Statement

Subcommittee on Monetary Policy and Trade of the House Financial Services Committee
September 7, 2016

Jeffrey M. Lacker
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Rayburn House Office Building
Washington, D.C.

Good morning. I am honored to speak to the Subcommittee about the governance structure of the Fed's regional Reserve Banks.[1]

To understand the Fed's structure, it is essential to understand the Fed's purpose. Prior to the founding of the Fed, the banking system was often unable to adjust the supply of monetary assets flexibly enough in response to the changing needs of commerce. The Fed was founded to "furnish an elastic currency," in the words of the preamble to the Federal Reserve Act. Clearinghouses – bank-owned cooperatives in larger cities – played an important role in how periodic crises were resolved before the Fed, including the issuance of currency substitutes, but were widely viewed as favoring the interests of large money center banks. Reserve Banks were modeled after the clearinghouses, but with note issue powers and universal eligibility for membership, the aim being to improve upon the role of the clearinghouses in a way that served broader public interests. A plan for a centralized institution was rejected out of concern about excessive Wall Street influence at the expense of diverse regional interests. Proposals for a government-controlled central bank were rejected as well for fear the federal government would use control of the money supply to resort to inflationary deficit financing. At the same time, a measure of public sector oversight was viewed as essential, consistent with Progressive Era thinking, so the Act included a Federal Reserve Board whose leaders were politically appointed.

Thus, the final Federal Reserve Act reflected a balance of competing considerations: a federated set of institutions to provide for representation of a diverse range of geographic and commercial interests, with a hybrid public-private governance structure to provide for public oversight but contain potential misuse of monetary authority.

The governance structure of the Federal Reserve is still effective, in my view, because the considerations the founders wrestled with are all still relevant today. The federated structure has benefited policymaking by ensuring that a diversity of perspectives on policy and economic conditions are brought to the table. Reserve Banks historically have shown intellectual leadership on topics that initially went against the grain of mainstream thinking but later became broadly accepted, and Reserve Bank presidents have a record of challenging conventional views. In addition, the federated structure has promoted broad regional engagement across the country, deepening the Fed's understanding of the diverse economic challenges facing American communities.

To be sure, our country's understanding of diversity has expanded since 1913. And it is in keeping with the spirit of our founding that the Federal Reserve has taken the importance of diversity seriously as we have sought to ensure broad representation of views in the formulation of monetary policy, including those associated with disadvantaged communities. I believe our record in this regard, like that of many other organizations, shows a combination of substantial progress and areas where more can be done.

In addition to bringing diverse viewpoints to bear, the Fed's public-private governance helps our policymaking focus on its longer-term objectives. At times there is a temptation to provide excessive economic stimulus in the short run and leave the subsequent inflationary costs for future policymakers to deal with. Evidence from around the world, along with our own history, amply demonstrates that the temptation of short-sighted monetary policies is a bipartisan vulnerability, just as the Fed's founders feared. For central banks, this implies that meeting-to-meeting monetary policy decisions need to be insulated from short-term political pressures driven by electoral considerations.

But independence with regard to the choice of monetary policy instrument settings must be paired with strong accountability for the economic results of policymaking over time. Accountability rests on transparent communications, which help Congress and the public evaluate the Fed's performance against its mandate.

The Fed's public-private structure supports monetary policy independence by ensuring a measure of apolitical leadership. The Reserve Banks' autonomous balance sheets, protected appropriations status and independent capital stocks all play a role as well by limiting high-frequency interference that might diminish instrument independence.

The presence of bankers on Reserve Bank boards is said to represent a conflict of interest since Reserve Bank staff supervise banks. But strict rules limit bankers' roles; they simply have no avenue through which they can influence supervisory matters. Moreover, best practice for any board is to seek members with expertise relevant to the organization's activities. The Fed's large payment processing operations make the original rationale for having bankers serve on Reserve Bank boards still valid. In addition, bankers are particularly well-positioned to report on economic conditions in their footprints.

In conclusion, while some claim that the Federal Reserve's governance structure is a historical anachronism, the continued relevance of the trade-offs taken into account by the authors of the Federal Reserve Act argues for the continued utility of the finely balanced arrangements they crafted.

Thank you.

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[1] My remarks reflect my own views and not those of my colleagues in the Federal Reserve System.

Federal Reserve Bank Governance
September 6, 2016

Jeffrey M. Lacker
President
Federal Reserve Bank of Richmond

The governance structure of the Federal Reserve Banks has been the subject of public discussion lately.[1] I'd like to provide some background on why the Fed is structured the way it is and the important purposes that structure serves – particularly to the monetary policymaking process that is core to the Fed's existence.[2]

How Our Structure Came to Be

To understand the Fed's structure, it is essential to understand the Fed's purpose.

The Fed's founders sought to address what they called "the currency problem." This referred to the inability of the economy's supply of notes and bank reserves – what today would be called the money supply – to expand and contract with the needs of commerce. A number of features of the pre-Fed monetary system contributed to the problem: Currency was issued by national banks and was required to be backed by U.S. Treasury securities, making note issuance costly and slow. And widespread branching restrictions resulted in thousands of small, undiversified banks throughout the country, which meant that a substantial portion of banks' reserves were held as interbank deposits. Overall, the financial system was vulnerable to shocks and unable to quickly move reserves to where they were needed, resulting in interest rate spikes that hampered economic activity on a frequent basis.[3] Clearinghouses – bank-owned cooperatives that settled payments in larger cities – played an important role in how periodic crises were resolved. They could not legally issue currency, but they issued certificates that were circulated by their members as an (imperfect) substitute currency when the demand for currency surged.[4]

The Fed was created to "furnish an elastic currency," so that the supply of monetary assets would vary with the needs of economy. Reserve Banks, in turn, were modeled after clearinghouses. The operation of clearinghouses, however, was limited to the cities. The idea of the founders was to mimic and improve upon this model to serve broader public interests. They sought to create a system of institutions with *universal eligibility* for membership, so all banks would have access to clearinghouse services. The new institutions would have the ability to issue currency and would accept bank deposits to prevent reserves from "pyramiding" in large cities.[5]

A key debate at the founding of the Federal Reserve was how such a system should be governed.[6] A primary concern of the founders was the extent to which the economic characteristics of large money centers and the rest of the country diverged. The initial legislative proposal was the Aldrich Plan, which provided for an elastic currency issued by a single National Reserve Association. That plan was rejected out of concern about excessive Wall Street influence at the expense of diverse regional interests. Proposals for a government-controlled central bank were viewed as risky for fear that the federal government would use control of the money supply to resort to inflationary deficit financing. At the same time, a measure of public sector oversight was viewed as essential, consistent with Progressive Era thinking. So the Act included a federal authority – the Federal Reserve Board, today called the Board of Governors – to oversee regional Reserve Banks' operations and policies, and whose leaders were politically appointed.[7]

Thus, the final Federal Reserve Act reflected a balance of competing considerations: a federated set of institutions to provide for representation of a diverse range of geographic and commercial interests, with a hybrid public-private governance structure to provide for public oversight but contain potential misuse of monetary authority.

The governance of the individual Reserve Banks was also designed to be a blend of public and private elements. Like clearinghouses before them, Reserve Banks are capitalized by their members through the purchase of stock rather than capitalized by the government.[8] Reserve Bank stock is unlike traditional corporate stock, however, in that it comes with no voting rights and is not transferrable. Each Reserve Bank is governed by a nine-member board of directors that is partly public, with three members appointed by the Board of Governors, and partly private, with six members elected by member banks. By statute, six of the nine directors represent the public, not banks. The Reserve Banks' CEOs – originally called governors and today called presidents – are appointed by the boards but require the approval of the Board of Governors.

Why is This Structure Still Relevant Today?

The structure and governance of the Federal Reserve is still effective today because the considerations the founders wrestled with are all still relevant. While the nature of our economy and financial markets have changed in many ways since the founding of the Federal Reserve, the federated structure still ensures that a diversity of perspectives on monetary policy and economic conditions are brought to the table. Each Reserve Bank president, supported by an independent staff of economists, conducts his or her own analysis. In addition, the presence of geographically dispersed, independently chartered institutions has promoted broad regional engagement across the country, deepening the Fed's understanding of the diverse economic challenges facing American communities.[9]

There is evidence that Reserve Bank presidents are more willing than governors to challenge conventional views and that this has benefited policymaking. First, presidents have been more likely than governors to dissent on Federal Open Market Committee (FOMC) decisions, especially since the Great Moderation.[10]

Second, there are historical episodes in which the scope for diverse views served monetary policy well. In the 1960s and 1970s, Reserve Banks led the charge within the Fed on the idea that monetary policy was primarily responsible for inflation. The St. Louis Fed was an early proponent of monetarist views, which for a time earned it a reputation as a "maverick" bank but later became widely adopted. The Minneapolis Fed showed similar early leadership by questioning the idea that there was a stable trade-off between inflation and unemployment. These were more than academic debates; within the Fed, they directly supported the eventual development and acceptance of policies under Paul Volcker and Alan Greenspan that brought high and unpredictable inflation to an end. And in several key instances, Reserve Banks have continued to show intellectual leadership on topics that initially went against the grain of mainstream thinking but later became broadly accepted.[11]

To be sure, our country's understanding of diversity has expanded since 1913.[12] And it is in keeping with the spirit of our founding that the Federal Reserve has taken the importance of diversity seriously as we have sought to ensure broad representation of views in the formulation of monetary policy, including those associated with disadvantaged communities. I believe our record in this regard, like that of many other organizations, shows a combination of substantial progress and areas where more can be done.

Governance and Monetary Policy Independence

In addition to bringing diverse viewpoints to bear, the Fed's public-private structure helps our policymaking focus on its longer-term objectives. Monetary policy can stimulate economic activity in the short run, but these effects are generally temporary; over time, monetary policy mainly affects inflation. At times there is a temptation to provide excessive economic stimulus in the short run and leave the inflationary costs, which often are evident only later, for future policymakers to deal with. For central banks, this implies that meeting-to-meeting monetary policy decisions need to be insulated from short-term political pressures driven by electoral considerations.

This is not just a theoretical argument: Across the history of central banks around the world, when monetary policy has been subject to high-frequency political winds, the results have not been good.[13] And our own history shows that the temptation of short-sighted monetary policies is a bipartisan vulnerability, just as the Fed's founders feared. In the 1960s and 1970s, for example, the Fed came under pressure from the Johnson and Nixon administrations to pursue accommodative policies, setting off a cycle of so-called "go-stop" policy, in which rising inflation would ultimately force the Fed to raise rates abruptly, causing a recession.[14]

The lesson from these episodes is clear: Monetary policy independence is essential to achieving good economic outcomes. Undue political influence can and did happen even under our current structure, and as a country we should be wary of changes to Fed governance that could make such breaches easier. Nations around the world came to similar conclusions in the 1980s and 1990s – after long, hard struggles to tame inflation – that central banks delivered better results when insulated from short-run political pressures. Most accordingly structured their monetary policy decision-making processes to include independence.

Independence has its limits, however. Independence with regard to short-term choices of monetary policy instrument settings – that is, policy interest rates – must be paired with strong accountability for the economic results of policymaking over time. The economics literature has contrasted "instrument independence," which we have, with "goal independence," which we do not[15]: Congress sets the Fed's monetary policy objectives, and the FOMC chooses a succession of instrument settings in pursuit of them.

Accountability rests on the Fed's transparent communications, which help Congress and the public evaluate the Fed's performance against its mandate. The chair delivers a Monetary Policy Report to Congress twice per year and testifies semiannually, and all Fed leaders give occasional testimonies, speeches and interviews. The FOMC also provides considerable real-time information on its policy decisions: interest rate settings and voting records are immediately available the day of the meeting; the chair holds a press conference after every other FOMC meeting; the Fed's balance sheet is published weekly; the forecasts of FOMC members are published four times per year; and meeting minutes are released three weeks after each meeting (with full transcripts released after five years).

The Fed's public-private structure plays an important role in supporting monetary policy independence. The Fed has independent control of its balance sheet in terms of deciding which assets to buy and accept as collateral (within certain constraints provided by the Federal Reserve Act) and when to buy them. We also are self-funded and excluded from the federal appropriations process. In this regard, Reserve Bank capital, contributed by member banks, serves as an additional pillar of policy (instrument) independence by conveying a sense of self-sufficiency to market participants. And while the Fed's operations are audited extensively, monetary policy has a limited exclusion from federal audit by the Government Accountability Office. All of these measures serve to limit high-frequency interference that might diminish instrument independence.

The public elements of the Fed's hybrid structure provide balance and accountability. Governors are appointed by the U.S. president and confirmed by Senate. The Board, in turn, selects three directors for every Reserve Bank board, including the chair, and also must approve the selection of Reserve Bank presidents. And when the Board is fully staffed, Board members outnumber presidents on the FOMC.

Bankers on Boards of Directors

The presence of bankers on Reserve Bank boards has attracted attention of late. It is said to represent a conflict of interest since Reserve Bank staff supervise banks. But strict rules limit bankers' roles. No director is involved in, nor provided information about, the supervisory decisions or outcomes for specific institutions, and federal criminal statutes against conflicts of interest apply to directors, including those banning them from participating in decisions in which they knowingly have a financial interest. Directors representing banks are not allowed to participate in the process of selecting new Reserve Bank presidents, and the Board of Governors has final approval over such selections. Directors, and indeed Reserve Banks, have no formal role in crafting banking regulations; this is the authority of the Board of Governors. In short, bankers have no avenue through which they can influence supervisory matters.

Moreover, best practice for any board is to seek members with expertise relevant to the organization's activities. Indeed, this is why it makes sense for members to serve on the boards of joint venture associations, such as clearinghouses. Payments processing remains core to Reserve Banks' business: Fed systems move $4.5 trillion in payments every single day. Thus, the original rationale for having bankers serve on Reserve Bank boards is still valid. Buttressed with the Board of Governors, the Reserve Bank boards have direct oversight responsibility for operations on which bankers arguably are experts. In addition, bankers have broad contact with consumers and businesses in their footprints, which makes their reports on economic conditions particularly useful.

More broadly, Reserve Bank boards have always been structured to represent diverse views, and their diversity has increased over time. For example, though it was natural to have bankers on boards, the original Federal Reserve Act mandated that a majority of directors represent the public. The Act also required the representation of varied commercial interests, which was expanded in 1977 to include "due but not exclusive consideration to the interests of agriculture, commerce, industry, services, labor and consumers." Over time, boards have come to include a much broader representation of professions, races and genders.[16]

Meanwhile, the role of boards in monetary policy has decreased. Before 1935, the boards essentially set monetary policy for their districts; they had far more control than even the Board of Governors. This reversed with the Banking Act of 1935, and now the role of Reserve Bank boards in monetary policy is strictly advisory: Directors provide crucial insight on local economic conditions, but their recommendation on discount rates is nonbinding.

In other corporate settings, potential conflicts of interest are viewed as manageable, and I believe they are well managed in the Fed's case. To be sure, however, the Fed could do a better job of educating the public about its safeguards.

Conclusion

I stated at the outset that the proper governance structure of the Fed ought to be driven by a deep understanding of the Fed's purpose.

Many aspects of the Fed and our financial system have changed since the Fed's founding, and some claim that the Federal Reserve's governance structure is a historical anachronism. Nevertheless, our core function – providing stable monetary conditions to facilitate economic activity – remains unchanged. And the continued relevance of the trade-offs taken into account by the authors of the Federal Reserve Act argues for the continued utility of the finely balanced arrangements they crafted.

Thank you.

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[1] See, for example, Jordan Haedtler, Andrew Levin, and Valerie Wilson, "Making the Federal Reserve Fully Public," Economic Policy Institute, August 22, 2016; and Narayana Kocherlakota, "The Decentralized Central Bank: A Review Essay on 'The Power and Independence of the Federal Reserve,'" August 29, 2016, Journal of Economic Literature, forthcoming, included within Narayana Kocherlakota, "Four Ways to Reform the Fed," Bloomberg View, August 30, 2016.

[2] These remarks reflect my own views and not those of my colleagues in the Fed System. I am grateful to Renee Haltom and John Weinberg for their assistance in preparing these remarks.

[3] Charles W. Calomiris and Stephen H. Haber, Fragile by Design: The Political Origins of Banking Crises and Scarce Credit, Princeton, N.J.: Princeton University Press, 2014.

[4] For more on this history, see Jeffrey M. Lacker, "A Look Back at the History of the Federal Reserve," Speech at Christopher Newport University, Newport News, Va., August 29, 2013. Also see: Milton Friedman and Anna Jacobson Schwartz. A Monetary History of the United States: 1867–1960, Princeton: Princeton University Press, 1963; Gary Gorton and Donald Mullineaux, "The Joint Production of Confidence: Endogenous Regulation and Nineteenth Century Commercial-Bank Clearinghouses," Journal of Money, Credit and Banking, November 1987, vol. 19, no. 4, pp. 457-468; Allan H. Meltzer, A History of the Federal Reserve, Vol. 1, Chicago: University of Chicago Press, 2003; Richard Timberlake, "The Central Banking Role of Clearinghouse Associations," Journal of Money, Credit and Banking, February 1984, vol. 16, no. 1, pp. 1-15.

[5] For background on the objectives of the Fed's founders, see Roger Lowenstein, America's Bank: The Epic Struggle to Create the Federal Reserve, New York: Penguin Press, 2015; Eugene White, The Regulation and Reform of the American Banking System, 1900-1929, Princeton: Princeton University Press, 1983; and Elmus Wicker, The Great Debate on Banking Reform: Nelson Aldrich and the Origins of the Fed, Columbus: Ohio State University Press, 2005.

[6] For detail on these debates, see especially Wicker (2005), and George Selgin, "New York's Bank: The National Monetary Commission and the Founding of the Fed," Cato Institute Policy Analysis No. 793, June 21, 2016.

[7] See Wicker (2005), and Helen Fessenden and Gary Richardson, "The Cost of Fed Membership," Federal Reserve Bank of Richmond Economic Brief No. 16-02, February 2016.

[8] Fessenden and Richardson (February 2016).

[9] Marvin Goodfriend, "The Role of a Regional Bank in a System of Central Banks," Federal Reserve Bank of Richmond Economic Quarterly, Winter 2000, vol. 86, no. 1, pp. 7-25; and Kocherlakota (2016).

[10] Daniel L. Thornton and David C. Wheelock, "Making Sense of Dissents: A History of FOMC Dissents," Federal Reserve Bank of St. Louis Review, Third Quarter 2014, vol. 96, no. 3, pp. 213-228.

[11] Michael Bordo, "Some Historical Reflections on the Governance of the Federal Reserve," in Central Bank Governance & Oversight Reform, edited by John H. Cochrane and John B. Taylor, Stanford, Calif.: Hoover Institution Press, 2016. Earlier working paper version available here.

[12] Helen Fessenden and Gary Richardson, "Whom Do the Federal Reserve Bank Boards Serve?" Federal Reserve Bank of Richmond Economic Brief No. 16-08, August 2016.

[13] Alberto Alesina and Andrea Stella, "The Politics of Monetary Policy," in Handbook of Monetary Economics, Vol. 3, edited by Benjamin M. Friedman and Michael Woodford, Netherlands: Elsevier, 2010, pp.1001-1054.

[14] For more on the political pressures that jeopardized the Fed's independence in the 1960s and 1970s, see Robert P. Bremner, Chairman of the Fed: William McChesney Martin Jr., and the Creation of the Modern American Financial System, New Haven: Yale University Press, 2004; Robert Hetzel, The Monetary Policy of the Federal Reserve: A History, Cambridge: Cambridge University Press, 2008, Chapter 12; and Allan H. Meltzer, A History of the Federal Reserve, Vol. 2, Book 1, Chicago: University of Chicago Press, 2009, Chapter 4.

[15] Alesina and Stella (2010).

[16] Fessenden and Richardson (August 2016).

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Supplemental Materials

1. Jeffrey M. Lacker speech on the Fed's history and structure. Jeffrey M. Lacker, "A Look Back at the History of the Federal Reserve," Speech at Christopher Newport University, Newport News, Va., August 29, 2013.
    - *Full text attached.*

2. Richmond Fed article on the evolution of Reserve Bank boards of directors. Helen Fessenden and Gary Richardson, "Whom Do the Federal Reserve Bank Boards Serve?" Federal Reserve Bank of Richmond *Economic Brief* No. 16-08, August 2016.
    - *Full text attached.*
    - Abstract: The long-standing governance model of the Federal Reserve Banks, including their boards and the directors who serve on them, is under growing criticism. Calls are increasing for the boards to sever direct ties to banking and finance and become more diverse in their representation, as well as to offer more transparency to the public. As history shows, this governance model always has been the subject of political scrutiny, as public concepts of diversity — and the Fed's functions — have evolved over time.

3. Richmond Fed article on the Fed's capital structure and dividends to member banks. Helen Fessenden and Gary Richardson. "The Cost of Fed Membership," Federal Reserve Bank of Richmond *Economic Brief* No. 16-02, February 2016.
    - Abstract: Since the Federal Reserve's founding, it has paid a regular dividend to banks that are members of the Federal Reserve System in exchange for those banks holding stock in Federal Reserve Banks. Recent transportation legislation reduced these dividends and used the savings to help fund the bill. While this move provided a short-term financing fix, it also raised a much bigger question of whether banks will want to remain members of the Federal Reserve System.

4. Richmond Fed article on the 2015 highway bill. Helen Fessenden, "A Bridge Too Far?" Federal Reserve Bank of Richmond *Econ Focus*, Third Quarter 2015.
    - Summary: In a novel move, a new transportation-funding law is sending billions from the Fed's surplus account to help pay for roads, bridges, and mass transit.

5. Jeffrey M. Lacker statement on 2015 highway bill and Fed's capital structure. Jeffrey M. Lacker, "The Fed-Bank Relationship Under Scrutiny," Federal Reserve Bank of Richmond *Econ Focus*, Fourth Quarter 2015.

6. Jeffrey M. Lacker statement on the role of bankers on Reserve Bank boards of directors. Jeffrey M. Lacker, "The Importance of Bankers on the Richmond Fed's Board," Federal Reserve Bank of Richmond *Region Focus*, Second/Third Quarter 2012.

7. Richmond Fed article on the distributional effects of monetary policy. Renee Haltom, “Winners and Losers from Monetary Policy,” Federal Reserve Bank of Richmond *Region Focus*, Second/Third Quarter 2012.
    - Summary: The Fed seeks to support the economy as a whole, but some redistributional effects are unavoidable

8. The Richmond Fed’s Perspective on Monetary Policy Independence. Our Perspective, Federal Reserve Bank of Richmond, May 2016.
    - Summary: A Federal Reserve that is insulated from short-term political pressures but accountable to public concerns is more likely to pursue policies that align with its congressional mandate to promote stable prices, full employment, and moderate long-term interest rates.

"A Look Back at the History of the Federal Reserve"

August 29, 2013

Jeffrey M. Lacker
President
Federal Reserve Bank of Richmond

Christopher Newport University
Newport News, Virginia

The Federal Reserve, like many other central banks around the world, has been on the hot seat ever since the astonishing events of the financial crisis of 2008. Views about the Federal Reserve span a wide range, from those who would abolish the Federal Reserve outright and return to the pre-Fed monetary regime that tied the value of money to the value of gold, to those who applaud the institution for heroically preventing a repeat of the Great Depression. In between there are those who propose reforms to the legislation governing the Fed, and others who would leave the Federal Reserve Act alone but encourage the Fed to learn the right lessons from the crisis. Why the divergent views? Public debate has focused on the unprecedented interventions in financial markets and with failing financial firms and the unique operational independence the Fed enjoys relative to other government entities.

In our time together, I'll try to help you understand the current controversies surrounding the Fed.[1] To really understand these controversies, it helps to understand some of our unique characteristics as a central bank. And to do that, I'll argue that it's essential to go back to the founding of the Federal Reserve System in 1913 and learn why we were founded and why we were structured the way we were. It turns out that those who created the Federal Reserve 100 years ago wrestled with the same two critical questions that animate debate today: (1) our independence, that is, the structure of our governance and our accountability to the American people, and (2) what sort of assets the Federal Reserve Banks should invest in. These questions were hotly debated when the Fed was founded. I believe that the trade-offs and tensions involved are essential for an appreciation of the current debates and how central banking is likely to evolve as we enter our second century. Views on these questions differed then, just as views differ now. In that connection, I should caution that the views I will share with you are my own and do not represent the official views of the Federal Reserve System.

So let's cast our minds back 100 years to the signing of the Federal Reserve Act by President Woodrow Wilson on December 23, 1913. Why did the founders feel the need to create something like the Federal Reserve? The short answer they would have given is, "the currency problem," by which they meant that the supply of currency did not expand and contract appropriately with the needs of the economy. This was evident during seasonal increases in the need for money, and during banking panics, when people wanted to withdraw their bank deposits and hold currency instead. When people talked about the Fed's role in coping with financial panics, what they had in mind was expanding the currency supply.

Money and Banking Before the Fed

But to understand the currency problem, you have to know a little bit about how money and the banking system worked back then. It was different from what we're used to today. I should warn you that I'll be discussing some obscure workings of the banking system back then, but I think you'll see they're important to the story, so bear with me.

The most prominent feature of the U.S. banking system a hundred years ago was that it was incredibly fragmented. Laws prevented banks from operating branches, and as a result, there were a large number of individual banks. Banks generally had just one office, and essentially every little town had its own bank. There were nearly 30,000 banks in the United States in 1913. Laws limiting branching have gone away, and as a result, there are about 7,000 banks today.

What did people use for money? Coins, for one. They used gold coins, like this beautiful double eagle. But for small transactions, a gold coin of the right value would be impractically tiny. So large-value gold coins were supplemented by smaller-valued coins made out of silver or copper.

For very large transactions, however, coins were too bulky, and people preferred banknotes. Banknotes were paper currency issued by private banks. Here, I have to say a word or two about the National Bank Act, a law passed in 1863, during the Civil War.[2] It authorized the chartering of "national banks" by the federal government — up until that time, banks had been chartered by the states, who issued their own paper currency. The 1863 law authorized national banks to issue paper notes too, like the ones you see here, and a tax was levied on state bank notes that drove them out of circulation. National bank notes had to be backed by holdings of U.S. government bonds. This generated an immediate demand for government bonds, and so it helped finance the Civil War — or, more precisely, one side of the Civil War.

The process of issuing national banknotes was somewhat cumbersome. A national bank had to purchase the appropriate federal bonds; this was usually arranged through other banks in major financial centers. The bonds then had to be deposited with the U.S. Treasury, which then authorized the printing of notes by the Bureau of Engraving and Printing, using printing plates held by the Treasury. The notes were then shipped to the bank. The difficulty of this process plays an important role later in the story.[3]

Clearing and Settling Interregional Payments

The decades between the Civil War and the founding of the Fed saw rapid growth in interregional trade within the United States. Transportation networks were improving rapidly, and manufacturers were selling goods around the country. Making large payments at a distance posed special difficulties, however. Banknotes were poorly suited for the job because they were payable on demand to the bearer, and thus required insurance against theft when shipped. A convenient alternative was the check. If a check was lost or stolen, but someone presented it for payment, the bank could refuse to pay, so checks are to some degree safer than banknotes. Checks became the payment instrument of choice in interregional trade.

To understand the founding of the Fed, it helps to grasp some of the details of how checks moved around the banking system back then.[4] It will help to focus on a concrete example. So imagine a general store in Newport News in the 1890s that sells potbellied stoves made by a manufacturer in Brooklyn. The store owner writes a check drawn on his bank in Newport News, payable to the manufacturer, and mails it. The manufacturer deposits the check in his account at his Brooklyn bank. (Keep in mind that there wasn't an iPhone to scan the check into.)

Now what happens though? How does the Brooklyn bank get paid for the check drawn on the bank in Newport News? More generally, how did banks clear and settle checks? Two different institutional mechanisms developed to facilitate check clearing.

One was the clearinghouse.[5] Any decent-sized city would have many individual banks, and they would band together in order to economize on the costs of presenting checks to each other for payment. Instead of each bank sending clerks directly to each of the other banks, they would send a pair of clerks to a central location. This engraving depicts the New York Clearinghouse some time in the 1850s. (This admittedly is earlier than 1913, but the operations basically looked the same, with the possible exception of the top hats and cutaways.) One clerk from each bank would move around the outside of the circle of desks, presenting bundles of checks in succession to clerks from the other banks. The clerk sitting behind the desk would tally the amount of checks presented by the other banks. After the presentation of checks was complete, clearinghouse clerks would collate and reconcile all the banks' tally sheets. At the end of the process, each bank has either a net obligation due to the clearinghouse, that is to the other banks, or else a net obligation due from the clearinghouse. They could either settle up that day, or carry over the balance to the next day.

Clearinghouses were an important feature of the banking system, both before the Fed and for many years after. In fact, as I'll discuss later on, the Federal Reserve Banks were modeled after the clearinghouses of the time, and several of their features were adopted for the Reserve Banks. First, banks that were members of the clearinghouse were often owed funds by the clearinghouse — that is, by other clearinghouse banks. As a result, member banks had a keen interest in each other's financial health. So clearinghouses set standards for membership, required periodic financial statements and regularly audited their member banks. In other words, clearinghouses performed functions very much like the supervision and regulation now performed by federal agencies, including the Federal Reserve. A second key feature of clearinghouses is that they were owned by their member banks. A board of directors, chosen by member banks, would set clearinghouse policies and rules and oversee the operations of the clearinghouse. Each Reserve Bank is overseen by its own board of directors.

Clearinghouses worked well in cities, where sending couriers to a central location every day was convenient. But outside the cities, banks were geographically dispersed. Here's where the second institutional mechanism used to clear checks comes in. It was called "correspondent banking."[6] All the banks outside the cities — they were called "country banks" — established relationships with a number of other banks; these were called their "correspondents." If the country bank received a check drawn on a distant bank, it would be sent to a correspondent to collect for them. Similarly, if the city correspondent bank received a check drawn on the country bank, they would send it to the country bank for payment. This slide shows a page from a publication that listed each bank and their correspondents. So if you were a bank in Brooklyn, and one of your customers deposited a check drawn on, say, the First National Bank of Newport News, you would just look them up in this book and find out who their correspondents were. The correspondents are listed at the bottom of their entry — I've outlined them in a red box. You could send it to the correspondent and get paid for it.

One critical feature of this system is that banks kept deposits with their correspondents. So the First National Bank of Newport News would have accounts with the banks listed at the bottom of its entry. These were called "reserve accounts" or just "reserves," and they played a critical role in the banking system. When checks came in to the city bank drawn on the correspondent country bank, the city bank would subtract (or debit) the amount from the country bank's account. Similarly, when the country bank sent checks for the city bank to collect for them, the city bank would add (or credit) the amount to its account.

If you multiply this picture across the nation, you end up with an intricate web of correspondent relationships linking very small country banks to larger banks in nearby cities to banks in the very largest financial centers — New York and Chicago. Through this network of relationships, people were able to make payments easily to people at great distances across the United States, analogous to the way electronic payment systems, like the credit card and ATM networks, link banks together in a way that enables payments to flow. The economics are very similar, it turns out.

The "Currency Problem"

I have given you an overview of the internal workings of the banking system in 1913, just before the Fed was founded. So what was the problem with this system that motivated the founding of the Fed? One word: inelasticity. At times, the supply of currency just did not expand rapidly and flexibly enough. Here's an illustration of that idea in a cartoon from 1909. Uncle Sam is pictured in the foreground, staring forlornly at a sheaf of wheat. His suspenders — they called them "galluses" then — are labeled "U.S. currency." His buttons are labeled "financial center." In the background, President Teddy Roosevelt explains the problem to a man labeled Congress:

> "You see, those galluses ought to have rubber in them, so that when Uncle Sam stoops to move the sheaf there won't be much strain on the buttons."

To understand what they were talking about, think of the banking system as a whole; the public can hold bank deposits or banknotes. At times, people prefer more notes and fewer deposits than usual. One of those times was the fall harvest season, when more currency was needed to make the payments necessary to move crops to market; picture middlemen needing cash to pay farmers, who then use the cash to pay for supplies or repay loans. The holiday season in November and December was another time when the demand for currency rose; picture lots of people getting currency out of the bank to go shopping. But remember those cumbersome requirements associated with issuing new banknotes under the National Bank Act. That meant the banks found it difficult to issue new notes. Country banks would turn to their correspondents for notes to meet the demand for withdrawals, which transmitted the strains to the big financial centers. The banking system had a hard time accommodating the increase in demand for currency. What was needed was a more elastic supply.

Those of you who have had an economics class are probably thinking, what about the price system? Isn't that how economies deal with scarcity? Well, the workings of the price system actually were evident back then. The price of money, as you economics students are aware, is the rate of interest — that's the opportunity cost of holding noninterest-earning currency, as opposed to holding interest-earning assets. Here is a plot (the blue line) of the average interest rate on commercial paper in New York (a good representative financial market interest rate in those days), shown for various months of the year in the 20 years before the founding of the Fed. You can see that from September through December, interest rates were substantially higher, about a full percentage point on average, compared to other months of the year. This is fairly direct evidence of the inelasticity that people were concerned about. After the founding of the Fed (the gold line), the curve is relatively flat, which is evidence that the Fed was able to better accommodate the seasonal swings in the demand for currency.[7]

The inelasticity problem was also evident during financial panics. These were episodes, generally during economic downturns, in which a sizeable number of people attempted to withdraw their money from banks. In other words, the public wanted to shift out of deposits into currency. These "bank runs" tended to happen in response to rumors of insolvency at one or more banks. Again, the cumbersome and time-consuming process for issuing new banknotes under the National Bank Act limited the response in the total supply of notes. Interest rates would spike up, as banks attempted to secure banknotes to meet the demand for withdrawals.

Banks turned to a number of expedients when faced with runs. One response when demand for notes was particularly acute was to "suspend payments," meaning that banks would refuse to allow depositors to withdraw banknotes. At times, clearinghouses would declare suspensions for all their member banks. Often deposits weren't entirely frozen, however. Banks would issue "cashier checks" or other instruments that acted as substitutes for currency. These substitutes were viewed as inconvenient stop-gap measures, however.

Earlier I mentioned that country banks held deposits at correspondent banks. When their customers' withdrawals started rising, country banks would ask their correspondent banks for shipments of banknotes, to be paid for with their reserve account balances. During financial panics, clearinghouse banks would sometimes refuse those withdrawal requests in order to preserve cash for themselves.

The Panic of 1907 was the last straw; it sparked a concerted national effort to identify appropriate reforms to the currency system. Much debate ensued and numerous proposals were advanced, culminating in passage and signing of the Federal Reserve Act in December of 1913.[8] What did the Federal Reserve Act do? According to the preamble of the Act, the intent was "to furnish an elastic currency." That is, they wanted the aggregate supply of currency to be able to expand when the demand for currency rose, as it did during seasonal crop movements and the large-scale deposit withdrawals associated with banking panics. You'll also notice that the preamble says "to afford a means of discounting commercial paper." I'll say more about that later.

The Federal Reserve Act

How would the Federal Reserve furnish an elastic currency? The natural model was the city clearinghouses.[9] In banking crises, the clearinghouses often issued certificates to be circulated by their member banks as a substitute for currency withdrawals. (The clearinghouses were not legally entitled to issue bank notes themselves.) Therefore, the Act authorized the establishment of a set of banks modeled on the clearinghouses of the day. They called them "federal reserve banks," because they would hold the reserves of the banking system, instead of having those reserves held in the banks in large cities. Reserve banks would have the power to issue notes, just as the national banks did at the time, except that the reserve banks would not be subject to the cumbersome requirements of the National Bank Act that made the supply of notes so inelastic.

Because the reserve banks were modeled after the clearinghouses, it was natural to provide them with the other features associated with clearinghouses. Thus the reserve banks were membership organizations, owned and operated by their member banks, much like a joint venture. They were given authority to examine their members for safety and soundness, just as the clearinghouses did.[10] And they were given the power to clear and settle checks for their members as well, a core function of the clearinghouses.[11]

Key Issue: Structure, Governance and Accountability

Perhaps the most visible aspect of the structure of the Federal Reserve was hotly debated: the number and location of the reserve banks themselves. One early version of the Federal Reserve Act would have created a single reserve bank with branches around the country. This riled populists, however, and tapped into the deep-rooted 19th century American aversion to large financial institutions and financial center interests. Carter Glass, the congressman from Lynchburg, Virginia, who chaired the House Committee on Currency and Banking and helped draft the final version of the legislation, insisted on a system of regional reserve banks.

President Woodrow Wilson, however, a leader of the progressive movement, insisted that because the reserve banks had a substantial public purpose, they should be supervised by a federal agency. So the Act established what is now called the Board of Governors of the Federal Reserve System to oversee the operations and policies of the reserve banks. The Board also has the power to appoint three of the nine members of each Reserve Bank's board of directors — the other six are elected by member banks, and only three of them can be bankers. Members of the Board of Governors are appointed by the president of the United States and confirmed by the Senate. The Federal Reserve thus was created with a hybrid public-private governance structure. This structure has provided a measure of independence from political pressures that can induce an excessively short-run focus. That independence has been valuable, particularly in keeping inflation under control. But it comes with a responsibility to be accountable to our democratic institutions for the results of the conduct of policy.

The Fed's governance structure also was hotly debated during the drafting of the legislation. It has been questioned and amended over the years and remains controversial today. For example, critics have charged that the role of bankers on Reserve Banks' boards has biased them toward the interests of the banking industry, at the expense of the public interest. Others, however, cite the valuable operational expertise and economic information that bankers bring to the Fed. The financial reform legislation passed in 2010 in response to the financial crisis — the Dodd-Frank Act — imposed restrictions limiting the role of bankers in selecting the top officers of the Reserve Banks.[12] More broadly, the Federal Reserve has made significant moves toward greater transparency into its operations and decision-making over the last 20 years. This photo shows a gathering of all the Reserve Bank directors and the Board of Governors in October 1914, assembled on the steps of the Treasury in Washington. If the analogous group were assembled today, I can assure you of two things: You'd see greater diversity and fewer hats.

Key Issue: What Assets Should the Federal Reserve Hold?

Perhaps the most critical question the founders had to decide was what the Reserve Banks should hold as assets. The Federal Reserve notes that were authorized by the Act are liabilities of the Reserve Banks. The Reserve Banks also accepted deposits from member banks, another liability. The original goal of the founding of the Federal Reserve was to ensure that the quantity of the Fed's currency and reserve deposit liabilities would expand elastically when needed. This left the authors of the Act with some discretion as to what assets the Federal Reserve Banks would hold.

One asset that was natural to consider was gold, either in the form of coins or bullion. The country was on the gold standard at the time, and that required that banknotes be convertible into gold on demand. The founders decided to mimic the design of other central banks and require that Reserve Banks hold a certain amount of gold — 40 percent of the value of their notes outstanding, and 35 percent of the value of the bank deposits they accepted. This ensured that the Reserve Banks' money supply would tend to expand or contract with the movement of gold into and out of the country, as required by the rules of the gold standard.

But beyond gold, what assets should the reserve banks hold? One option was U.S. government bonds. The pre-Fed regime that required backing by government bonds was viewed as problematic, however, for the reasons I've already described. In addition, money backed only by government bonds was associated with inflationary wartime finance and thus viewed as potentially destabilizing. That left private-sector assets. There were active markets for private bonds, but these were relatively risky at the end of the 19th century, and stocks were even riskier. European central banks at the time, particularly the Bank of England, provided a natural alternative model, however. They held financial instruments called "bills of exchange"; similar instruments in the United States were called commercial paper. These were short-term (3- to 6-month maturity) obligations that arose out of the financing of trade. Because they were secured by goods in transit and endorsed by banks, they were relatively safe. Conservative eligibility requirements and an endorsement by the borrowing bank (a kind of guarantee) helped further reduce the risk to the central bank. So the Federal Reserve Banks were given the authority to make loans backed by certain types of commercial paper or purchase certain types of such commercial paper. This is reflected in the third part of the preamble purpose of the Federal Reserve Act: "to afford a means of rediscounting commercial paper." They called it "rediscounting," because the initial loan was essentially the purchase of an obligation at discount, which reflected an implied interest rate, and the Fed was discounting it a second time.

During World War I, the Reserve Banks were granted the power to hold Treasury securities, and thereafter they used purchases of Treasury securities in the open market to influence monetary conditions. Acquiring Treasury securities in the open market avoided the cumbersome collateral-posting procedure required under the national bank rules. It is important to note that the Fed creates money whether it buys Treasury securities, buys commercial paper or makes a loan. When a Reserve Bank acquires an asset, it credits the reserve account of the bank of the party from whom it acquires the asset. When a Reserve Bank makes a loan, it credits the reserve account of the party to whom it is making a loan. In either case, the new reserve account balances can be withdrawn by the bank, and Federal Reserve notes would be paid out, effectively converting the reserve balances into currency. In either case, the supply of currency plus reserves has increased. The key lesson here is that, for the purposes of the original goal of the Federal Reserve Act — that is, to solve the currency problem that the Fed was founded to solve and stem financial panics — it doesn't matter whether the Fed lends or buys Treasury securities. Either one expands the supply of currency and reserves that people are clamoring for.

This highlights an important distinction regarding central bank activities. Some actions change the total amount of currency and bank reserves in circulation. These are best referred to as "monetary policy." Actions that change the composition of the central bank's asset portfolio, but leave the amount of currency and bank reserves unchanged can be thought of as "credit policy," since they involve intervening in credit markets by buying one instrument and selling another.[13] Credit policy has the potential to direct funds to particular sectors or particular private entities, either funds they would not otherwise have obtained or on terms they would not otherwise have obtained. The "currency problem" that the founders were seeking to solve was a monetary problem, not a credit problem.

This distinction is directly relevant to controversies about the Fed's crisis lending programs, because they had little to do with monetary policy, in this sense, and thus little to do with the original goal of the Federal Reserve Act to furnish an elastic currency. Several emergency lending programs were introduced early in the crisis, prior to September 2008.[14] Lending under these programs was all offset by sales of Treasury securities, so the supply of currency plus reserves did not increase. Instead, the lending programs reallocated credit, effectively selling Treasury securities to the public and using the proceeds to provide funds to private entities on terms they would not otherwise have obtained in the marketplace. Similarly, the loan made in connection with the failure of Bear Stearns in March 2008 was offset through sales of Treasury securities. Because the Reserve Banks remit all of their excess earnings to the U.S. Treasury, the fiscal implications for the federal budget were exactly as if the Treasury had issued new debt and made the loan.

Later, in the fall of 2008, the Fed drove short-term interest rates essentially to zero and stopped offsetting emergency lending. Clearly, though, the Fed could have driven interest rates to zero without the emergency lending programs by simply buying large quantities of Treasury securities. Since the crisis, the Fed has dramatically expanded the size of its asset holdings by acquiring longer-term Treasury securities and agency mortgage-backed securities, or MBS. The

Fed could have expanded its portfolio an equal amount through purchases of Treasury securities only. Compared to that benchmark policy, buying agency MBS channels funds to mortgage borrowers, financed through sales of Treasury securities to the public.

In popular accounts of the crisis, you may have come across references to the Fed as "the lender of last resort." This phrase is often used to describe the prescriptions of Henry Thornton, the British economist, and Walter Bagehot, a British essayist and journalist. Both men wrote influential books on central banking: Thornton at the beginning of the 1800s, and Bagehot in the 1870s. Their recommendations to the Bank of England have been distilled into the phrase: "Lend freely at a high rate on good collateral."[15] This dictum is often invoked to support extensive central bank lending in episodes of financial distress. But Thornton and Bagehot wrote when lending was the primary mechanism by which the Bank of England increased the stock of money in circulation. Their writings make clear that they were not recommending rescues for insolvent institutions, and that their prescriptions were about monetary policy, not credit policy.

The Debate Continues: The Future of Central Banking

Some modern writers instead interpret the "lender of last resort" idea liberally to justify an expansive approach to central banking, in which all available tools, both monetary and credit policy, are used to minimize financial system "disruptions." They read central bank charters as implying a "financial stability mandate."[16] Although the term "financial stability" was not at all common 100 years ago, they construe the founders of the Federal Reserve System as motivated by a broad desire to minimize and prevent financial panics, even beyond simply satisfying increased demands for Federal Reserve Bank money. The view that financial markets are inherently fragile and unstable provides support for this approach.[17]

In contrast, a narrow and more restrained view of central banking emphasizes the critical core function of managing the monetary liabilities of the central bank.[18] Experience after the demise of the gold standard in the 1970s has demonstrated that a measure of independence is a critical ingredient in the success of monetary policy. Aggressive use of a central bank's asset portfolio to channel credit to particular economic sectors or entities threatens dragging the central bank into distributional politics and places that governance arrangement at risk.[19] This more limited approach is supported by the view that excessive financial market instability tends to be induced by government rescues, and that policymakers should be humble about their ability to identify constructive interventions in particular financial markets.[20]

The evolution of the Federal Reserve, and central banking more generally around the world, will be driven, I suspect, by how the tension between these two approaches plays out. I just hope that future debates are informed by the rich deliberations that accompanied the founding of the Federal Reserve.

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[1] I am grateful to Patricia Wescott for assistance in preparing these remarks.

[2] Milton Friedman and Anna Jacobson Schwartz. "A Monetary History of the United States: 1867–1960," Princeton: Princeton University Press, 1963; Allen H. Meltzer, "A History of the Federal Reserve, Volume 1," Chicago: University of Chicago Press, 2003; and Bruce Champ, "The National Banking System: A Brief History," Federal Reserve Bank of Cleveland Working Paper 0723, December, 2007.

[3] Bruce Champ, Neil Wallace, and Warren E. Weber, "Resolving the National Bank Note Puzzle," Federal Reserve Bank of Minneapolis Quarterly Review, Spring 1992, vol. 16, iss. 2, pp. 13-21.

[4] See Jeffrey M. Lacker, Jeffrey D. Walker, and John A. Weinberg, "The Fed's Entry into Check Clearing Reconsidered," Federal Reserve Bank of Richmond *Economic Quarterly,* v. 85/2, Spring 1999, pp. 1-31.

[5] James G. Cannon, "Clearing-Houses: Their History, Methods and Administration," London: Smith, Elder, & Co., 1900; and James G. Cannon, "Clearing Houses," National Monetary Commission, Government Printing Office: Washington, D.C., 1910.

[6] See Spahr (1926).

[7] Jeffrey A. Miron, "Financial Panics, the Seasonality of the Nominal Interest Rate, and the Founding of the Fed," American Economic Review, March 1986, vol. 76, no. 1, pp. 125-140.

[8] On the creation of the Fed see Elmus Wicker, "The Great Debate on Banking Reform: Nelson Aldrich and the Origins of the Fed," Columbus, OH: Ohio State University Press, 2005; and Eugene White, "The Regulation and Reform of the American Banking System, 1900-1929," Princeton: Princeton University Press, 1983.

[9] Charles Goodhart, "The Evolution of Central Banks," Cambridge, Ma.: MIT Press, 1988; Richard Timberlake, "The Central Banking Role of Clearinghouse Associations," Journal of Money, Credit and Banking, February 1984, vol. 16, pp. 1-15; Gary Gorton, "Clearinghouses and the Origin of Central Banking in the United States," Journal of Economic History, June 1985, vol. XLV, no. 2, pp. 277-283; and Gary Gorton and Donald Mullineaux, "The Joint Production of Confidence: Endogenous Regulation and Nineteenth Century Commercial-Bank Clearinghouses," Journal of Money, Credit and Banking, November 1987, vol. 19, pp. 457-468.

[10] National banks were already supervised by the Comptroller of the Currency, as they are today, so the reserve banks were just given authority to supervise the state banks that joined the Federal Reserve System.

[11] See Lacker, Walker and Weinberg (1999).

[12] Specifically, section 1107 of the Dodd-Frank Act says that only Class B directors (nonbankers elected by member banks) and Class C directors (appointed by the Board of Governors) can elect the president and first vice president (chief operating officer) of the reserve bank.

[13] This distinction is discussed at length by Marvin Goodfriend and Robert G. King, "Financial Deregulation, Monetary Policy, and Central Banking," Federal Reserve Bank of Richmond Economic Review, May/June 1988, vol. 74, no. 3, pp. 3-22.

[14] These were the Term Auction Facility and the Primary Dealer Credit Facility. See http://www.federalreserve.gov/monetarypolicy/bst.htm for detailed information on the Board of Governors' website on all of the Fed's credit and liquidity programs. See http://timeline.stlouisfed.org/ for a financial crisis timeline.

[15] Henry Thornton, "An Enquiry Into the Nature and Effects of the Paper Credit of Great Britain," 1802, Edited and with an Introduction by F.A. Von Hayek, New York: Rinehart and Co., 1939. Walter Bagehot, "Lombard Street," London: Harry S. King and Co., 1873. For explanation and discussion of Thornton and Bagehot's views on the lender of last resort, see Thomas M. Humphrey, "Lender of Last Resort: The Concept in History," Federal Reserve Bank of Richmond *Economic Review*, March/April 1989, pp. 8-16; and Michael D. Bordo, "The Lender of Last Resort: Alternative Views and Historical Experience," Federal Reserve Bank of Richmond *Economic Review*, January/February 1990, pp. 18-29.

[16] See Bank for International Settlements, "Central bank governance and financial stability," May 2011, http://www.bis.org/publ/othp14.pdf for an overview of financial stability mandates for central banks.

[17] See Jeffrey M. Lacker, "Economics and the Federal Reserve After the Crisis." Speech at Franklin and Marshall College, Lancaster, PA, February 12, 2013, and "Understanding the Interventionist Impulse of the Modern Central Bank," Speech at Cato Institute 29th Annual Monetary Conference, Washington, D.C., November 16, 2011.

[18] See Jeffrey M. Lacker, "Perspectives on Monetary and Credit Policy," Speech to the Shadow Open Market Committee Symposium, New York, NY, November 20, 2012.

[19] Marvin Goodfriend, "The Elusive Promise of Independent Central Banking," Bank of Japan, Monetary and Economic Studies, November 2012, vol. 30, pp. 39-54.

[20] See Jeffrey M. Lacker, "Economics and the Federal Reserve After the Crisis." Speech at Franklin and Marshall College, Lancaster, PA, February 12, 2013.

Whom Do the Federal Reserve Bank Boards Serve?

By Helen Fessenden and Gary Richardson

The long-standing governance model of the Federal Reserve Banks, including their boards and the directors who serve on them, is under growing criticism. Calls are increasing for the boards to sever direct ties to banking and finance and become more diverse in their representation, as well as to offer more transparency to the public. As history shows, this governance model always has been the subject of political scrutiny, as public concepts of diversity — and the Fed's functions — have evolved over time.

The governance structure of the Federal Reserve System, including the leadership of the twelve Federal Reserve Banks, is increasingly drawing fire from a wide array of critics. Liberal groups have focused on Reserve Banks' boards of directors, which they believe are stacked too heavily in favor of private banking interests, too opaque, and insufficiently representative of women and minorities. The progressive coalition Fed Up, for example, calls for a ban on directors who have direct ties to banking and finance. It also has pushed for public nominations and public hearings for Reserve Bank presidents, who are currently selected by a subset of their Bank's nine-member board of directors (subject to approval by the Fed's Board of Governors). Coming on the heels of pressure from liberal members of Congress, the Democratic Party included language in its 2016 platform to prohibit executives of financial institutions from serving on Reserve Bank boards.

The leadership and board structure of the Reserve Banks also have conservative critics. Mark Calabria of the Cato Institute, for example, recently wrote that the Fed, in general, has a "diversity problem" of too many economists from elite East Coast schools staffing the most senior levels, on the Board as well as at the Reserve Banks. "You are guaranteed to have an institution that suffers deeply from groupthink, as well as being insulated from the everyday experiences of most Americans," he wrote, suggesting reforms that included a ten-year residency requirement for candidates seeking to become Reserve Bank presidents.[1]

By taking aim at the Fed, including its governance model, these disparate groups are finding common ground. Many of these critics fail to note, however, that the debate over the leadership structure of Reserve Banks is not new. The composition of Reserve Bank boards has been discussed and disputed throughout the last century. These arguments were especially intense in the run-up to the passage of the Federal Reserve Act in 1913, in the Great Depression, and during the civil rights movement and painful stagflation in the 1970s. The question has resurfaced most recently in the wake of the 2008 financial crisis and the Great Recession, amid broader public scrutiny of the Fed. In fact, the debate over Fed governance, including Reserve Bank boards, is closely bound to the central tensions and grand compromises of American politics – encompassing the fights over local versus national government, progressive versus populist policies, and Wall Street versus Main Street economic interests. These arguments also reflect the tension between the desire for the benefits of a national bank and fears of financial monopolies and money trusts. The fact that these debates mirror such long-standing fissures in the American polity makes it all the more important to understand what the Reserve Bank boards actually do – and how these functions have evolved over time.

A Balancing Act

The German-American financier Paul Warburg, one of the key architects of the Federal Reserve Act, laid out a clear vision of how central bank boards should operate after the Panic of 1907 galvanized him to analyze America's fractured banking system. As he saw it, such a board should be "independent of politics" and not "swayed by selfish motives in its actions." At the same time, it had to be "thoroughly representative of the various interests and districts of the country … non-political, non-partisan, and non-sectional." And its members had to be equipped to deal with "broad questions of policy affecting the whole country" while being knowledgeable of local and regional economies.[2]

The authors of the Federal Reserve Act sought to achieve this diverse set of goals by dividing the nine directors of each of the twelve Reserve Banks into three classes, with each class representing different economic and public interests. Class A directors were bankers, elected by member banks to provide professional expertise and represent the interests of those institutions. Class B directors were also elected by member banks, but they did not work for or own stock in those banks; instead they represented commercial and community interests outside of banking and finance. Finally, Class C directors were chosen by the Federal Reserve Board in Washington, D.C., both for their expertise in running large, complex corporations and for representing the general public. Class C directors could not serve as officers, directors, or employees of commercial banks while sitting on the board. However, under the framers' initial interpretation of the Act, two of them – those who served as the board's chair and vice chair – had to have "tested banking experience." In short, in the early years, five out of nine board directors had to have ties to banking or a substantial banking background.[3] Under the modern interpretation of the Act, however, it is only one Class C director, the chair, who has to meet this requirement.

This structure made sense when the United States established the Federal Reserve. To set up this central banking system, Congress needed to convince bankers to provide expertise as well as funds. Federal and state governments did not spend a penny to establish the Fed. Instead, the Fed's founders convinced commercial banks to join the Federal Reserve System, and in doing so, invest tens of millions of dollars in the central bank, all paid in gold coin or bullion. The Fed used this gold to guarantee the value of the dollar, which at that time was on a gold standard.[4]

Using the model of a traditional corporate board, Congress envisioned directors as officials who would "perform the duties usually appertaining to the office of directors of banking associations and all such duties as prescribed by law," in the words of the Act. These duties covered tasks such as ensuring adequate staffing, establishing bylaws that employees should follow, and interpreting audit reports. As the Act's drafters saw it, then, it made sense to have professional bankers on Reserve Bank boards because they had the expertise to manage a bank. But just as importantly, Congress mandated that boards also have directors from outside the banking world to represent the public interest. This is one manner in which the Reserve Banks have a hybrid public-private governance structure.

Congress struck another careful compromise when it wrote the bill: it crafted the boards' composition to balance different regional and economic interests. To ensure regional representation, Congress directed that the nation be divided into Federal Reserve Districts and within each, a Reserve Bank be established whose directors consisted of residents of that region. The Act mandated that the Class A and B directors hold jobs within their district, while the three Class C directors were required to have been residents of the district for at least two years. Congress also further split the Class A directors into three types to represent member banks by size, which ensured that large, medium, and small banks had equal representation. And to ensure balance of different commercial interests, Congress mandated that the Class B directors be "actively engaged in their district in commerce, agriculture, or some other industrial pursuit."

Finally, a key goal of the Fed's founders was establishing a central banking system that kept the value of the dollar stable. The Act's authors understood that political pressures and private interests might push the value of the dollar down or up, and they feared both inflation and deflation. Accordingly, numerous features of the Federal Reserve System – such as its regional structure and the requirement to back Federal Reserve notes by either short-term bank loans or gold – were designed to insulate decisions about discount rates and the volume of notes in circulation from undue political and business pressures. Such checks against political influence were also incorporated into the Reserve Bank boards – for example, their prohibition of senators or representatives in Congress from serving as a director or officer of a Reserve Bank.

"Science" versus "Democracy"

The origins of the governance model go back to the Fed's founding in 1913, when lawmakers were bitterly divided over the central bank's purposes and functions. The political momentum for a central bank had accelerated after the Panic of 1907, but Congress struggled to resolve differences among those who wanted a regional, confederated structure and those who wanted a powerful central bank. Lawmakers from agricultural states pressed their interests, as did those who came from states active in mining and manufacturing. This was a debate about diversity, but one centered on addressing disparate state, commercial, and regional interests. More broadly, these early divisions reflected the fundamental schisms of that era: "democratic" populism versus "technocratic" progressivism, urban versus rural interests, small versus big banks, and regionalism versus federalism.

How did this effort begin? Central banks were well-established in Europe, but among early American political leaders, the very idea of central banking was deeply controversial, as the demise of the First and Second Banks of the United States showed. This resistance began to change with a series of banking crises in the Gilded Age, capped by the Panic of 1907. Leading figures in finance began to work with like-minded lawmakers on creating a more stable banking system. In 1908, Congress passed the Aldrich-Vreeland Act, which established a National Monetary Commission to study other central banks and recommend a solution. The chairman of the commission, Sen. Nelson Aldrich, a Republican from Rhode Island, convened a small working group to draft the commission's final recommendation, leading to a secret conclave on Georgia's Jekyll Island in 1910 that included Warburg and Treasury official Abram Piatt Andrew. This effort led to the release in 1912 of the Aldrich Plan, the predecessor of the Federal Reserve Act.

The Aldrich Plan envisioned a National Reserve Association that had both "scientific" and "democratic" components. The "scientific" elements included technocratic proposals the Jekyll Island group saw as necessary for a central banking system to be effective, such as the authorities to provide an elastic currency and serve as a lender of last resort in panics. The "democratic" elements, meanwhile, were intended to address populist concerns that this new national bank would an all-powerful, centralized entity. One way to do this was to distribute power across states, sectors, and regional interests by establishing local reserve associations. These local groups would in turn be organized into district associations. Each district would contain a branch of the National Reserve Association. Local associations would elect their own local boards of directors, which in turn would elect members of the district and national boards. In the local and district boards, bank-elected directors would make up the majority of the leadership, and voting rights would be weighted in favor of larger banks. By contrast, the central body in Washington, D.C., was to be a relatively weak board made up of forty-six members, only six of whom the federal government would select. After its release, reception of the Aldrich Plan was mixed. Banking groups warmed to the plan, but many Democrats viewed it as tilted toward Wall Street. Meanwhile, the burgeoning Progressive movement was generally hostile to Aldrich and wanted a banking reform plan with far greater public accountability.

Early Compromises

As this debate raged on, the Democrats swept the 1912 election, sending Woodrow Wilson to the White House. Proponents of banking reform expected they would have to start from scratch, but in a surprise move, Wilson championed their cause. He delegated the drafting of the new bill, the Federal Reserve Act, to two Democratic allies, Rep. Carter Glass of Virginia and Sen. Robert Owen of Oklahoma. A finance professor, Henry Parker Willis, provided much of the technical expertise in the drafting of the House bill. Glass was among those Democrats who wanted a regional model with power spread out among as many as twenty Reserve Banks and no central coordinating board at all. Wilson, helped by Owen and more like-minded allies in the Senate, sought a central board and a greater federal role.

Ultimately, the Federal Reserve Act represented a collection of compromises that tried to bridge these divides. But on net, the "democratic" side won some substantive provisions. The bill called for a network of powerful Reserve Banks (ultimately numbering twelve, reduced from the twenty Glass had proposed) that were largely autonomous. They could set their own benchmark lending rates and select which banks to lend to, and they held their own gold stock. The director classifications were set up to ensure occupational "diversity" among directors, while all nine had a vote in appointing their Reserve Bank chief executive officer, then known as a governor, now called the president. Even though the central body in Washington, called the Federal Reserve Board, appointed the Class C directors, the bill required that they live in their Reserve Bank district.

The "scientific" camp secured some concessions as well. Wilson got his Federal Reserve Board, staffed by U.S. presidential appointees, with two executive branch officials, the Treasury secretary and the comptroller of the currency. But the Board's main role was that of a loose oversight body, and it lacked the power to conduct credit or monetary policy on a national basis. In fact, the most dominant national official in the early years was the leader of the New York Fed, Benjamin Strong, also an important early backer of the Aldrich Plan.

This early arrangement reflected the widespread view that the Reserve Banks' primary role was to ensure stable monetary conditions in their districts. The governors who led the Banks came from finance and business backgrounds, and the chief Bank functions were issuing cash and, later, clearing checks. The Reserve Banks also served as lenders of last resort through their discount windows, and they could decide which securities to buy or sell and at which price. In short, through their power in conducting open-market operations and setting a District-wide credit policy, the Reserve Banks had far more control than the central board over monetary policy, a subject that was little understood at the time. But in a speech at Harvard in 1922, Strong noted the importance of these authorities.

"There is … one function of the Reserve System the importance of which cannot be over-emphasized," he said. "It is, in fact, the heart of the System upon which the operation of every other part depends. I refer to the entirely new element which was superimposed upon our banking System in 1914 by the establishment of the Reserve Banks, which were given the power to influence or to regulate or to control the volume of credit. Every other function exercised by the Reserve Banks sinks into insignificance alongside of the far reaching importance of this major function."

Strong also underscored the importance of the Fed's public function – and its inherent relationship to the elected officials of the U.S. government. "The Federal Reserve System has always impressed me as being essentially a social institution," he said. "It is not a super-government, it is simply the creature of Congress, brought into being in response to a public demand. It was not created only to serve the banker, the manufacturer, nor the merchant, nor the Treasury of the United States. It was brought into being to serve them all."[5]

An Early Test for the Fed

The shortcomings of this system became apparent in the early years of the Depression. Faced with a wave of bank failures, the Reserve Banks were unable to unite around one common policy. Some officials believed in the "real bills" doctrine, which held that the Fed should act procyclically (that is, curtail lending and tighten liquidity during downturns). Others sought a countercyclical approach that boosted liquidity by cutting the discount rate and lending permissively. What this meant was that Reserve Banks took different responses in 1929–32 to extending credit, expanding the monetary base, and acting as lenders of last resort. This led to divergent economic outcomes across the nation. In a 2009 paper that compared bank failures in southern and northern Mississippi, a split-district state, researchers found a significantly lower rate of bank failures and a much milder recession in the southern half of the state, reflecting the Atlanta Fed's aggressive actions as a lender of last resort. By contrast, the northern half, which was under the St. Louis Fed, saw much less aid to banks beset by runs and fared worse.[6]

The Fed's inability to use its tools effectively and to pursue unified policy to counteract the Depression is now a well-known lesson. But this failure also produced the reforms that led to the structure of the far more centralized modern Fed. The most important was the 1935 Banking Act, which established the modern structure of the Federal Open Market Committee (FOMC), taking over the monetary-policy and credit-policy powers previously held by Reserve Banks. The Federal Reserve Board was renamed the Board of Governors of the Federal Reserve System, and it received enhanced powers to set bank reserve requirements, the discount rate, and interest rates for member-bank deposits.[7] Furthermore, the Treasury secretary and the comptroller of the currency lost their seats on the Board, helping set up a wall between the Fed and the executive branch that was cemented with the Fed-Treasury Accord of 1951. A more centralized and effective central bank emerged.

As for the Reserve Banks, they lost their exclusive authority to select their own chief executive officers, as the Board was given the power to veto appointments as well as renew them every five years. The Reserve Banks' CEOs, the "governors," were demoted and renamed "presidents." While still an important position, this job now required collaboration over national monetary and credit policies with the Board of Governors in Washington – for example, by setting up a voting rotation for presidents on the FOMC and allowing them, voting or not, to participate in all policy meetings. Congress also slashed the pay of the Reserve Bank board chairmen. In short, after the challenges of the Great Depression, Congress altered the Fed's governance model, moving away from the regional system established in 1913 to become a more centralized organization.

Checks and Balances

While the FOMC's creation reduced Reserve Bank directors' roles in crafting monetary and credit policy, they have continued to perform many of the functions that the Fed's founders envisioned. One of their most important tasks is to select, supervise, and advise their Bank's CEO, whose title, since the 1935 Banking Act, has been president. In the Fed's early decades, the presidents were drawn mostly from banking, business, and sometimes law. Starting in the 1960s, however, Ph.D. economists began filling the ranks of presidents, as Reserve Banks built up their own research departments with trained academic economists to assist the presidents. In 1940, for example, nine of the twelve presidents were bankers and three were lawyers; none were economists. By 1980, eight of twelve were Ph.D. economists, a ratio that has largely continued to this day.[8]

Reserve Bank boards of directors also tend to select presidents who favor keeping the value of money stable, rather than risking inflation or deflation in hopes of attaining other policy goals. A 2014 study by Daniel Thornton and David Wheelock, both from the St. Louis Fed, documented this pattern. They found that since the creation of the FOMC, bank presidents dissented from the committee's decision 180 times in favor of tighter (less inflationary) policy and thirty-five times in favor of looser (more inflationary) policies. Members of the Board of Governors, in contrast, dissented only sixty-nine times in favor of tighter policy and 125 times in favor of looser policy. Overall, presidents accounted for 72 percent of all dissents in favor of less inflationary policies, while governors accounted for 78 percent of all dissents in favor of more inflationary policies.[9]

Allan Meltzer's research on the causes of inflation in the 1970s helps to explain this difference between members of the Board of Governors and Reserve Bank presidents. In a 2005 essay, he argued that "politicians elected for four- or five-year terms put much more weight on employment – jobs, jobs, jobs – than on a future inflation." Politicians have tended to select members of the Board of Governors whom they think have beliefs aligned with their own. And politicians have sometimes pressured members of the Board of Governors to adopt policies aligned with their short-term interests. These pressures often have fallen directly on the chair of the Board of Governors. For example, in the 1960s and 1970s, Fed Chairmen William McChesney Martin Jr. and Arthur Burns were pressured to limit anti-inflation efforts by Presidents Lyndon Johnson and Richard Nixon, respectively. Burns, in particular, felt he had to acquiesce, at least to some extent, so that he could also remain an economic advisor to Nixon. By contrast, presidents of Reserve Banks may have felt less political pressure because they have reported directly to their boards of directors, composed of businessmen and community leaders who typically took a longer-term view of the economy's economic health than politicians running for reelection.[10]

The Modern Fed

Although many core features of the Reserve Bank governance structure date back to 1913, it has seen substantial changes as well. Some of those came in the 1970s, at a time when the Fed's reputation, more generally, was suffering during the Great Inflation. Amid concerns over conflicts of interest at certain Banks, Congress conducted a probe in 1976 that included a review of Reserve Bank board minutes, which led to a set of proposed reforms. This push contributed to the 1977 Federal Reserve Reform Act, best known for establishing the dual mandate that the public is familiar with today. But it also expanded the scope of a federal conflicts-of-interest statute to include Reserve Bank employees, officers, and directors. This statute makes it a crime for a director, officer, or employee of a Federal Reserve Bank to participate in a matter in which, to his or her knowledge, he or she has a financial interest.[11]

Moreover, Reserve Banks have had a long-standing practice, which the Board formalized as policy in 2011, of not providing directors with confidential supervisory information. Class A and Class B directors who are affiliated with thrift holding companies supervised by the Federal Reserve may not participate in matters such as approving the supervision and regulation department budget and the selection, appointment, or compensation of officers with responsibility for supervision and regulation.

The 1977 reform was significant in other ways. It amended the Federal Reserve Act's rules about the Reserve Banks' boards of directors, requiring that all directors be appointed "without discrimination on the basis of race, creed, color, sex, or national origin." And notably, it expanded the pool of potential directors on boards beyond the sectors outlined in the 1913 Act of agriculture, commerce, and industry. Under the new provision, the Class B and Class C directors were to be elected "with due but not exclusive consideration to the interests of agriculture, commerce, industry, services, labor, and consumers." A comparison of the entire population of directors from 1920 to today, in fact, shows that the percentage with formal banking affiliations has dropped from 52 percent to 36 percent, with a more diverse occupational mix – nonprofits, academia, medicine, and services – making up most of the difference. (See Figure 1 on the following page.) The academics include presidents, chancellors, and professors at major public and private universities. The nonprofit representatives include senior executives from the

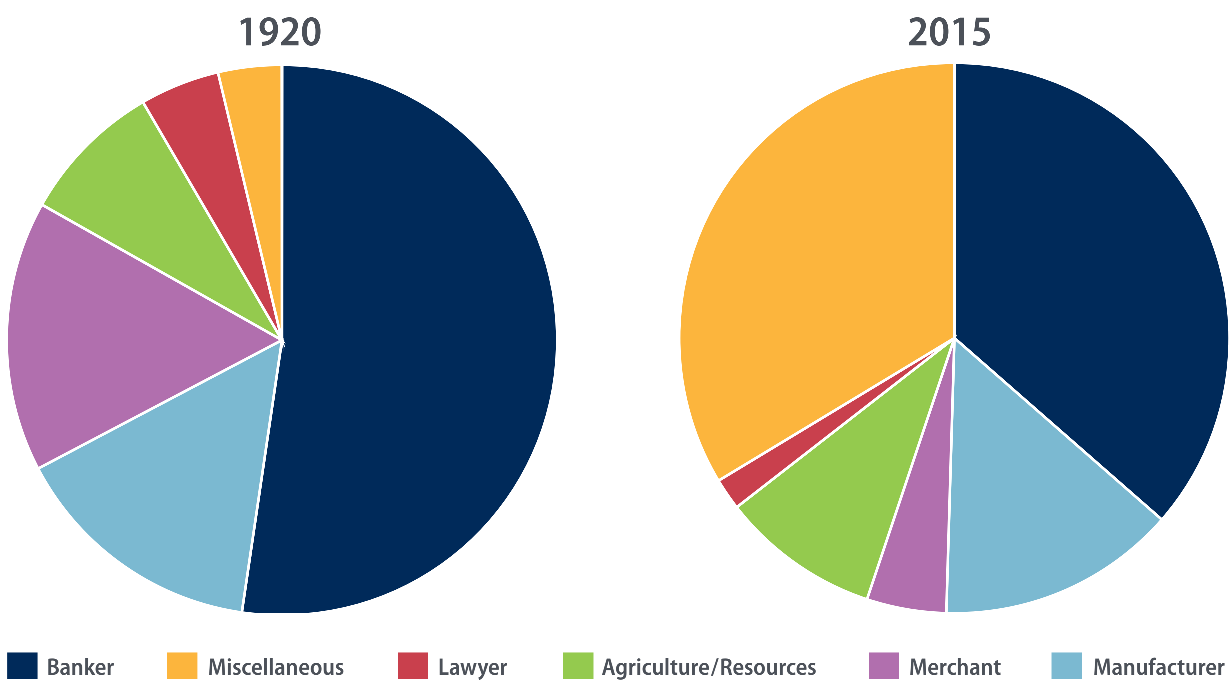
United Way, Goodwill, and Habitat for Humanity.

The Dodd-Frank Act of 2010 was the most recent reform of Fed governance, as part of a much more sweeping overhaul of financial regulation. One of its consequences was taking away the power of Class A directors (and certain Class B directors) to vote in the selection of Reserve Bank presidents on grounds that member banks should not have a direct say in selecting an official who influences when and how they can receive assistance from their lender of last resort. This measure addressed, in part, public anger at the New York Fed and its central role in bailing out Bear Stearns and American International Group in 2008. In the years preceding that crisis, then-President Tim Geithner recruited board directors from Lehman Brothers (Dick Fuld), JP MorganChase (Jamie Dimon), and Goldman Sachs (Steve Friedman). Fuld resigned just before Lehman collapsed in September 2008, while Friedman resigned from the New York Fed's board in 2009 after news broke that he bought Goldman Sachs stock during the crisis (technically while in compliance with Fed rules at the time).[12]

"The New York Fed president is often viewed as a servant of the financial establishment, in part because the optics of the institution's governance are awful," wrote Geithner in his memoir, *Stress Test*. "I made some changes to the board that unfortunately made those bad optics even worse."[13]

Since the Board of Governors enacted the changes in the Dodd-Frank Act, however, Class A directors (as well as Class B directors affiliated with thrift holding companies) may not participate in most aspects of the appointment process of Bank presidents and first vice presidents. This means they do not serve on the search committees for the president and first vice president or take part in the committees' deliberations about the candidates, nor do they vote for a president or first vice president, including voting for reappointment.

Figure 1: Composition of Reserve Bank Boards by Occupation



Sources: For 1920, sources include Reserve Bank annual reports, the U.S. Census of Population accessed via Ancestry.com, and newspapers from that time. Current data came from Reserve Bank websites and were categorized by the authors.

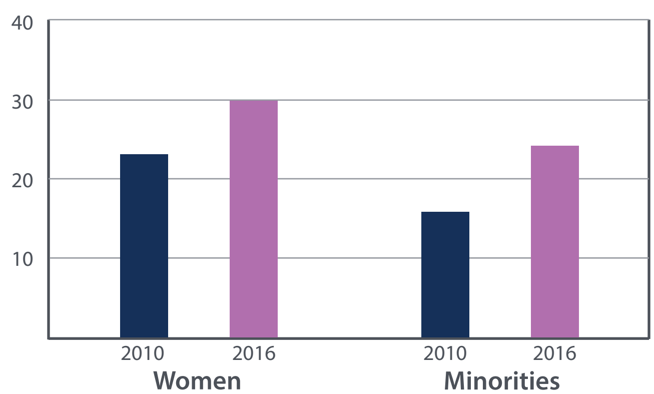
Notes: For 1920, the miscellaneous category includes two politicians, a newspaper editor, and a real estate executive. For 2015, the miscellaneous category includes three medical professionals, nine academics, two representatives of labor, nine leaders of non-profit organizations, three real estate executives, and nine leaders in the service industry.

Meanwhile, the Dodd-Frank reforms have coincided with changes that have been less visible to the public eye, including a jump in the representation of women and minorities on Reserve Bank boards. Since 2010, minority representation has increased from 16 percent to 24 percent among Reserve Bank boards, including branch boards, while the share of women has risen from 23 percent to 30 percent. (See Figure 2.) As for the Federal Reserve System more broadly, in 2015 staff at the executive senior level was 18 percent minority and 37 percent female.[14] The Dodd-Frank reforms included a provision creating an Office of Minority and Women Inclusion across all banking agencies, as well as at each Reserve Bank. Moreover, the Fed has launched an interdisciplinary effort to focus on all initiatives that relate to diversity and financial inclusion, from hiring to community development to credit access, which Fed Chair Janet Yellen noted in congressional testimony in June.[15]

A common thread among Fed critics is that a reformed Fed, with a more diverse composition and a broader balance of interests among its boards, would act more boldly to help those who have struggled the most economically. This particular debate no doubt will continue as the Fed continues to weigh plans to tighten interest rates and unwind its balance sheet as the economy recovers. Many economists argue, however, that monetary policy alone is not a sufficient or particularly well-designed tool to address inequality, which primarily stems from structural changes relating to globalization, technological change, demographics, and labor markets. As former Fed Chair Ben Bernanke wrote last year, the effects of monetary policy on inequality are "almost certainly modest and transient" in contrast to these long-term factors. For their part, he added, policymakers should look to "other types of policies to address distributional concerns directly, such as fiscal policy (taxes and government spending programs) and policies aimed at improving workers' skills."

"Policies designed to affect the distribution of wealth and income are, appropriately, the province of elected officials, not the Fed," he added. "Alternatively, if fiscal policymakers took more of the responsibility for promoting economic recovery and job creation, monetary policy could be less aggressive."[16] ■

Figure 2: Rising Percentages of Women and Minorities on Reserve Bank Boards in Recent Years



Source: Board of Governors of the Federal Reserve System

Note: Minority refers to directors who described themselves to their Reserve Banks as African American, Native American, Asian, or Hispanic. By contrast, the 1920 composition of Reserve Bank boards was all male and all white.

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Endnotes

1. See Mark Calabria, "Yes, the Federal Reserve Has a Diversity Problem," Blog posting on Alt-M: Ideas for an Alternative Monetary Future, June 23, 2016.
2. See Paul M. Warburg, *The Federal Reserve System: Its Origins and Growth*, Vol. 1, New York: Macmillan Company, 1930. The quotes cited here are on pages 22, 50, and 122, respectively.
3. See the *1914 Annual Report of the Federal Reserve Board*, pp. 7–8, which notes that "tested banking experience" should apply to the two "Federal Reserve agents" who were Class C directors.
4. The Federal Reserve required member banks to pay in their initial capital over time. Capital that was paid in exceeded $54 million in May 1915 and remained over this level through the rest of the year. In December 1915, capital paid in stood at $54,915,000. See *1915 Annual Report of the Federal Reserve Board*, p. 46.
5. See Benjamin Strong, "Address Made before Students of Graduate College," Harvard University, Cambridge, Mass., November 23, 1922.
6. See Gary Richardson and William Troost, "Monetary Intervention Mitigated Banking Panics during the Great Depression:

Quasi-Experimental Evidence from a Federal Reserve District Border, 1929–1933," *Journal of Political Economy*, December 2009, vol. 117, no. 6, pp. 1031–1073. A working paper version is available online.

7 Prior to the Banking Act of 1935, Reserve Banks had to receive approval from the Federal Reserve Board to change their discount rate, but the Board could not compel Reserve Banks to change their rate. The Board received that power from the Banking Act of 1935.

8 See Betty Joyce Nash, "The Changing Face of Monetary Policy," Federal Reserve Bank of Richmond *Region Focus*, Third Quarter 2010, vol. 14, no. 3, pp. 7–11.

9 See Daniel L. Thornton and David C. Wheelock, "Making Sense of Dissents: A History of FOMC Dissents," Federal Reserve Bank of St. Louis *Review*, Third Quarter 2014, vol. 96, no. 3, pp. 213–228.

10 See Allan H. Meltzer, "Origins of the Great Inflation," Federal Reserve Bank of St. Louis *Review*, March/April 2005, vol. 87, no. 2, part 2, pp. 145–175.

11 See 18 U.S. Code § 208. This change in the 1977 Act specifically brought Fed employees, officers, and directors within the scope of the existing federal conflicts-of-interest statute, which had previously applied only to federal employees.

12 The New York Fed applied for and received a waiver from the Board in January 2009 to allow Friedman (a Class C director) to stay on the Reserve Bank board after Goldman Sachs was converted to a bank holding company in fall 2008. Because he owned Goldman stock at the time and bought more shares during the crisis, Fed rules would otherwise have required him to step down. The waiver brought him into compliance, but Friedman stepped down from the New York Fed in spring 2009 anyway. Scott Alvarez, general counsel to the Fed Board of Governors, told the *Wall Street Journal* at the time that Friedman was needed during the New York Fed's transition and that the conversion of Goldman into a bank holding company was "outside his control." See Kate Kelly and Jon Hilsenrath, "New York Fed Chairman's Ties to Goldman Raise Questions," *Wall Street Journal*, May 4, 2009.

13 See Timothy F. Geithner, *Stress Test: Reflections on Financial Crises*, New York: Crown Publishers, 2014, pp. 88–89.

14 See Board of Governors of the Federal Reserve System, "Report to the Congress on the Office of Minority and Women Inclusion," March 2016, p. 4.

15 Hearing on the Semiannual Monetary Policy Report to the Congress, 114th Cong. (2016) (testimony of Janet Yellen, Chair of the Federal Reserve System Board of Governors).

16 See Ben S. Bernanke, "Monetary Policy and Inequality," Blog posting, Brookings Institution, June 1, 2015.