

## Speech

### Reflections on Central Banking: That Is Where the Money Is

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It is a pleasure to speak at the annual dinner of the Boston Economic Club and to return to the Federal Reserve Bank of Boston, which brings back many memories. This bank has had a succession of great leaders. It was my privilege to work with Frank Morris, Dick Syron, and Cathy Minehan, and I think I first met Eric Rosengren in 1991.

I joined the staff of the Federal Reserve 42 years ago. Thus, I have been a central banker or former central banker for 42 percent of the Federal Reserve's history. I am not sure whether that qualifies me to offer some reflections on central banking, but I am going to do so. And just to keep your attention, my subtitle "that is where the money is" is taken from the answer attributed to the famous bank robber Willie Sutton (1901–80). He reportedly said that he robbed banks because "that is where the money is!" My point is that today central banks are to their respective economies what commercial banks were to Willie Sutton.

In September 1979, former Federal Reserve Chairman Arthur Burns gave a lecture titled "The Anguish of Central Bankers," in which he lamented that a central bank acting alone could not stop inflation. The actions of central bankers in the global economic and financial crisis and its aftermath have transformed his anguish into alchemy, giving Neil Irwin a title for his recent book.

When he was nominated by President Carter in 1978 to head the Federal Reserve, G. William Miller remarked that his goal was to get the Federal Reserve off the front pages. He failed.

Paul Volcker succeeded Miller about 18 months later, in July 1979. Contrary to Burns' anguish, the Federal Reserve soon began a campaign to attack inflation, which had reached more than 15 percent. During that campaign, short-term interest rates exceeded 20 percent.

As Volcker passed the baton to Alan Greenspan in the summer of 1987, he told Greenspan: “Being a central banker is simple. You get up in the morning. You either buy or sell. And instantly the market tells you whether you are right or wrong.”

Today the message from the market is only one of a central banker’s worries. But the basics of central banking are unchanged. Monetary policy starts with the central bank’s balance sheet. The science and art is in the link between the central bank’s balance sheet and the economy.

Central banks make choices about three categories of variables: quantities, prices, and which assets to buy or sell. In simplest terms, central banking is about supplies of and demands for the assets and liabilities on the central bank’s balance sheet and the associated prices or interest rates associated with those quantities. Both the quantities and prices are relevant to the behavior of the economy and financial system.

Congress has provided the Federal Reserve with only broad guidance (or alternatively great discretion) on the objectives of monetary policy—goal independence—and almost complete discretion on how it accomplishes its objectives—instrument independence.

Section 2A of the Federal Reserve Act states: “The Board of Governors of the Federal Reserve System and the Federal Open Market Committee shall maintain long run growth of the monetary and credit aggregates [quantities of assets and liabilities] commensurate with the economy’s long run potential to increase production, so as to promote effectively the goals of maximum employment, stable prices, and moderate long-term interest rates [asset prices].” This famous dual (actually triple) mandate is all rather imprecise. Other provisions of the act constrain the Federal Reserve operationally, but not to a great degree.

When the Federal Reserve was established 100 years ago, its charge was simply “to furnish an elastic currency, to afford means of rediscounting commercial paper, to establish a more effective supervision of banking in the United States, and for other purposes.” Those words remain as the preamble in the Federal Reserve Act. Stability of the financial system is not included among the Federal Reserve’s statutory monetary policy objectives. However, in the Federal Open Market Committee’s (FOMC’s) recent statement on its monetary policy goals and strategy that its “policy decisions reflect its longer-run goals, its medium-term outlook, and its assessments of the balance of risks . . . that could impede the attainment of the committee’s goals,” the committee included “risks to the financial system” among the risks that the committee considers each meeting.

If central banking is about making decisions about quantities (money or credit) as well as about the prices of those quantities of money or credit (interest rates), how is that process anchored? It is instructive to consider a couple of bits of history.

First, the Federal Reserve Act provided for the establishment of “not less than eight and not more than twelve” federal reserve banks to accomplish its objectives. Each reserve bank was to furnish an elastic currency, inter alia via discounting commercial paper, to commercial

banks in its district at the discount rate for that district. This would allow the banks, in turn, to provide currency to their customers and to prevent runs on the banks. In other words, they were to be where the money was.

The conception of the framers of the Federal Reserve Act was that when farmers in the Kansas City and St. Louis Federal Reserve Bank districts needed credit, they could go to their local banks, which would turn to their local reserve bank to obtain currency or credit without the need to pay the usurious rates charged by banks in Boston, New York, and Philadelphia. In time, officials discovered that they were part of a single monetary union using the dollar as its currency. The 1913 conception was unworkable. Partly as a consequence, in the early 1930s, the Federal Reserve was transformed into a more coherent, centralized system based on a single set of rules for a unified financial system.

A recent bit of history involves the former Union of Soviet Socialist Republics as it began to dissolve about 20 years ago. The 15 Soviet republics gradually went their more-or-less separate political ways. Excluding the three Baltic states, the economic and financial case for a currency union within the residual Commonwealth for Independent States was strong, as was the political case for Russia to sponsor such an arrangement. Unfortunately, each of the republics wanted its own central bank because “that was where the money was” to pay each republic’s bills. Each republic used the local offices of the Gosbank to do so.

The result was an explosion in the liability side of the Gosbank’s balance sheet and of money. Hyperinflation resulted in the former Soviet Union, including Russia.

These stories are about prices (interest rates) and quantities. Economists still argue about whether central banking should focus more on quantities of assets or liabilities—on or off their balance sheets—or more on the prices of those various assets or liabilities. Of course, economically and financially, central banking is about both quantities and prices and their interaction.

Historically, the operations of many central banks were anchored by fixing the value of the country’s currency in terms of gold—the gold standard. The strength of that link is often exaggerated. The central bank, or its government, always had the option to cast itself off from that anchor. They often did so when it became inconvenient to maintain the link.

Inflation is generally a primary focus of central banks. Providing financing to the government on easy terms, as in the case of the former Soviet Union, is one way to contribute to inflation. From the start, the power of the Federal Reserve directly to finance the US government was limited; initially reserve banks were not allowed even to discount government paper. Today, section 14 (2) (b) of the Federal Reserve Act states that “any bonds, notes, or other obligations which are direct obligations of the United States or which are fully guaranteed by the United States as to the principal and interest may be bought and sold without regard to maturities **but only in the open market**” [author-added emphasis].

It is debatable how much of a limitation that is. As long as a central bank is credibly committed to pegging the interest rate for a government security in the secondary market, it can effectively peg it in the primary market, as the Federal Reserve did prior to the Treasury–Federal Reserve accord in 1951. Monetary financing of governments, which also is prohibited by Article 123 of the Treaty on the Functioning of the European Union governing the European Central Bank (ECB), can be evaded. The intent and implications of Article 123 are disputed in Europe and under current examination in European courts. And, of course, one hears complaints in the United States that the Federal Reserve today is merely financing government deficits with little benefit to the economy as a whole.

After the early 1980s, when the inflation dragon had been slayed in the United States and to a large extent in most other advanced countries around the world, central banks began to operate under a **new paradigm**. They manipulated a short-term interest rate, the federal funds rate in the US case, which was expected to have a predictable influence on other market interest rates. They largely ignored quantities, though the ECB was a bit of an exception in that it paid some attention to the monetary aggregates.

The focus was on macroeconomic stability, in general, and inflation, in particular. Many central banks adopted flexible inflation targeting, either formally or de facto, to **anchor** their policies. The dominant narrative was that by targeting and achieving low and stable inflation this would maximize the level and growth of GDP and employment while minimizing volatility and uncertainty. Thus, the Federal Reserve achieved its dual, in fact its triple, mandate. This was the era of the Great Moderation. It was regarded as good for Main Street as well as Wall Street. There were no conflicts or difficult choices among policy objectives.

But the central bank did have to choose its target for inflation, or the rest of the government had to provide the central bank with the target. Somehow advanced countries converged on 2 percent as the appropriate target. However, today in the context of concerns about deflation, which was unthinkable for about 70 years, some economists wonder if that target is too low. In any case, central banks do not have the tools to hit their inflation targets directly.

During the Great Moderation, most central banks that had been involved in banking supervision and regulation lost any responsibility for financial stability as they gained independence from day-to-day political pressures on the conduct of monetary policy. (The Federal Reserve already enjoyed a substantial degree of independence. Consequently, its shared responsibility for banking supervision and regulation was largely unaffected by these trends.) Debates about managing asset price bubbles were as close as central banks came to focusing on financial stability. Most of them rejected the idea that they had any ex ante role in that area. Moreover, around the world, financial regulations generally were being rolled back. Consequently, it did not really matter whether central banks were part of this process.

The central banking world that Ben Bernanke inherited from Alan Greenspan in early 2006 was outwardly calm. On taking office, Bernanke's initial principal objective, which he ultimately achieved, was to convince his colleagues to adopt a 2 percent medium-term target for inflation. The Fed thereby joined the group of de facto inflation targeting central banks along with the European Central Bank, the Swiss National Bank, and in the last year or so the Bank of Japan.

During the global financial crisis and the aftermath of weak economic recovery, all this changed. Governments turned to their central banks to support their economies and their financial systems because central banks were where the money was. Central banks did whatever it took to prevent financial meltdown and restore the economy. Consequently, the central banking world that Janet Yellen inherited four months ago is quite different from the one that Ben Bernanke inherited. Central banks have become even more prominent (contrary to Bill Miller's wishes) and controversial (even with Paul Volcker).

The global financial crisis revealed that only central banks have sufficient balance sheet leverage to confront a crisis associated with a massive deleveraging in the private sector. Governments are highly constrained in their financial commitments.

Consequently, governments called on their central banks to use their balance sheet leverage in the crisis and its aftermath. Central banks reduced their interest rates, which was normal countercyclical behavior. But they also advanced credit on increasingly easy terms to support specific financial markets and to a few institutions. They expanded the types of assets against which they granted credit. They extended the maturity of the assets that they purchased and the time periods over which they were willing to hold them—all the time increasing the liability side of their balance sheets. As a result, their operations and the associated announcements had more direct and predictable effects on the interest rates (prices of) a broader range of assets and maturities of assets than do normal open market operations.

In the United States, as a consequence, during the six years from the end of 2007 to the end of last year, the Federal Reserve's balance sheet expanded by about 350 percent to about \$4 trillion. This compares with an expansion of only 40 percent in the previous six-year period.

This extraordinary use of the Federal Reserve's balance sheet affected other financial quantities.

From the end of 2007 to the end of last year, the growth of M1 was 92 percent, compared with 16 percent in the previous six-year period. The growth rate of currency showed a similar but smaller acceleration, from 31 percent in the six years before the end of 2007 to 52 percent in the following six years. We normally think that these transactions measures of money increase in line with nominal GDP. However, in the latest six-year period the growth of nominal GDP was only 16 percent, substantially less than the 36 percent in the previous six-year period. Moreover, the growth rate for M2 showed a similar acceleration from 37 percent in the six years before the end of 2007 to 47 percent over the most recent six years. As part of the

balance sheet repair in the household and business sectors, economic agents shifted into currency, and both narrow and broad money and the Federal Reserve encouraged and accommodated that process.

This pattern was mirrored on the liability side of the Federal Reserve's balance sheet. Total reserves held at the Federal Reserve increased by a whopping \$2.41 trillion from the end of 2007 to the end of 2013, accounting for 78 percent of the roughly \$3 trillion expansion of the liability side of the Federal Reserve's balance sheet. The reserves that financial institutions are **required** to hold at the Federal Reserve accounted for only 1 percent of the total increase in reserves; the remainder was an increase in excess reserves. Some observers think that these excess reserves are a ticking time bomb because they will quickly fuel inflation down the road.

Turning to the asset side of the Federal Reserve's balance sheet, during the crisis and aftermath, the focus shifted from the federal funds rate alone to longer-term interest rates. The FOMC has approved massive purchases of longer-term assets.

In other major countries, we have seen similar patterns. Central bank balance sheets have been mobilized to repair private balance sheets and to restore economic and financial stability. Because of differences in political and institutional structures and relationships between governments and their respective central banks, central banks did not respond identically. But they all responded aggressively, which marked a major difference from the responses during the Great Depression.

Scaled by **global** GDP, the combined increase in the balance sheets of the four principal central banks has been 7.5 percentage points over the six-and-a-half-year period to the end of last year. This is what is called using central bank leverage.

Central bank balance sheets also have been used directly to support the financial institutions and systems of its country or monetary area but also to support the institutions and financial systems of other countries or monetary areas.

With respect to direct support, the Federal Reserve and other central banks allow financial institutions from other countries that participate in their financial markets and to access their financial facilities—such as discount windows or repurchase facilities—including any emergency financing mechanisms.

In addition, a number of central banks opened up foreign exchange swap lines with other central banks. The Federal Reserve established or reestablished swap lines with 14 central banks, 11 of which drew on the Federal Reserve.

These operations were generally used to provide indirect access to dollar liquidity for financial institutions of advanced countries.

In this period, other US economic policies have been less than optimal, including both regulatory and fiscal policies. Although the performance of the US economy to date has been less robust than the Federal Reserve had hoped and projected, it is difficult for me to believe that the performance would have been better without the Federal Reserve's efforts.

The Federal Reserve's view, which is not shared by all central banks, is that it should take other policies as given and employ its own policies as best it can to fulfill its mandate. Other central banks, in particular the ECB whose institutional environment is much different, tend to treat monetary policy as a game in which carrots and sticks are applied to other organs of government to achieve better overall outcomes.

One often hears three concerns expressed about US monetary policy in recent years. The first two relate to present conditions, but the major area of concern relates to the future.

First, by keeping short- and long-term interest rates low, the Federal Reserve has penalized savers and reduced their income and spending power, thereby depressing demand. However, that reduction in return facilitated the repair of many balance sheets.

Second, Federal Reserve policies have not been universally applauded abroad.

Third, the more serious area of concern is for the future.

People worry about the unwinding of the Federal Reserve's balance sheet and the potential for losses and/or reduced payments to the US Treasury as interest rates rise. Those payments will decline, and they could stop entirely for awhile. Does this matter economically? No. It is a potential political issue.

Critics also worry about the risk that the large amount of excess reserves will fuel inflation in the prices of goods and services. To date those risks have not materialized, and inflation does not appear to be an immediate challenge. Moreover, the Federal Reserve has the tools to deal with inflation if it threatens to materialize, which some believe would be good news because it would signal a more robust recovery of the economy. The Fed can raise the funds rate, sell assets, and reduce its liabilities.

The current advice from the IMF is to raise policy rates and not to sell assets right away. This advice, which I expect to Federal Reserve to adopt, is based on tactical considerations. It is easier to reverse an increase in interest rates than to resume large-scale asset purchases. Moreover, strategy is involved as well. Outright sales of assets of longer effect maturities would put upward pressure on long-term rates over and above that communicated by an increase in the funds rate.

Critics also worry about low interest rates (the price of money and credit) giving rise to serious new bubbles in asset prices. One cannot (a priori) exclude this possibility. But if you think, as I do, that the bubbles of the early part of this century were the primarily the result of weak supervision and the irrational exuberance of investors, then history may repeat itself—but it rarely does right away. Both sets of actors will take a while to unlearn their lessons.

Finally, the responses of the Federal Reserve to the worst financial crisis since the 1930s, and maybe the worst ever, may have created permanent microeconomic distortions. For example, will financial markets again be free to set interest rates (other than the federal funds rate) on the basis of underlying assessments of risks? Economic and financial systems have

been permanently affected by the crisis and crisis responses. Time will tell whether there is permanent damage. What I know is that one cannot wipe the slate clean and start over.

What will the future bring for the role of the Federal Reserve and other central banks?

First, central banks will have to rethink their relations with their governments and vice versa.

Second, central banks will be **expected** to pay more attention to how their policies affect other countries—so-called spillovers. Although there is scope for improvement, I do not anticipate any sea change in international monetary cooperation.

Third, no doubt central banks will be criticized when they finally start to raise interest rates, adding to the costs of financing government debt and stifling the expansion of the economy. The Federal Reserve has already been criticized for even thinking about doing so and subsequently acting slowly to remove some of the monetary accommodation it has supplied.

Central banks have been granted independence or insulation from political forces so they can do the right thing. Their challenge will not be a lack of tools but not having the will to use those tools to take away the punch bowl when many think the party has not yet started.

Fourth, in the immediate past, the principal task of central banks was price stability. In the future, they will be concerned with high unemployment and low levels and growth rates of output, and about deflation as well as inflation. But they have been granted or taken on new or resuscitated responsibilities for financial stability. This is welcome. If the central bank is where the money is, and that money is expected to be used appropriately in a crisis to rescue financial institutions, the financial system, and the economy, the central bank should have a role in crisis prevention and crisis preparation to minimize the extent to which it has to use its balance sheet in the future.

Of one thing you can be sure. Central banks are where the money is. The events of the last half dozen years have induced central banks to put their intellectual talents and balance sheets in the service of financial and economic stability to a greater extent than most believed was possible and some believe was wise. They have devised new tools to discharge their responsibilities. Markets, politicians, and the general public will not forget about those tools even if central bankers argue that the key to the toolbox has been discarded. This is what moral hazard is all about. We may try to legislate it away, but we will not succeed. Central banks will remain where the money is.

Thank you and I will try to answer any questions.