated in 1994. Before that year, no such announcement was ever made, and the markets had to guess what policy action had been taken. The decision to announce this information was a step in the direction of greater openness by the Fed. A further step in this direction started in April 2011: After the FOMC meetings in April, June, November, and January, the chair of the Federal Reserve gives a press conference in which he or she briefs the press about the FOMC decisions.

*The decisions expressed in the directive may not be unanimous, and the dissenting views are made public. However, except in extremely rare cases, the chair's vote is always on the winning side.

†Half of the meetings have a somewhat different format. Rather than starting on Tuesday morning at 9:00 a.m. like the other meetings, they start in the afternoon on Tuesday and go over into Wednesday, with the usual announcement around 2:15 p.m. In addition to the usual concerns, these longer meetings also consider the longer-term economic outlook and other special topics.

the Federal Reserve Bank of New York, where the manager for domestic open market operations supervises a roomful of people who execute the purchases and sales of the government or agency securities. The manager communicates daily with the FOMC members and their staffs concerning the activities of the trading desk.

HOW INDEPENDENT IS THE FED?

When we look, in the next three chapters, at how the Federal Reserve conducts monetary policy, we will want to know why the Fed decides to take certain policy actions but not others. To understand its actions, we must understand the incentives that motivate the Fed's behavior. How free is the Fed from presidential and congressional

Inside the Fed — Styles of Federal Reserve Chairs: Bernanke and Yellen Versus Greenspan

Every Federal Reserve chair has a different style, and these styles affect how policy decisions are made at the Fed. There has been much discussion of how two recent chairs of the Fed, former chair Ben Bernanke and current chair Janet Yellen, differ from Alan Greenspan, who was the chair of the Federal Reserve Board for nineteen years, from 1987 until 2006.

Alan Greenspan dominated the Fed like no other prior Federal Reserve chair. His background was very different from that of Bernanke and Yellen, who spent most of the early parts of their careers in academia. Greenspan, a disciple of Ayn Rand, was a strong advocate for laissez-faire capitalism and headed a very successful economic consulting firm, Townsend-Greenspan. Greenspan was never an economic theorist, but rather was famous for immersing himself in the data—literally so, because he was known to review data in his bathtub at the beginning of the day—and often focused on rather obscure data series to come up with his forecasts. As a result, Greenspan did not rely exclusively on the Federal Reserve Board staff's forecast in making his policy decisions. A prominent example occurred during 1997, when the Board staff was forecasting a surge in inflation, which would have required a tightening of monetary policy. Yet Greenspan believed that inflation would not rise and convinced the FOMC not to tighten monetary policy. Greenspan proved to be right and was dubbed the "maestro" by the media.

Bernanke, on the other hand, before going to Washington as a governor of the Fed in 2002, and before becoming the chair of the Council of Economic Advisors in 2005 and the Fed chair in 2006, spent his entire career as a professor, first at Stanford University's Graduate School of Business and then in the Economics Department at Princeton University, where he became chair of the department. Similarly, Janet Yellen was a professor for twenty years at Harvard University and then at the University of California before working for the Federal Reserve System as a member of the Board of Governors from 1994–1997. She served as president of the Federal Reserve Bank of San Francisco from 2004–2010, and then as vice-chair of the Federal Reserve from 2010 to 2014. Because Bernanke and Yellen did not make their names as economic forecasters, the Board staff's forecast now plays a much greater role in decision making at the FOMC. In contrast to Greenspan, Bernanke and Yellen's backgrounds as top academic economists led them to focus on analytics in making their decisions. As a result, model simulations became important tools in guiding policy discussions.

The style of policy discussions also has changed with the more recent chairs. Greenspan exercised extensive control over the discussion at the FOMC. During the Greenspan era, the discussion was formal, with each participant speaking after being put on a list by the secretary of the FOMC. Under Bernanke

and now Yellen, there is more give and take. Both chairs have encouraged so-called two-handed interventions. When a participant wants to go out of turn to ask a question or make a point about something another participant has just said, he or she raises two hands and is then acknowledged by the chair and called on to speak.

The order of the discussion at the FOMC has also changed, in a very subtle but extremely important way. Under Greenspan, after the other FOMC participants had expressed their views on the economy, Greenspan would present his views on the state of the economy and then make a recommendation regarding the course of monetary policy action. This protocol required the other participants to just agree or disagree with Greenspan's recommendation during the following round of discussion about monetary policy. In contrast, Bernanke usually did not, and Yellen usually does not, make a recommendation for the course of monetary policy immediately after the other FOMC participants have expressed their views on the economy. Instead, they would summarize what they had heard from the other participants, make some comments of their own, and then wait until after they had heard the views of all the other participants before making a monetary policy recommendation. Under Greenspan's process, the chair was pretty much making the decision about policy, whereas Bernanke did, and Yellen does, favor procedures that are more democratic and enable participants to have greater influence over the chair's vote.

Another big difference in the chairs' styles is in terms of transparency. Greenspan was famous for being obscure, and even quipped at a Congressional hearing, "I guess I should warn you, if I turn out to be particularly clear, you've probably misunderstood what I've said." Bernanke and Yellen, on the other hand, try to be particularly clear speakers. Although advances in transparency were made under Greenspan, he adopted more transparent communication only reluctantly. Bernanke and Yellen have been much stronger supporters of transparency. They have advocated that the Fed announce its inflation objective (see Chapter 17) and have launched major initiatives in an effort to increase Fed transparency.

pressures? Do economic, bureaucratic, or political considerations guide it? Is the Fed truly independent of outside pressures?

Stanley Fischer, who was a professor at MIT and is now the vice-chair of the Federal Reserve, has defined two different types of independence of central banks: **instrument independence**, the ability of the central bank to set monetary policy instruments, and **goal independence**, the ability of the central bank to set the goals of monetary policy. The Federal Reserve has both types of independence and is remarkably free of the political pressures that influence other government agencies. Not only are the members of the Board of Governors appointed for a fourteen-year term (and so cannot be ousted from office), but also the term is technically not renewable, eliminating some of the incentive for the governors to curry favor with the president and Congress.

Probably even more important to its freedom from the whims of Congress is the Fed's independent and substantial source of revenue from its holdings of securities and, to a lesser extent, from its loans to banks. In 2013, for example, the Fed had net earnings after expenses of $79 billion—not a bad living if you can find it! Because it returns the bulk of these earnings to the Treasury, it does not get rich from its activities, but this income gives the Fed an important advantage over other government agencies: It is not subject to the appropriations process usually controlled by Congress. Indeed, the General Accounting Office, the auditing agency of the federal government, cannot audit the monetary policy or foreign exchange market functions of the Federal Reserve. Because the power to control the purse strings is usually synonymous with the power

of overall control, this feature of the Federal Reserve System contributes to its independence more than any other factor.

Yet the Federal Reserve is still subject to the influence of Congress, because the legislation that structures it is written by Congress and is subject to change at any time. When legislators are upset with the Fed's conduct of monetary policy, they frequently threaten to weaken its independence. A recent example was a bill sponsored by Representative Ron Paul in 2009. The bill advocated subjecting the Fed's monetary policy actions to audits by the General Accounting Office (GAO). Threats like this are a powerful club to wield, and they certainly have some effect in keeping the Fed from straying too far from Congressional wishes.

Congress also has passed legislation to make the Federal Reserve more accountable for its actions. Under the Humphrey-Hawkins Act of 1978 and later legislation, the Federal Reserve is required to issue a *Monetary Policy Report to the Congress* semiannually, with accompanying testimony by the chair of the Board of Governors, to explain how the conduct of monetary policy is consistent with the objectives outlined by the Federal Reserve Act.

The president can also influence the Federal Reserve. Because Congressional legislation can affect the Fed directly or affect its ability to conduct monetary policy, the president can be a powerful ally through his influence on Congress. Second, although ostensibly a president might be able to appoint only one or two members to the Board of Governors during each presidential term, in actual practice the president appoints members far more often. One reason is that most governors do not serve out a full fourteen-year term. (Governors' salaries are substantially below the salaries they could earn in the private sector or even at universities, thus providing an incentive for them to return to academia or take private sector jobs before their term expires.) In addition, the president is able to appoint a new chair of the Board of Governors every four years, and a chair who is not reappointed is expected to resign from the board so that a new member can be appointed.

SHOULD THE FED BE INDEPENDENT?

As we have seen, an increasing number of nations have been giving more independence to their central banks. Politicians who strongly oppose a central bank policy often want to bring it under their supervision so as to impose a policy more to their liking. Should the central bank be independent, or would we be better off with a central bank under the control of the president or the parliament?

The Case for Independence

The strongest argument for an independent central bank rests on the view that subjecting it to more political pressures would impart an inflationary bias to monetary policy. In the view of many observers, politicians in a democratic society are shortsighted because they are driven by the need to win their next election. With this as their primary goal, they are unlikely to focus on long-run objectives such as promoting a stable price level. Instead, they will seek short-run solutions to problems such as high unemployment and high interest rates, even if the short-run solutions have undesirable long-run consequences. For example, we saw in Chapter 5 that high money growth can lead initially to a drop in interest rates but might cause an

increase later, as inflation heats up. Would a central bank under the control of the parliament or the president be more likely to pursue a policy of excessive money growth when interest rates are high, even though it would eventually lead to inflation and even higher interest rates in the future? The advocates of an independent central bank say yes. They believe that a politically insulated central bank is more likely to be concerned with long-run objectives and thus be a defender of a sound dollar and a stable price level.

A variation on the preceding argument is that the political process in America could lead to a **political business cycle**, in which just before an election, expansionary policies are pursued to lower unemployment and interest rates. After the election, the bad effects of these policies—high inflation and high interest rates—come home to roost, requiring contractionary policies that politicians hope the public will forget before the next election. There is some evidence that such a political business cycle exists in the United States, and a Federal Reserve under the control of Congress or the president might make the cycle even more pronounced.

Putting the central bank under the control of the treasury or fiscal agent of the government (making it more subject to influence by the president) is also considered dangerous because the central bank can be used to facilitate financing of large budget deficits by its purchases of government securities[2]. Government pressure on the central bank to "help out" could lead to more inflation in the economy. An independent central bank is better able to resist this pressure from the government.

Another argument for central bank independence is that control of monetary policy is too important to be left to politicians, a group that has repeatedly demonstrated a lack of expertise at making hard decisions on issues of great economic importance, such as reducing the budget deficit or reforming the banking system. This argument can also be stated in terms of the principal–agent problem discussed in Chapters 8, 10, and 12. Both the central bank and politicians are agents of the public (the principals), and both politicians and the central bank have incentives to act in their own interest rather than in the interest of the public. The argument supporting central bank independence is that the principal–agent problem is worse for politicians than for central banks because politicians have fewer incentives to act in the public interest.

Indeed, some politicians prefer an independent central bank because it can be used as a public "whipping boy" to take some of the heat off their backs. It is possible that a politician who in private opposes an inflationary monetary policy will be forced to support such a policy in public for fear of not being reelected. An independent central bank can pursue policies that are politically unpopular yet ultimately in the public interest.

The Case Against Independence

Proponents of a central bank under the control of the president or parliament argue that it is undemocratic to have monetary policy (which affects almost everyone in the economy) controlled by an elite group responsible to no one. The current lack of accountability of a central bank has serious consequences: If the central bank performs badly, no provision is in place for replacing members (as there is with politicians). It is true that the central bank needs to pursue long-run objectives, but elected officials of Congress vote on long-run issues also (foreign policy, for example).

[2]Most central banks are prohibited from buying government securities directly from the fiscal agent of the government (except to roll over maturing securities); instead, central banks buy these securities on the open market. One possible reason for this prohibition is that the central bank would find it very costly to finance large fiscal budget deficits.

The public holds the president, the cabinet, and the parliament responsible for the economic well-being of the country, yet it lacks control over the government agency that may well be the most important factor in determining the health of the economy. In addition, to achieve a cohesive program that will promote economic stability, monetary policy must be coordinated with fiscal policy (the management of government spending and taxation). Only by placing monetary policy under the control of the politicians who also control fiscal policy can these two policies be prevented from working at cross-purposes.

Another argument against central bank independence is that, historically, an independent central bank has not always used its freedom successfully. To cite an example, the Fed failed miserably in its stated role as lender of last resort during the Great Depression, and its independence certainly didn't prevent it from pursuing an overly expansionary monetary policy in the 1960s and 1970s that contributed to rapid inflation in this period.

Our earlier discussion also suggests that the Federal Reserve is not immune from political pressures. Its independence may encourage it to pursue a course of narrow self-interest rather than actions that are in the public interest.

No consensus has yet been reached on whether central bank independence is a good thing, although public support for independence of the central bank seems to have been growing in both the United States and abroad. As you might expect, people who like the central bank's policies are more likely to support its independence, whereas those who dislike its policies advocate a less independent central bank's.

Central Bank Independence and Macroeconomic Performance Throughout the World

We have seen that advocates of an independent central bank believe that macroeconomic performance will be improved by making the central bank more independent. Empirical evidence seems to support this conjecture: When central banks are ranked from least independent to most independent, inflation performance is found to be the best for countries with the most independent central banks. Although a more independent central bank appears to lead to a lower inflation rate, this is not achieved at the expense of poorer real economic performance. Countries with independent central banks are no more likely to have high unemployment or greater output fluctuations than countries with less independent central banks.

In the last few years maintaining low levels of inflation has become an important societal goal. In fact, since the 1990s the Bank of Israel has been granted more independence in order to target inflation, where the CPI is allowed to rise only within the range of 1% and 3% per annum. Inflation became a staggering problem from the mid-1980s for Israel which suffered from an extraordinary inflationary cycle during the 1980s, forcing it to adopt the new sheqel to replace the sheqel at the rate of 1:1000. The high level of independence of the Bank of Israel grants the Governor the sole responsibility of managing interest rates after consultations with directors and economists of the bank. Is this level of independence desirable? We must remember that is not the only macroeconomic goal. The current global financial crisis revealed to us that monetary policy may have devastating effects on other real economic variables. While increasing numbers of nations have granted their central banks more independence with the hope of maintaining low and stable inflation, there is always the danger that an independent central bank will not be accountable. Hence, delegating the power to implement farreaching

policies to an independent institution requires guaranteeing its accountability. For this reason, many policy makers have called for reforms that grant central banks instrument independence, while preserving the right of governments to establish policy goals. Only by making central banks accountable to the parliament would we be able to monitor their efficiency of central bank in achieving these policy goals.

EXPLAINING CENTRAL BANK BEHAVIOR

One view of government bureaucratic behavior is that bureaucracies serve the public interest (this is called the *public interest view*). Yet some economists have developed a theory of bureaucratic behavior that emphasizes other factors that influence the operation of bureaucracies. The *theory of bureaucratic behavior* suggests that the objective of a bureaucracy is to maximize its own welfare, just as a consumer's behavior is motivated by the desire to maximize personal welfare and a firm's behavior is motivated by the desire to maximize profits. The welfare of a bureaucracy is related to its power and prestige. Thus, this theory suggests that an important factor affecting a central bank's behavior is its wish to increase its power and prestige.

What predictions stem from this particular view of a central bank? One is that the central bank will fight vigorously to preserve its autonomy. Another prediction is that central banks will try to avoid conflict with powerful groups that may threaten to curtail their power and reduce their autonomy. This behavior may take several forms.

The desire of central banks to hold as much power as possible also explains why they vigorously try to gain control over more banks.

Yet we must recognize that this view of a central bank as being solely concerned with its own self-interest is too extreme. Maximizing one's own welfare does not rule out altruism. (You might give generously to a charity because it makes you feel good about yourself, but in the process you are helping a worthy cause.) Central banks are surely concerned with conducting monetary policy that is in the public interest. However, much uncertainty and disagreement often exist over what that monetary policy should be.[3] When it is unclear what policy will best serve the public interest, other motives may influence the central bank's behavior. In these situations, the theory of bureaucratic behavior can be a useful guide in predicting the motivation behind the actions of central banks.

STRUCTURE AND INDEPENDENCE OF THE EUROPEAN CENTRAL BANK

Until recently, the Federal Reserve had no rivals in terms of its importance in the central banking world. However, this situation changed in January 1999 with the start-up of the European Central Bank (ECB) and European System of Central Banks (ESCB), which now conduct monetary policy for countries that are members of the European Monetary Union. These countries, taken together, have a population that exceeds that

[3]One example of the uncertainty over how best to conduct monetary policy was discussed in Chapter 3: Economists are not sure how to measure money. So even if economists agree that controlling the quantity of money is the appropriate way to conduct monetary policy (a controversial position, as we will see in later chapters), the Fed cannot be sure which monetary aggregate it should control.

of the United States and a GDP comparable with that of the United States. The Maastricht Treaty, which established the ECB and ESCB, patterned these institutions after the Deutsche Bundesbank, the German central bank, in that central banks for each country (referred to as *National Central Banks*, or *NCBs*) have a similar role to that of the *Lander Banks* (for a full review of how the *Lander Banks* operate, see the section about the Bundesbank). The decisions in the Eurosystem are taken in a centralized manner by the ECB, but implemented via the NCBs in a decentralized way.

Now let us acquaint ourselves with the institutions of the European Union. The ESCB encompasses the ECB and the National Central Banks of the 28 EU member states (including the 2013 addition of Croatia as the 28th EU member state) whether or not they use the euro as their domestic currency. The Eurosystem, on the other hand, comprises of the ECB and the NCBs of only the nineteen countries that have adopted the euro; Lithuania[4] being the latest member to join the European Monetary Union in January 2015. As for the Euro area, it refers to only the EU countries using the euro as their currency. The ECB is owned by the nineteen NCBs and it was established as the center of the European System of Central Banks (ESCB) and the Eurosystem. While the ECB has a legal personality under public international law, the ESCB does not. It is intended that the Eurosystem and the ESCB coexist as long as there are EU Member States outside the euro area. Once all 28 members of the ESCB adopt the euro, both institutions will merge. Figure 2 shows the member nations of the ECB and the ESCB.

The decision-making process at the EMU takes place at three levels: the Governing Council, the Executive Board and the General Council. The Governing Council is the de facto decision maker; the Executive Board is responsible for the daily execution of decisions of the Governing Council; while the General Council undertakes minor roles as an advisory body.

Governing Council Executive Board and General Council

The Governing Council, the supreme decision-making body of the ECB, comprises the six members of the Executive Board, plus the governors of the National Central Banks of the 19 Euro area nations. The main responsibility of the Governing Council is to formulate the monetary policy for the Euro area. The monetary policy decisions of the Governing Council relate to meeting the general monetary objectives of the Euro zone, authorization of the NCBs to issue currency notes, changes in interest rates and supervising the proper management of foreign reserves. It is also responsible for giving guidelines to NCBs for the implementation of those decisions. The Governing Council convenes on a fortnightly basis at the Eurotower in Frankfurt, Germany. During its first meeting each month, members of the Governing Council assess the economic and monetary conditions and developments in the EMU in order to take decisions regarding its monthly monetary policies. During its second meeting, the council discusses issues pertaining to other responsibilities of the ECB and the detailed implementation process by each of the NCBs.

The Governing Council has decided that although its members have the legal right to vote, no formal vote will actually be taken; instead, the Council operates by consensus. One reason the Governing Council has decided not to take votes is because of worries that the casting of individual votes could lead the heads of National Central Banks to support a monetary policy that would be appropriate for their individual countries, but not necessarily for the countries in the European Monetary Union as a whole.

[4] Lithuania, an EU member state, joined the Eurozone by adopting the euro on 1 January, 2015.

MyEconLab Mini-lecture

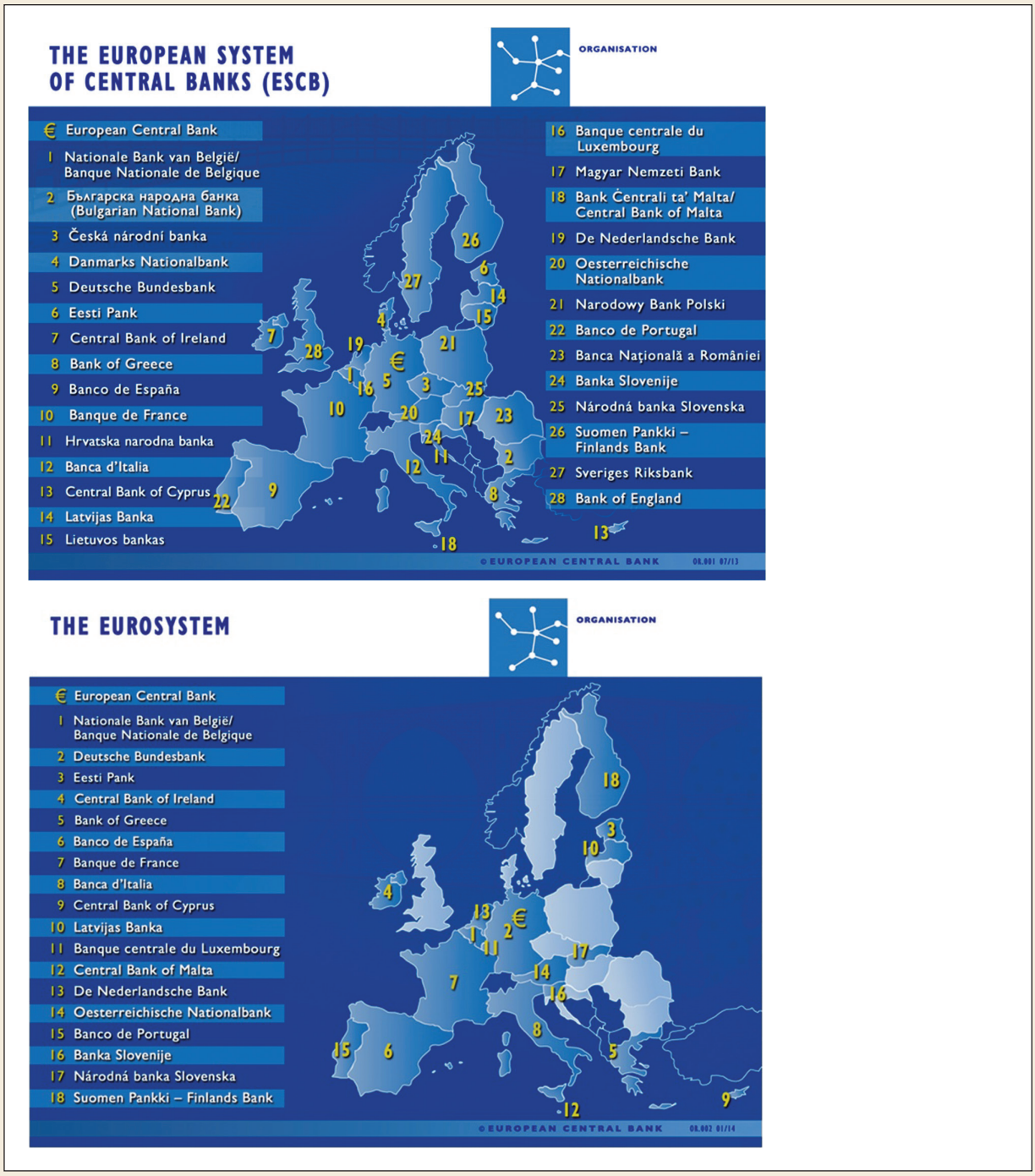

FIGURE 2 **The European System of Central Banks vs. the Eurosystem**

Source: https://www.ecb.europa.eu/ecb/educational/facts/html/index.en.html; Facts Presentation. ECB, January 2009, S 1&2. Copyright © European Central Bank, Frankfurt am Main, Germany. Figures are available free of charge via the ECB website.

Just as the Federal Reserve releases the FOMC's decision on the setting of the policy interest rate (the federal funds rate) immediately after the meeting is over, the ECB does the same after the Governing Council meeting concludes (announcing the target for a similar short-term interest rate for interbank loans). However, whereas the Fed simply releases a statement about the setting of the monetary policy instruments, the ECB goes further by having a press conference in which the president and vice president of the ECB take questions from the news media. Holding such a press conference so soon after the meeting is tricky because it requires the president and vice president to be quick on their feet in dealing with the press. The first president of the ECB, Willem F. Duisenberg, caused uncomfortable situations at some of these press conferences, and the ECB came under some sharp criticism. His successor, Jean-Claude Trichet, was harshly criticized for emphasizing the price stability target over growth and stability. He was succeeded by Mario Draghi, the former governor of the Bank of Italy. Among the reasons for selecting Draghi is his knowledge of the secrets of investment banking during his tenure as the managing director of Goldman Sachs, which is apt to endow him with the ability to impose more prudent controls and supervision of European banks.

The Executive Board consists of the president, the vice-president, and four other members who are appointed by common agreement of the Heads of States of the Euro area countries. Its main tasks are to ensure the day-to-day implementation of the monetary policy through giving detailed instructions to all National Central Banks in accordance with the guidelines of the Governing Council. Moreover, the Executive Board is responsible for managing the daily business of the ECB.

Finally, the General Council includes the president and the vice-president of the ECB, representatives of the 19 Euro area countries and the 11 non-Euro zone EU Member States. The president of the EU Council and a member of the European Commission may attend the meetings of the General Council, but they have no voting rights. The General Council is a transitional body that will be dissolved once all EU Member States introduce the single currency. It performs advisory tasks to the ECB, collects statistical information and standardizes the accounting operations of the NCBs.

With more countries opting to join the European Monetary Union it becomes more difficult to reach a consensus. To deal with this potential problem, the Governing Council has decided on a complex system of rotation, somewhat like that for the FOMC, in which National Central Banks from the larger countries will vote more often than National Central Banks from the smaller countries. Moreover, once the member nations of the Euro zone reach 18, a two-third majority will be followed instead of the current consensus.

How Do National Central Banks Operate Within the Eurosystem?

The National Central Banks play an essential role in the ESCB and exercise powers delegated to them by the Governing Council. But the question that immediately comes to mind is how do individual National Central Banks act in accordance with ECB guidelines? In order to have a better understanding of the system, it is helpful to focus on one of the most significant members of the ECB, namely the Deutsche Bundesbank. The reason for selecting the Bundesbank is that it is the largest national central bank within the ECB and also more than half of the short-term inter-bank borrowing by Euro-area banks from the central banks is attributable to the Bundesbank. It also contributes almost 20% of the capital of the ECB. Moreover, the ECB was modeled after the Deutsche Bundesbank in a manner that fully ensures its independence.

Deutsche Bundesbank

In 1948, the Allied forces created the Bank deutscher Länder (BdL) to act as the central bank of the Federal Republic of Germany (West Germany). A two-tier central banking system was established comprising of the BdL and the Länder (or state) central banks whose presidents were appointed by the Länder governments. A higher council comprised of governors of the Länder central banks, a federal-appointed president and the president of the BdL. In this highly decentralized central banking system, the BdL assumed the main tasks of conducting monetary policy, coordinating the policies and tasks of the Länder central banks and managing the foreign exchange system of the country. In the meantime, the Länder central banks were greatly autonomous, with each state issuing currency notes, along with the BdL.

In 1957, the Bundesbank replaced the BdL as the new central bank of West Germany and a new structure was adopted. The Bundesbank, also nicknamed the "Buba," became the sole issuer of the Deutsche Mark currency notes and was required to cooperate with other policymaking institutions to ensure harmonious objectives and policies. The Central Bank Council comprised of ten central government representatives and eleven Länder central bank presidents, selected by the Länder governments. This structure served the dual objectives of coordinated policies, while ensuring that the Länder central banks still maintained some autonomy.

After the reunification of East and West Germany, the Bundesbank was reorganized in 1990 to allow for the incorporation of East Germany into the system. The composition of the council was altered, so that it comprised eight government appointees and nine Länder central bank presidents, while key states retained their central banks. This new structure of the Bundesbank strikes a balance between granting the federal or central government relative say in policy making, while preserving the majority status of the state central bank presidents. This guaranteed the continued independence of the Bundesbank.

Till 2008 the Bundesbank had nine regional offices and 47 branches throughout Germany. In 2008, it posted a profit of € 6.3 billion, which accrued to Länder banks, since they are the legal owners of the Bundesbank. From 2009 the Executive Board of the Bundesbank will consist of six instead of eight members. Three members will now be nominated by the Federal Government and three by the Bundesrat (or the German Federal Council) and all members are appointed by the President of Germany.

How does the ECB differ from the Bundesbank?

After its introduction, as a virtual currency in 1999 and as a physical currency in 2002, Germany adopted the euro as its currency to replace the Deutsche Mark. The Bundesbank no longer exists as an independent body, but is part of the ECB. Its objectives are harmonious with those of the ECB, with its primary goal being price stability. The Governing Council of the ECB has the prime goal of targeting the annual rate of inflation in the Euro zone at approximately 2%.

The Bundesbank has five core tasks that it jointly performs with the ECB.

- The core function of the Bundesbank is to implement the Eurosystem monetary policy as laid down in the EC Treaty. It has to ensure stable prices and this is executed through voting in the monthly meeting of the Governing Council of the ECB where monetary policy decisions are made. The president of Bundesbank is a voting member in the Governing Council of the ECB and consults experts before voting each month. The Bundesbank does not have the right to issue currency notes and coins at its own discretion, but only after authorization from the ECB.

- It also performs the main function as the clearing house for its member banks and the banks' banker. All central banks within the Euro zone are now members of an advanced payment system, known as TARGET 2 that allows banks to make payments in real time and also permits them to use counter-payment as cover. The ECB does not always have the task of supervising banks, but this task is delegated to each of the national banks such as the Bundesbank which is responsible for the supervision of the solvency, liquidity and risk management systems of 2,300 credit institutions in Germany. The Bundesbank also ensures that banks hold adequate capital requirements in accordance with the requirements of Basel Accord II.
- The Bundesbank is the state's banker and the Federal Government's fiscal agent. Moreover, the Bundesbank advises the government on issues of monetary policy.
- It also manages the currency reserves of Germany; the ECB has no say as to how much foreign reserves each of the national central banks should hold. But each NCB is required to contribute to the ECB foreign reserves equivalent to its contribution to the capital of the ECB.
- Finally, the Bundesbank may also cooperate with other international institutions to maintain a stable financial system. For example, during the current global financial crisis, it has cooperated with the Fed under a program called Term Auction Facility to improve dollar liquidity in the Euro area and to help stabilize the money market.

How Independent is the ECB?

Although the Federal Reserve is a highly independent central bank, the Maastricht Treaty, which established the Eurosystem, has made the ECB the most independent central bank in the world. Like the Board of Governors, the members of the Executive Board have long terms (eight years), while heads of National Central Banks are required to have terms at least five years long. Like the Fed, the Eurosystem determines its own budget, and the governments of the member countries are not allowed to issue instructions to the ECB. These elements of the Maastricht Treaty make the ECB highly independent.

Another element that grants the ECB more independence is that it is prohibited from granting loans to national public sector entities, in order to shield it from any influences by public authorities. Moreover, to ensure the independence of NCBs, the ECB strictly forbids them from taking instructions from European Community institutions, any government of an EU Member State or any other international body. This ensures total conformity of the NCBs, with monetary policy decisions undertaken by the Governing Council.

CENTRAL BANKS ROUND THE WORLD

Central Banks in Transition Economies

In the early 1990s, of the elapsed century, socialism collapsed in a number of socialist countries in east and central Europe and the former USSR. As these countries were moving from central planning and public ownership to more liberalization and private property rights, a number of institutions were changed, while totally new ones were

created. This transition process was quite painful and cumbersome for many of these nations, as it entailed substantial structural changes and the formation of the previously non-existent markets.

Prior to 1990, most of the transition nations possessed one state-owned bank that assumed the dual roles of a commercial bank and a central bank, while a few others already possessed a separate central bank that supervised the operations of other state-owned banks. By the 1900s, the economies of these nations were in shambles, where the banking sector had a huge non-performing debt portfolio owed by the inefficient public sector firms. Moreover, with the abrupt introduction of markets to these economies they suffered from inflationary pressures due to the liberalization of prices, along with substantial deficits in their balance of payments and massive devaluations of their domestic currencies.

Hence, it was imperative to create new central banks, by breaking up the mono-bank into a central bank and a commercial bank, or to grant some degree of independence to the already existing ones. This required multiple central bank reforms in order to substantially upgrade both the instrument and the goal independence of these newly reformed institutions. Central bank independence in Eastern European nations and the Commonwealth of Independent Nations (the fifteen nations that gained their independence after the collapse of the USSR) was granted, albeit not being fully functional.

With the increase in the levels of law enforcement in transition economies, gradual central bank independence has been granted and implemented, leading to more successful solutions to the problems of inflation and bank supervision. Among the most independent central banks in transition nations are the Czech, Bulgarian, and Hungarian central banks, which have proved successful in controlling inflation.

Central Banks in Developing Countries and Emerging Economies

Developing nations are those economies with a low-to-middle GDP. While such economies make up about 80% of the global population, they produce a little less than 20% of the world's GDP. An emerging economy, on the other hand, is a developing country or transition economy that is embarking on a new economic reform program in order to achieve higher economic performance, more efficiency in the capital markets and foreign exchange system reforms. Such nations are apt to attract considerable foreign investment both through financial markets as well as in their service sector and other productive industries. Even though the term is quite loosely used, emerging economies range from India and China to countries in Latin America, Africa, the Middle East, and Asia.

Many of these nations are relative newcomers to the concept of central banking. There is a very close relationship between their central banks and the level of development of the financial sector and political institutions. Yet, one main barrier that renders the independence of central banks in some of these nations as futile is the low level of capitalization and their inability to generate sources of revenue. The case of the Central Bank of Costa Rica is a typical example of a relatively independent central bank, albeit lacking the necessary resources to provide it with de facto effectiveness to implement monetary policy. Another example of an emerging economy facing similar problems of insufficient capital is the Bank of Indonesia, which had insufficient capital at the turn of the century and, hence, was unable to

Global Islamic Finance: Alternative Ethical Solutions to Financial Stability

As the global economy was battered by the financial meltdown, which has escaped many regulatory controls, financial specialists and economic pundits have started considering the adoption of alternative ethical solutions to undermine callous risk-taking activities. The Islamic economic model, rooted in distinctive religious and cultural roots, could be considered today among the promising alternatives. Principally, the economic ideologies of the Islamic system serve as an alternative to the cumulative indulgence in excess seen in conventional models, while still maintaining basic origins in entrepreneurship.

Islam considers that profit could either be the engine of development or the cause of unfair inequalities if people act without moral control. The harmonization of the material and spiritual ends is the Islamic rationality, and hence all economic activities are considered as acts of worship. Consequently, the Islamic economic model has deep roots in the notion of equal distribution of wealth; promoting economic growth and development; strictly prohibiting the exploitation of the needy; and avoiding excessive risk-taking. While the Islamic economic doctrine implements responsible citizen-ship by imposing a mandatory system of taxation, through charitable donations or zakat, the Islamic financial model rests on two essential pillars—no interest charging and risk-averse means of investment.

The term "Islamic banking" refers to a system of banking activities that is consistent with Islamic principles, known as the Sharia. Islamic law prohibits usury, known as riba, or any sort of interest collection and payment. Since the prohibition of interest is the "sine qua non" of Islamic banking, Islamic banks have developed a handful of lending arrangements based on profit-and-loss sharing. The most popular instruments of Islamic Banking are mudarbah, musharkah and murabaha. Under mudarbah, the borrower repays the loan to the bank with a previously agreed share of profit or loss. Musharaka is a contract between the bank and the customer, whereby both parties agree to combine their financial resources for the establishment or management of a business enterprise or project. Murabaha is an Islamic form of asset financing and has a fixed term and a pre-determined profit; the bank buys a specific asset and after having owning it for a while, it sells to the customer at the buying price plus a profit at a rate agreed at the time of entering into the contract.

Sharia' compliant bonds, known as sukuk, and Islamic stocks are growing at an unprecedented rate with a total value of €3 trillion as of 2011. Since the Sharia' prohibits maysir and gharar, which involve excessive risk and foster uncertainty and fraudulence, conventional derivate instruments are prohibited by Islam.

extend credit assistance to the ailing banks during the 1997 Asian Crisis. For this reason, when central banks suffer from precarious financial conditions that may compromise the conduct of monetary policy, it becomes imperative to recapitalize central banks.

In order to ensure the independence and sovereignty of their central banks, many governments of developing nations and emerging economies have started to periodically increase the capital of their central banks. On the other hand, central banks of the Gulf Cooperation Council nations possess adequate capital but enjoy limited independence. This has urged them to try to form a multinational central bank to ensure independence from national government controls.

Among the most independent central banks that freely implement monetary policy in Africa are the Reserve Bank of Africa and Central Bank of Egypt, which have

considerable levels of independence from political pressures. However, this does not mean that these central banks are oblivious to the general macroeconomic goals of the country. On the contrary, in many cases central banks act in coordination with the fiscal agents of the government, especially at the time of crises.

People's Bank of China

The People's Bank of China (PBC), established in December, 1948, is an example of a relatively new central bank in an emerging economy. It acted as China's sole mono-bank, undertaking both commercial banking and central banking roles. This was the pattern of banking in most socialist regimes, since private banks were prohibited from operating in these economic systems. Only in 1980 did the State Council of China divide the commercial banking activities into four state-owned banks; in 1985, the PBC legally started its functions as a full-fledged central bank with its headquarters in Beijing and nine other regional offices. Since that date, gradual reforms have been introduced to grant the PBC control over the banking sector and the authority to implement monetary policy. However, the PBC is required to report its decisions, even before their implementation, to the State Council with regards to monetary policy, the volume of money supply, interest rates and foreign exchange rates. Thus, this high level of involvement of the State Council in its activities gives the PBC limited independence compared to most central banks in industrial nations.

Another serious problem inherent in the Chinese banking system is the large portfolio of bad debts, which amounted to $700 billion in 2007. This has compelled the PBC to bail out a number of state-owned banks.

Now let us turn our attention to how China has dealt with the banking sector in Hong Kong. In 1997, the UK ceded Hong Kong back to China. However, economically speaking, Hong Kong remains autonomous and independent of China, which is solely responsible for ensuring its military defense and conducting foreign relations on its behalf. Hence, Hong Kong remains as a free trade zone and maintains its own currency, the Hong Kong Dollar. In this context, the PBC is not responsible for the banking sector in Hong Kong, which is the responsibility of the Hong Kong Monetary Authority.

The Hong Kong Monetary Authority (HKMA) is Hong Kong's central banking institution and was established in April 1993. It has four main functions: regulating and supervising banks and depository institutions; maintaining stability of the currency at the rate of HK$7.80 to one US dollar; managing Hong Kong's official reserves; and overseeing a robust and diverse financial infrastructure. However, the HKMA issues only the 10 dollar bank notes and authorizes three commercial banks, The Hong Kong and Shanghai Banking Corporation Limited, the Standard Chartered Bank (Hong Kong) Limited, and the Bank of China (Hong Kong) Limited, to issue all other bank notes in Hong Kong. Compared to the PBC, HKMA is far more independent and is capable of maintaining a healthy banking sector.

Multinational Central Banks in Developing Countries

The ECB is not the only multinational central bank in the world, but some developing nations have established multinational central banks in order to enhance economic cooperation with other neighboring nations. Another reason is the lack of adequate funds and expertise necessary to establish such a complex regulatory and supervisory

institution. The Eastern Caribbean Central Bank (ECCB) comprises of eight member nations, out of which six are independent nations, while two are territories of the United Kingdom. The ECCB was established on October 1, 1983 and currently consists of Antigua and Barbuda, Commonwealth of Dominica, Grenada, Montserrat, St Kitts and Nevis, Saint Lucia and Saint Vincent, The Grenadines and Anguilla. All of these countries are small, vulnerable economies that need to unite in order to achieve economic development. In a similar way to the ECB, a chairman is elected annually on a rotating basis and the Monetary Council is responsible for conducting monetary policy and ensuring the stability of the common currency unit, the EC Dollar. However, unlike the ECB none of these nations possesses its own individual central bank.

Similar trends are followed in Africa, where most African nations have their own central banks, except for two regions that have multinational central banks. Banque Centrale des Etats de l'Afrique de l'Ouest, or the Central Bank of Western Africa, engulfs eight West African nations that use the West African CFA franc as their common currency. Similarly, six Central African nations are members of Banque des Etats de l'Afrique Centrale, or The Central Bank of Central Africa, and use the Central African CFA franc as their legal tender.

Central Bank Reforms in South America

In various Latin American countries central banks have found themselves in considerable financial distress, leading to recurrent banking crises. In the 1980s, Latin American countries were in an especially serious situation as three or four-digit rates of inflation were reported since the eighties of last century. For this reason, governments embarked on central bank reforms; Chile was the pioneer, where, in 1989, its central bank was granted more independence in return for enhanced transparency and accountability. In order to reverse inflation, central banks in Brazil, Chile, Colombia, Mexico, and Peru adopted a nominal anchor by introducing inflation targeting. Moreover, since the 1990s most South American nations have started to separate central bank appointments from electoral calendars and granted central banks the right to conduct monetary policy without government interference. In exchange, central banks were made accountable for achieving specific inflation targets rather than focusing on economic growth.

Currency Unions in Developing Nations

Finally, some very poor and small developing countries unilaterally adopt the currency of larger "anchor" countries. For example, Panama, El Salvador, Ecuador, and a number of smaller Caribbean countries currently use the U.S. dollar, since they do not possess a domestic currency.[5] For example, Ecuador discarded its national currency, the sucre, in 2000 and adopted the U.S. dollar as its official currency. This was due to the fact that the exchange rate of the sucre declined from 25 sucres per U.S. dollar in 1980 to 25,000 in 2000. In such cases, the national central bank cannot carry out monetary policy and loses its ability to influence the value of the currency; this limits the role of the central

[5]This is known as official dollarization, not to be confused with unofficial dollarization that occurs when the currency of a foreign country circulates widely side-by-side with the national currency.

bank to supervise banks in the country. Similarly, the African nations of Swaziland and Lesotho use the South African rand as their legal tender.

STRUCTURE AND INDEPENDENCE OF OTHER FOREIGN CENTRAL BANKS

Here we examine the structure and degree of independence of three other important foreign central banks: the Bank of Canada, the Bank of England, and the Bank of Japan.

Bank of Canada

Canada was late in establishing a central bank: The Bank of Canada was founded in 1934. Its directors are appointed by the government to three-year terms, and they appoint the governor, who serves a seven-year term. A governing council, consisting of the four deputy governors and the governor, is the policymaking body comparable to the FOMC that makes decisions about monetary policy.

The Bank Act was amended in 1967 to give the ultimate responsibility for monetary policy to the government. So, on paper, the Bank of Canada is not as instrument-independent as the Federal Reserve. In practice, however, the Bank of Canada does essentially control monetary policy. In the event of a disagreement between the bank and the government, the minister of finance can issue a directive that the bank must follow. However, because the directive must be in writing, and must be specific and applicable for a specified period, it would be subject to intense public scrutiny. As a result, it is unlikely that such a directive would be issued, and none has been to date. The goal for monetary policy, a target for inflation, is set jointly by the Bank of Canada and the government, so the Bank of Canada has less goal independence than the Fed.

Bank of England

Founded in 1694, the Bank of England is the second-oldest central bank (the Riksbank of Sweden is the oldest). The Bank Act of 1946 gave the government statutory authority over the Bank of England. The Court (equivalent to a board of directors) of the Bank of England is made up of the governor and two deputy governors, who are appointed for five-year terms, and sixteen non-executive directors, who are appointed for three-year terms.

Until 1997, the Bank of England was the least independent of the central banks examined in this chapter because the decision to raise or lower interest rates resided not within the Bank of England but with the Chancellor of the Exchequer (the equivalent of the U.S. Secretary of the Treasury). All of this changed when a new Labour government came to power in May of 1997 and the Chancellor of the Exchequer, Gordon Brown, made a surprise announcement that the Bank of England would, henceforth, have the power to set interest rates. However, the Bank was not granted total instrument independence: The government can overrule the Bank and set rates "in extreme economic circumstances" and "for a limited period." Nonetheless, as in Canada, overruling the Bank is likely to be a rare occurrence, because doing so would be highly public and is meant to occur only in highly unusual circumstances and for a limited time.

Because the United Kingdom is not a member of the European Monetary Union, the Bank of England makes its monetary policy decisions independently from the European Central Bank. The power to set interest rates resides with the Monetary Policy Committee, made up of the governor, two deputy governors, two members (normally central bank officials) appointed by the governor after consultation with the chancellor, plus four outside economic experts appointed by the chancellor. (Surprisingly, two of the four outside experts initially appointed to this committee were not British citizens—one was Dutch and the other American—and some later appointments have also not been British citizens, including the current governor, Mark Carney, who is Canadian.) The inflation target for the Bank of England is set by the Chancellor of the Exchequer, so the Bank of England is also less goal-independent than the Fed.

Bank of Japan

The Bank of Japan (Nippon Ginko) was founded in 1882 during the Meiji Restoration. Monetary policy is determined by the Bank's Policy Board, which is composed of the governor, two vice-governors, and six outside members appointed by the cabinet and approved by the parliament, all of whom serve for five-year terms.

Until recently, the Bank of Japan was not formally independent of the government, with the ultimate power residing with the Ministry of Finance. However, the Bank of Japan Law, which took effect in April 1998 and was the first major change in the relative power of the Bank of Japan in 55 years, changed this situation. In addition to stipulating that the objective of monetary policy is to attain price stability, the law granted greater instrument and goal independence to the Bank of Japan. Before this, the government had two voting members on the Policy Board, one from the Ministry of Finance and the other from the Economic Planning Agency. Now the government may send two representatives from these agencies to board meetings, but they no longer have voting rights, although they are allowed to request delays in monetary policy decisions. In addition, the Ministry of Finance lost its authority to oversee many operations of the Bank of Japan, particularly the right to dismiss senior officials. However, the Ministry of Finance continues to have control over the part of the Bank's budget that is unrelated to monetary policy.The recent episode in which Japan's new Abe government put pressure on the Bank of Japan to adopt a 2% inflation target, against the wishes of the Bank's current governor, who then resigned, suggests that the Bank of Japan's independence is limited.

The Trend Toward Greater Independence

As our survey of the structure and independence of the major central banks indicates, in recent years we have been seeing a remarkable trend toward increasing independence of central banks. It used to be that the Federal Reserve was substantially more independent than almost all other central banks, with the exception of those in Germany and Switzerland. Now, the newly established European Central Bank is far more independent than the Fed, and greater independence has been granted to central banks like the Bank of England and the Bank of Japan, putting them more on a par with the Fed, as well as to central banks in such diverse countries as New Zealand, Sweden, and the euro nations. Both theory and experience suggest that more independent central banks produce better monetary policy, thus providing an impetus for this trend.

SUMMARY

1. The Federal Reserve System was created in 1913 to lessen the frequency of bank panics. Because of public hostility to central banks and to the centralization of power in general, the Federal Reserve System was created with many checks and balances aimed at diffusing power.
2. The Federal Reserve System consists of twelve regional Federal Reserve Banks, around 2,000 member commercial banks, the Board of Governors of the Federal Reserve System, the Federal Open Market Committee (FOMC), and the Federal Advisory Council. Although on paper the Federal Reserve System appears to be decentralized, in practice it has come to function as a unified central bank controlled by the Board of Governors, especially the board's chair.
3. The Federal Reserve is more independent than most agencies of the U.S. government, but it is still subject to political pressures because the legislation that structures the Fed is written by Congress and can be changed at any time.
4. The case for an independent Federal Reserve rests on the view that curtailing the Fed's independence and subjecting it to more political pressures would impart an inflationary bias to monetary policy. An independent Fed can afford to take the long view and not respond to short-run problems, which would result in expansionary monetary policy and a political business cycle. The case against an independent Fed holds that it is undemocratic for monetary policy (so important to the public) to be controlled by an elite group that is not accountable to the public. An independent Fed also makes the coordination of monetary and fiscal policy difficult.
5. The theory of bureaucratic behavior suggests that one factor driving central banks' behavior might be their attempt to increase their power and prestige. This view explains many central bank actions, although central banks may also act in the public interest.
6. The European System of Central Banks has a similar structure to that of the Federal Reserve System, with each member country having a National Central Bank, and an Executive Board of the European Central Bank (located in Frankfurt, Germany). The Governing Council, which is made up of the six members of the Executive Board (which includes the president of the European Central Bank) and the presidents of the National Central Banks, makes the decisions on monetary policy. The Eurosystem, which was established under the terms of the Maastricht Treaty, is even more independent than the Federal Reserve System because its charter cannot be changed by legislation. Indeed, it is the most independent central bank in the world.
7. There has been a remarkable trend toward increasing independence of central banks throughout the world. Greater independence has been granted to central banks such as the Bank of England and the Bank of Japan in recent years, as well as to other central banks in such diverse countries as New Zealand and Sweden. Both theory and experience suggest that more independent central banks produce better monetary policy.

KEY TERMS

Board of Governors of the Federal Reserve System, p. 361
easing of monetary policy, p. 364
federal funds rate, p. 364
Federal Open Market Committee (FOMC), p. 361
Federal Reserve Banks, p. 361
goal independence, p. 367
instrument independence, p. 367
open market operations, p. 363
political business cycle, p. 369
tightening of monetary policy, p. 364

QUESTIONS

Select questions are available in MyEconLab *at* http://www.myeconlab.com.

1. Why was the Federal Reserve System set up with twelve regional Federal Reserve banks rather than one central bank, as in other countries?
2. What political realities might explain why the Federal Reserve Act of 1913 placed two Federal Reserve Banks in Missouri?

3. "The Federal Reserve System resembles the U.S. Constitution in that it was designed with many checks and balances." Discuss.
4. In what ways can the regional Federal Reserve Banks influence the conduct of monetary policy?
5. Which entities in the Federal Reserve System and the European Central Bank control the discount rate? Reserve requirements? Open market operations?
6. Do you think that the fourteen-year nonrenewable terms for governors effectively insulate the Board of Governors from political pressure?
7. Compare the structure and independence of the Federal Reserve System and the European System of Central Banks.
8. The Fed is the most independent of all U.S. government agencies. What is the main difference between it and other government agencies that explains the Fed's greater independence?
9. What is the primary tool that Congress uses to exercise some control over the Fed?
10. In the 1960s and 1970s, the Federal Reserve System lost member banks at a rapid rate. How can the theory of bureaucratic behavior explain the Fed's campaign for legislation to require all commercial banks to become members? Was the Fed successful in this campaign?
11. Explain why eleven states of the EU have opted not to adopt the euro as their domestic currency.
12. What are the main difficulties encountered by the newly established central banks in transition economies?
13. What are the reasons that compel some developing nations to adopt currency unions?
14. "The theory of bureaucratic behavior indicates that the Fed never operates in the public interest." Is this statement true, false, or uncertain? Explain your answer.
15. Why could eliminating the central bank's independence lead to a more pronounced political business cycle?
16. "The independence of the Fed leaves it completely unaccountable for its actions." Is this statement true, false, or uncertain? Explain your answer.
17. "The independence of the central bank has meant that it takes the long view and not the short view." Is this statement true, false, or uncertain? Explain your answer.
18. While the Fed promotes secrecy by not releasing the minutes of the FOMC meetings to Congress or the public immediately, the ECB holds a press conference after each of its meetings. Discuss the pros and cons of each of these policies.

DATA ANALYSIS PROBLEMS

The Problems update with real-time data in MyEconLab *and are available for practice or instructor assignment.*

1. Go to the St. Louis Federal Reserve FRED database, and find data on the unemployment rate in each of the twelve Federal Reserve districts. These are coded as (D1URN), (D2URN), (D3URN), . . . , (D12URN). For the most recent month of data available, determine which district had the highest, and which had the lowest, unemployment rate.
2. Go to the St. Louis Federal Reserve FRED database, and find data on the federal funds rate target (DFEDTAR, DFEDTARU, and DFEDTARL) and the discount, or primary credit rate (DPCREDIT). When was the last time the federal funds rate target was changed? When was the last time the primary credit rate was changed? Did the rates increase or decrease?

WEB EXERCISES

1. Go to http://www.federalreserve.gov/ and click on "About the Fed." Next click on "The Federal Reserve System" and then on "Structure." According to the Federal Reserve, what is the most important responsibility of the Board of Governors?
2. Go to the site listed in Chapter 13 and click on "Monetary Policy." Then click on "Reports" and go to the "beige book." According to the summary of the most recently published book, is the economy weakening or strengthening?

WEB REFERENCES

http://www.federalreserve.gov/pubs/frseries/frseri.htm

Information on the structure of the Federal Reserve System.

http://www.federalreserve.gov/otherfrb.htm

Addresses and phone numbers of Federal Reserve Banks, branches, and RCPCs, and links to the main pages of the twelve Reserve Banks and the Board of Governors.

http://www.federalreserve.gov/bios/boardmembership.htm

Lists all the members of the Board of Governors of the Federal Reserve since its inception.

http://www.federalreserve.gov/fomc

Find general information on the FOMC; its schedule of meetings, statements, minutes, and transcripts; information on its members; and the "beige book."

http://www.ecb.int

The website for the European Central Bank.

http://www.bank-banque-canada.ca/

The website for the Bank of Canada.

http://www.bankofengland.co.uk/index.htm

The website for the Bank of England.

http://www.boj.or.jp/en/index.htm

The website for the Bank of Japan.

www.pbc.gov.cn/english

The website for the People's Bank of China.