

**Global Interdependence and Central Banking**  
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Thank you very much. Because of my deep respect for the ideals and mission of the Global Interdependence Center, I am honored and humbled to receive the Global Citizen Award. Like virtually all economists, the considerable benefits of the open international exchange of goods, services, ideas and people are to me self-evident. So the mission of the GIC — “to improve cooperation and understanding among nations, with the goal of reducing international conflicts and improving worldwide living standards” — is one that I support with enthusiasm.

I have my own historic link to the GIC as well. From 1977 to 1979, and then again in 1980, I worked at Wharton Econometric Forecasting Associates — better known as “WEFA” — under Professor Lawrence Klein, who passed away just a fortnight ago. Professor Klein, besides being a Nobel laureate and an econometric pioneer, was an early GIC leader and most recently its vice chair emeritus. I knew him as a dedicated researcher with an utterly amazing command of macroeconomic facts. I recall seeing him walk to a podium with a small scrap of paper on which he had jotted three or four numbers from that day’s statistical releases and talk authoritatively for an hour straight about the economic outlook for each of the major industrial countries. But I also knew him as a soft-spoken and humble man. For example, when I knew him at WEFA he drove a Dodge Dart.

There is a deeper connection as well, though, which I would like to explore with you today. Global interdependence is essential to understanding the institution at which I have made my career, the Federal Reserve. When the Federal Reserve Act was signed, 100 years ago this December 23, the continued operation of the classical gold standard was presumed, and our institution was designed around the need to sustain it. Less well-known is the extent to which competition for the business of international trade finance played a role in the passage of the Federal Reserve Act and some of the most noteworthy institutional features of the Fed as well. And during pivotal episodes in the history of the Fed, international monetary considerations played a decisive role in shaping decisions and events. More recently, the U.S. financial crisis of 2007–08 and the events leading up to it cannot be understood completely without an appreciation of financial institutions and economic policy abroad. So I think it’s fair to say that one can’t tell the full story of the Federal Reserve without an international perspective. I also can’t tell the story without the usual Fed disclaimer, namely, that the views I express are my own and not necessarily those of my colleagues in the Federal Reserve System.

## **The Gold Standard**

The international dimensions of central banking have long been recognized by specialists, but they get less attention in popular media coverage than they deserve. At the founding of the Fed, the international considerations were two-fold.<sup>1</sup> First was the fact that when the Fed was founded, the U.S. adhered to the gold standard. The governments of participating countries stood ready to convert their (paper) currency into gold at a fixed rate. Under this system, the long-run stability of the purchasing power of money would be assured as long as the U.S. and other countries adhered to the “rules of the game.” These rules required that countries allow gold flows arising out of balance of payments gaps to have the appropriate equilibrating effects on domestic economic conditions.

The Fed was envisioned as operating within and facilitating adherence to the gold standard. While price stability was an important goal of the founders of the Fed, one to which they expected the Fed to contribute, their focus in founding the Fed was something else entirely. It was to solve “the currency problem.” This is an unfamiliar term to modern ears, so it deserves a bit of explanation. Before the founding of the Fed, paper currency was supplied by national banks, but was subject to a collateral requirement that dated back to the Civil War; banks’ note issues had to be backed by holdings of U.S. government bonds. The aggregate supply of notes was widely described as “inelastic,” because expanding a bank’s note issue was often costly and cumbersome. At times, the public demand for notes rose as the public sought to convert bank deposits into paper currency or gold. This typically occurred during the autumn harvest season and the holiday shopping season, as well as during so-called banking panics, when bank customers sought to pull deposits out of banks.

The inelasticity of the physical supply of bank notes meant that other adjustments had to take place instead. Interest rates tended to be higher in the fall and winter, for example, and tended to spike during panics when the banking system scrambled for currency. Significant inflows of gold from abroad occurred at such times as well. Imperfections in the U.S. banking system caused domestic money demand shocks to be transmitted throughout international financial markets.

Another adaptation to the regulatory constraints on note supply was payment suspensions. Banks would at times prevent depositors from withdrawing their entire account. At times, all the banks in a clearinghouse would suspend withdrawals but allow transfers between clearinghouse banks. Suspensions were a disruptive and dysfunctional feature of the pre-Fed banking system.

Thus the preamble of the Federal Reserve Act lists as one of its purposes “to furnish an elastic currency.” The ultimate objective can be thought of as keeping the defective legislative framework around U.S. banking from damaging domestic and international markets.

## **International Considerations at the Founding of the Fed**

There were broader international considerations at work in the founding of the Fed than simply the operation of the gold standard, however. Following the Panic of 1907, an influential group of New York bankers was instrumental in the campaign for the creation of a central bank in the

U.S.<sup>2</sup> This group included Benjamin Strong, an associate of J.P. Morgan and later the first head of the Federal Reserve Bank of New York, and Paul Warburg, the German-born financier at Kuhn Loeb. They broadly shared an “internationalist” view that America had emerged as a world power and should play an expanded international diplomatic and economic role.<sup>3</sup> Creating a central bank was integral to promoting the U.S. role in the world economy.

Europe, for this group, provided the natural institutional models for a central bank. Many of these bankers were very familiar with the central banks of Europe, particularly Warburg, whose family was active in finance there. In a number of European countries, the central bank issued their own notes and accepted deposits from banks, which enabled them to rapidly expand or contract the supply of notes in response to fluctuations in demand. Liabilities were at least partly backed by holdings of gold, either in the form of coins or bullion. The Federal Reserve Act included a 40 percent gold cover requirement so 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.

While these New York bankers were eager to solve the “currency problem,” a second critical motivation for the founding of the Fed was a desire for New York to supplant London as a center of trade finance. One provision of the Act allowed national banks for the first time to issue “bankers’ acceptances” — a type of commercial paper (three- to six-months maturity) that arose out of the financing of international trade flows. Typically these were the short-term obligations of an importer that were endorsed by the importer’s bank. The bank could then “discount” or sell the obligation to third parties. Prior to the Federal Reserve Act, banks in the U.S. generally were not allowed to endorse such obligations, so markets in such instruments were virtually nonexistent. Importers in the U.S. typically issued such bills through a European bank, even when the import was from Latin America and did not involve Europe.<sup>4</sup> Creating a New York market in bankers’ acceptances helped promote U.S. trade with the rest of the world, and bring a lucrative business to the New York banks.

European central banks at the time, such as the Bank of England, bought or lent against such instruments, a process called “rediscounting.” That provided a backstop of support that was thought essential to the liquidity of a market for acceptances. Indeed, according to Warburg: “The central bank system and the discount system cannot be separated; they are absolutely interdependent.”<sup>5</sup> Another purpose of the Federal Reserve Act, therefore, was “to afford means of rediscounting commercial paper.” The Reserve Banks were authorized to rediscount a variety of commercial paper, as long as it wasn’t backed by stocks or bonds. They were also authorized to make outright purchases of bankers’ acceptances.

World War I did a great deal to reorder the international financial system. But among those changes was a significant shift in the bankers’ acceptance market to New York City. By the 1920s, thanks in part to the active encouragement and support of the New York Fed under Strong, the New York acceptance market had grown significantly.

## Critical Episodes in Fed History

The demise of the gold standard played a pivotal role at the beginning of the Great Depression, arguably the most critical episode in the Fed's history. Strong had passed away, and without him, policymakers struggled with conflicting signals from domestic stabilization needs and gold standard precepts, which impeded interest rate reductions that might have stemmed the fall in the money supply and the catastrophic deflation that raised real rates.<sup>6</sup> Barry Eichengreen, a leading scholar of the interwar international monetary arrangements, argues that the gold standard broke down because its success required credibility and cooperation, both of which were in short supply as the 1920s wore on, because of domestic political developments.<sup>7</sup> Countries left the gold standard in succession as they found its defense intolerably costly.

The result was misdirected Fed policy that contributed to declines of nearly 30 percent in the money supply and the overall price level from 1929 to 1933. This resulted in a broad shock to borrowers' ability to repay, which weakened many banks and led depositors to withdraw their funds. The resulting runs led to waves of bank failures, which further exacerbated the contraction.

While current research suggests that other aspects of government policy also may have played significant roles in the depth and length of the Great Depression, monetary instability was clearly consequential and clearly the fault of the Federal Reserve. As a Fed governor in 2002, current Fed Chairman Ben Bernanke famously acknowledged and apologized for the Fed's role in the Great Depression.<sup>8</sup>

International considerations also played a role in what is arguably the second most critical episode in the Fed's history: the Great Inflation that occurred from the late 1960s through the early 1980s. International monetary arrangements were reconstructed at the end of World War II under the Bretton Woods gold-exchange system. Currency values were fixed relative to gold, but with intermittent discretionary changes in parities. Tension again arose between domestic adjustment and defending a given parity. Political pressures on the Federal Reserve in the late 1960s and early 1970s impeded actions that would have prevented the rise in inflation.<sup>9</sup> Rather than make the requisite adjustments in the exchange value of the dollar, in 1971, the Nixon administration simply abandoned convertibility of the dollar into gold. Bretton Woods collapsed soon thereafter.

Central banks around the globe were forced to adapt to a world of fiat monies, in which price stability rests ultimately on the credibility of government commitments to keeping inflation low. Tough actions were required to bring inflation back under control, but important lessons were learned. In particular, a measure of central bank independence proved invaluable in the fight against inflation. Institutional arrangements that helped insulate the central bank's setting of the policy rate from partisan electoral pressures while clarifying accountability for macroeconomic performance, allowed the central bank to focus on longer-run objectives.

## **The Recent Crisis**

The recent crisis has given rise to serious questions about central bank independence, however. What's important for stabilizing inflation is the central bank's ability to independently control its monetary liabilities. But that independence comes with discretion over the central bank's asset portfolio as well. Unless prevented by legal restrictions, the central bank's balance sheet can be used to fund lending interventions. Such intervention constitutes fiscal policy, in the sense that, holding the central bank's liabilities constant, funding comes from the sale of securities, such as government debt, to the public. To the extent that lending operations are viewed as rescuing the creditors of large financial institutions, the central bank risks becoming embroiled in distributional political disputes. And to the extent that expectations of such rescue operations distort incentives and encourage fragile financing arrangements, the central bank can be accused of having contributed to the "too big to fail" problem.

The dilemma posed by a central bank's asset portfolio plays out differently in different settings. The European Central Bank, for example, can face the politically awkward situation of having to weigh in on the relative value of the sovereign debt of different euro member states.

International considerations were critical in the crisis of 2007–08. The first special lending program introduced by the Federal Reserve — the Term Auction Facility — was dominated by foreign financial institutions. The TAF, introduced in December 2007, auctioned term credit from the Reserve Banks' discount windows. Foreign institutions held large dollar-denominated positions in illiquid assets, such as mortgage-backed securities, that they had trouble funding. Banks in the U.S. had access to borrowing from the Federal Home Loan Banks and made major use of that source of funds when credit risk premiums rose in the third quarter of 2007.

More broadly, the subprime mortgage risk that was at the heart of the crisis was held disproportionately by foreign investors and foreign financial institutions, along with Fannie Mae and Freddie Mac, the U.S. housing intermediaries. The foreign financial institutions involved were arguably affected by the incentive distortions that accompany perceived public sector support. Incompletely contained moral hazard in one country can infect and distort financial markets around the globe. For some time, central banks have been heavily involved in the international negotiations aimed at leveling the regulatory playing field across countries. Post-crisis efforts to construct more robust and sustainable financial regulatory regimes have been mediated through several international forums that bring together central banks as well as the relevant national regulators. Finding a balanced approach to financial stability will be challenging.

## **Conclusion**

This has been a brief "helicopter tour" of a century of U.S. central banking, one that's covered too much territory to be able to examine any of the terrain in depth. I've tried to highlight the ways in which international considerations were not just another part of the story, but were integral to the entire narrative. I hope it illustrates the ways in which awareness of global interdependence is essential for understanding the 100 year history of the Federal Reserve.

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<sup>1</sup> For a companion account focusing on the reasons behind the founding of the Fed, 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.

<sup>2</sup> See J. Lawrence Broz, "The International Origins of the Federal Reserve System," Ithaca, NY: Cornell University Press, 1997.

<sup>3</sup> See Priscilla Roberts, "Quis Custodiet Ipsos Custodes? The Federal Reserve System's Founding Fathers and Allied Finances in the First World War," *Business History Review*, Winter 1998, vol. 72, no. 4, pp. 585-620; Roberts, "[Benjamin Strong, the Federal Reserve, and Limits to Interwar American Nationalism, Part I: Intellectual Profile of a Central Banker](#)," *Federal Reserve Bank of Richmond Economic Quarterly*, Spring 2000, vol. 86, no. 2, pp. 61-76; and Roberts, "[Benjamin Strong, the Federal Reserve, and Limits to Interwar American Nationalism, Part II: Strong and the Federal Reserve System in the 1920s](#)," *Federal Reserve Bank of Richmond Economic Quarterly*, Spring 2000, vol. 86, no. 2, pp. 77-98.

<sup>4</sup> See Paul M. Warburg, "[The Discount System in Europe](#)," National Monetary Commission, Washington, DC: Government Printing Office, 1910.

<sup>5</sup> Warburg, 1910, p. 31.

<sup>6</sup> See Milton Friedman and Anna J. Schwartz, "A Monetary History of the United States, 1867-1960," Princeton, NJ: Princeton University Press, 1963; and Barry Eichengreen, "Golden Fetters: The Gold Standard and the Great Depression, 1919-1939," New York: Oxford University Press, 1992.

<sup>7</sup> Eichengreen, 1992.

<sup>8</sup> Ben S. Bernanke, "[On Milton Friedman's Ninetieth Birthday](#)," Remarks at the Conference to Honor Milton Friedman, University of Chicago, Chicago, IL, November 8, 2002.

<sup>9</sup> See Robert L. Hetzel, "The Monetary Policy of the Federal Reserve: A History," New York: Cambridge University Press, 2008.