Lessons from the Early History of the Federal Reserve

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We meet in Germany a little more than one year after the start of a new monetary institution, modeled in part as a federal system like the Federal Reserve with policy operations like those of the Bundesbank. For the past five years, one of my main occupations has been the early history of the Federal Reserve. I have looked in detail at its voluminous records of its formative years. My talk today is a brief summary of some of the things I have learned.

All of us know the Federal Reserve as one of the most prestigious institutions in Washington, a pillar of strength and a symbol of stability. Robert Reich, who served in the first Clinton cabinet, cites the Federal Reserve as the most powerful institution in Washington. The Federal Reserve Chairman is often described as the second most important government official, surely outranking the Vice President of the United States in prestige if not in protocol. No one cares where the Secretary of State sits when the President gives the State of the Union address, but when the Chairman of the Federal Reserve sat next to the President's wife, there was much speculation about the apparent meaning.

It was not always so. I expect few people anywhere can identify Charles Hamlin, Daniel Crissinger, Roy Young, or Eugene Meyer or say what they have in common. They were all predecessors of Alan Greenspan as heads of the Federal Reserve.

Founding Principles

The Federal Reserve is 86 years old. For much of its early history it was not a central bank. If the Republicans had won the 1912 election, we probably would have had a central bank, but the Democrats won. Woodrow Wilson became President on a populist platform that opposed the money trust and Wall Street dominance of money matters. Representative Carter Glass of

Virginia became Chairman of the House Banking Committee. Glass was eager to remind people, for the next 20 or 25 years, that he wrote the Federal Reserve Act. He should not have been so proud. What he delivered was a strange hybrid, a mixture of private and public management operating with very unclear lines of authority, and with very little centralization. Each of the 12 Reserve banks was expected to be semi-autonomous, setting its own discount rate and free to decide whether it wished to participate in System policies.

President Wilson believed strongly in what we would call central bank independence. He avoided contact with Board members. This tradition lasted until the 1930s. Except in wartime, or immediately after World War I, Treasury Secretaries left decisions to the Board and the Reserve banks. One of the anomalies of the early years is that Presidents and their Treasury officials allowed more independence in the years before 1936 when the Treasury Secretary was ex officio a member of the Board. Perhaps the low point in independence came in 1951 when the Federal Open Market Committee came to the President's office to discuss policy issues.

The system was initially guided by two main principles. One was the international gold standard. The other was the commercial lending principles of the Bank of England. The latter is known as the real bills doctrine. Gold standard rules were to govern the quantity of money and credit. The real bills doctrine controlled the quality of credit and, in the minds of the founders (and many others), prevented the financing of speculative credit. The Federal Reserve was to discount only real bills--credits arising from production, inventory financing and, of particular importance for many of the founders, the financing of international trade.

So great was the transformation of the U.S. economy in the 20th century that we have to recall that, when the Federal Reserve started in 1913 and for many years after, the United States exported mainly agricultural crops and minerals. One of the reasons for founding the Federal Reserve was to finance these exports with credit supplied by U.S. banks, instead of London banks. The founders believed that, by discounting commercial paper and bills of exchange, the new system would facilitate the development of a bill market rivaling London's. Although they tried for many years to create a bill market, the market remained small. New York became the world's largest financial market, but London continued to provide much export finance in the 1920s. Perhaps there is a lesson to be learned by any Frankfurt banker who dreams that the founding of the European Central Bank would create a Frankfurt market rivaling London.

By the time the Federal Reserve began operations---almost a year after the act was passed---World War I had started. The international gold standard ceased to function and was never fully restored. The first principle had very little influence over what the Fed did subsequently.

The second principle lasted a bit longer, but it did not survive unchanged from the postwar depression of 1920-21. The Federal Reserve produced a steep post-war inflation followed by an even faster deflation. Prices fell 40% or more in a few months. This produced distress in large sections of the country, particularly the agricultural regions. One of the many people who went bankrupt was a Kansas City merchant named Harry Truman. This became important because, as President, Truman had to decide what to do 25 or 30 years later when faced with the post World War II system of pegged interest rates on long-term bonds.

The failure of the two original, operating principles was recognized both internally and externally. Something had to be done. The original act gave the Federal Reserve a 20-year life. The first 8 years had produced an economic debacle and a political disaster. The farmers and ranchers believed that in 1920-21 the Federal Reserve had done just what they most feared: squeezed the agricultural and small commercial interests hard by raising interest rates for the benefit of bankers and Wall Street.

First Lessons

Those familiar with U.S. history may recall that the gold standard was not universally admired, certainly not in rural America. More than once the Democratic Party had adopted an anti-gold standard platform in presidential elections. Farmers and ranchers recalled the deflation from the 1870s to the 1890s needed to restore the U.S. gold standard at the pre-Civil War gold price. The deflation became more severe because it coincided with efforts by several other countries to acquire gold reserves and join the standard. The increased demand for gold required a decline in the price of commodities relative to gold.

Severe deflation in 1920-21 and relatively high nominal interest rates, particularly in the south and west, made real interest rates exceptionally high. Although central bankers did not distinguish real and nominal interest rates then, as for several decades thereafter, high real interest rates caused numerous bankruptcies. Farmers had borrowed to buy land during the war

and the postwar inflation. High real interest rates, and falling agricultural prices, made the debts unbearable.

Textbooks often say that the Federal Reserve learned that classical central banking, based on changes in the discount rate, failed in 1920-21. This is, at best, a half-truth. The missing part is the political effect of a 7% discount rate, and higher marginal discount rates for large borrowers. An important consequence was that the Federal Reserve Board hesitated to raise the discount rate and other interest rates at the end of the decade when the economy and the stock market boomed. (Does this seem familiar?)

The Federal Reserve took no expansive action during the steep 1920-21 recession and deflation. Nominal and real interest rates were higher at the trough of the recession than at the previous peak. Fiscal actions did not expand aggregate demand. How, then, did the economy recover? Why did the recession end?

One of the interesting findings from this early history helps to answer that question. Falling prices raised real interest rates, but they also raised real money balances in two ways. First, the same nominal money stock became a larger real money stock. Second, the U.S. was on the gold standard. U.S. prices fell relative to prices abroad. France had high inflation, and Germany was starting its hyperinflation. Gold flowed to the U.S., raising the nominal stock of base money.

The familiar real balance effect is a small part of the story. A rising real money stock (and relatively high nominal interest rate) reduces the amount of money the public wants to hold, but it also changes the relative prices of newly produced output relative to the prices of existing assets. If asset prices rise relative to the prices of new production, wealthowners invest in new production, thereby increasing aggregate demand. Further, the dynamic effect of rising real balances increases spending as wealthowners attempt to reduce real balances. These processes worked to end the recession of 1920-21, and they worked again in the U.S. recessions of 1937-38 and 1948-49, two other recessions in which prices fell.

To avoid reliance on the discount rate and deflation, the Federal Reserve developed a new set of operating procedures and learned to be more responsive to the economy. The years from 1923 to 1929 are the best period in Federal Reserve history until recently. Output grew rapidly. Prices were stable, and the stock market boomed. There were two recessions during

these years, but they didn't last long. In 1927 Congress forgot about the bad start and rewarded the Fed's improved performance by granting a permanent charter.

The 1920s

The Federal Reserve had two main challenges during the 1920s. Highest priority went to economic growth and price stability. Then, as now, there were bills in Congress to charge the Fed with responsibility for maintaining stable prices. The Fed always opposed these proposals, and they were not adopted. One of the main reasons for opposing the stable price requirement was a belief in the stabilizing properties of the gold standard, a belief that was shared by many people in the banking business and academic communities. The gold standard of the 1920s proved a poor substitute for a stable price mandate. A requirement to keep prices stable, if observed, would have avoided the two worst economic calamities of this century--the great depression and the great inflation. The Federal Reserve vigorously opposed congressional efforts to make price stability the principal policy goal.

Irving Fisher was the leading advocate of price stability as a goal. Fisher had developed his "compensated dollar," a plan to keep prices stable by adjusting the gold content of the dollar to offset fluctuations in commodity prices. Congress considered Fisher's proposal in 1922 and less precise proposals in 1926 and 1928. None of the bills became law.

The second main objective of the 1920s was to restore the international gold standard. Germany stabilized after its hyperinflation. This action put political and economic pressure on France to stabilize also. By 1928, most of the European countries and many others had gone back to some type of gold standard. Then, as now, capital moved relatively freely from one country to another.

If the clock could be stopped in July 1929, the Federal Reserve's record would look great. Industrial production rose more than 10% in 1929, with no sign of inflation. Most of the world was on the gold standard. Unfortunately, the six fat years were followed by ten extremely lean years. The international gold standard, that the central banks had worked so hard to establish, broke down. While no one blames the Federal Reserve entirely for the start of the great depression, there is general agreement that the Federal Reserve made the depression deeper and longer than it had to be. Large parts of the banking and financial system failed. There was no

deposit insurance, so the losses were borne by depositors and, when the banks failed, by their shareholders. There was no unemployment insurance, so the unemployed had to fend for themselves. In the winter of 1933, 25% of the U.S. labor force was unemployed. (Think of Eastern Germany without welfare state programs for the unemployed).

Why did the 1920s expansion end in the great depression? There is no single reason, but there are some intriguing parts of an answer. One reason may be relevant for European monetary union: the attempt to reconcile price and exchange rate stability failed. As in the 1960s, France regarded its position as unsatisfactory because its reserves were mainly in dollars and British pounds, while Britain and the United States held reserves in gold. As is well known, France went back on the gold standard in 1927 at an undervalued exchange rate and drew gold from other gold standard countries, Britain and Germany in particular. This policy imposed a deflation on the rest of the world. It sterilized much of the gold inflow by substituting gold for foreign exchange in its reserves. The policy produced mild deflation in France, instead of the inflation called for under gold standard rules.

U.S. policy was no better. The Federal Reserve refused to follow gold standard rules if they required inflation. Instead of letting gold inflows raise prices, it, too, followed deflationary policies. The Treasury ran budget surpluses equal to about 20% of tax revenues. The Federal Reserve ran a tight monetary policy. U.S. policy tried to achieve two incompatible objectives: a stable price level and stable exchange rates. It failed on both counts.

French and U.S. policy misjudgments and failures to inflate are only part of a fascinating episode in monetary history. Another major part is the stock market and economic boom in the second half of that decade. The Federal Reserve believed the 1920s stock market boom was inflationary. (This sounds too much like current Federal Reserve statements for comfort.) Unlike the 1990s, their reasoning reflected the strong hold of the real bills doctrine.

As many central bankers, bankers, and economists saw the problem, productive credit---discounting real bills that financed trade and production---could not cause inflation. Inflation was caused by the financing of speculative credit--the stock market, government bonds, and real estate mortgages are examples. These assets are not self-liquidating in the short-term. Wars financed by debt are inflationary, under this doctrine, because credit expands without any change in production. Notice that it is not the increase in money that matters; it is the increase in credit not matched by an increase in output.

The U.S. stock market boom in 1928 and 1929 seemed to fit this description. Most remarkable for me is the intense concern about inflation with the U.S. price level falling modestly, but falling nonetheless. The real bills proponents at the Federal Reserve knew that the price level was falling, but they did not believe that inflation was a problem of prices and money; it was the use of credit for speculative purposes that mattered most. This was evidence of future inflation.

All Federal Reserve officials did not share this view, but most did. The main exceptions were at the New York Reserve bank. Benjamin Strong, the New York Governor, one of his deputies, W. Randolph Burgess, and a few others had recognized earlier that (1) they had no way to control the composition of credit, and (2) the composition of credit was less important than its volume. Unfortunately, they measured monetary ease or restraint by the volume of member bank borrowing. They interpreted large borrowing as easy, low borrowing as restrictive. Borrowing adds to reserves so, on this set of beliefs, higher reserves resulting from increased borrowing is evidence of monetary restriction.

Note the peculiar reasoning. Increased borrowing, cet. par., increases the monetary base; repayment of borrowing lowers the monetary base. The officials, at the time, ignored the monetary base. Monetary base growth showed no evidence of inflation. On New York's interpretation of borrowing, monetary conditions were easy; using growth of the base, policy was tight. The decline in the base was mainly the result of open market sales by the Reserve banks, supplemented by a loss of gold during a few months of 1928.

There was intense controversy within the Federal Reserve System. Real bills proponents wanted banks to restrict speculative credit for the stock market, but they opposed an increase in the discount rate because that would reduce productive credit. Perhaps in their minds, also, was the political controversy set off by the discount rate increases in 1920-21. They did not want to repeat that experience or to arouse the populists in the Congress and the country.

On the other side were those who wanted a higher discount rate to reduce bank borrowing at the Reserve banks. We would regard that as a more restrictive policy, a policy that would lead to further deflation.

The correct policy under gold standard rules was to reduce the discount rate so that money and credit would expand as gold flowed in, especially in 1927, 1929, and after.

There are two additional surprises about policy in this period. First, no one in authority proposed allowing gold inflows to increase prices, as required under gold standard rules. Second, no one distinguished between real and nominal rates, an important distinction with prices falling. Even when prices fell by 10% a year or more in the early 1930s, no one mentioned the effect on real rates. Irving Fisher was alive and active at the time, but I have not found that he insisted that real rates were high. Later, he urged reflation, particularly in the 1930s, to restore the price level to its previous level.

The rest of the history of this period is, I think, well known. The Federal Reserve raised the discount rate in August 1929, the very month that the National Bureau of Economic Research calls the peak of the expansion. Germany and the U.K. were in recession, a consequence of their own deflationary policy under gold standard rules. This was the start of the Great Depression.

The Great Depression did not break the intellectual hold of the real bills doctrine. I will recount two anecdotes to show how doctrine affected policy.

The first occurred during one of the few attempts to expand growth of money and credit. Several of the Reserve bank Governors opposed. One explained that an expansive policy not backed by real bills would increase credit when business did not need it and would require a reversal when they did. This was only true on real bills logic.

The second event was an attempt by Irving Fisher, in 1930, to convince Governor Eugene Meyer of the Federal Reserve Board to expand money. Fisher told Meyer that demand deposits had fallen. Meyer asked: What are they? He was so uninformed about money, he did not know the principal monetary aggregates.

Reconstructing the System

One result of the great depression was new legislation that centralized power in Washington. Congress, in effect, blamed the dispersion of authority and responsibility, deliberately built into the Federal Reserve Act, for the failures in the early 1930s. Carter Glass, now a Senator, blamed New York, particularly the policies of Benjamin Strong. Strong had pushed through a policy of lower interest rates in 1927 to help Britain remain on the gold standard. The policy did not have a real bills basis, so Glass and others blamed Strong for creating an excess supply of credit that created the stock market boom.

The Federal Reserve's second set of operating procedures had produced an even greater debacle than the first. The principal reasons for this second debacle lay in the principles that guided its policy and the failure to distinguish real and nominal interest rates. This was not the interpretation at the time. Instead, the Board in Washington acquired its dominant role in monetary management that we know today.

For the next 12 years, 1930-51, the Federal Reserve did very little. During the middle 1930s and1940s, the Board spent many of its meetings deciding how the Treasury should sell government bonds. During World War II, the System was under the thumb of the Treasury.

The main exception to the Fed's passivity in these years were decisions in 1936 and 1937 to tighten money. This decision resulted in the relatively deep 1937-38 recession. That set back is one of two reasons that the economy had not recovered fully from the great depression at the start of World War II.

The second reason should be of interest in Western Europe today. President Roosevelt's New Deal never developed a consistent set of policies. In practice, many of its policies were redistributive, intended to help workers, farmers, and other sizeable groups. These policies raised real wages above productivity. The result was unemployment. For the entire period of the 1930s, the increase in unemployment equals the number of new entrants to the labor force.

The main monetary facts of the period from 1934 to 1936 are that the monetary base and the money stock grew rapidly. The main, almost the only, force for expansion was the inflow of gold following the decision to devalue the dollar by 59% in 1934. The U.S. offered to pay more than the world market price for gold, so it is not surprising that it accumulated more than half the world's supply of monetary gold. Fear of a European war increased the gold flow.

The Federal Reserve feared inflation. This time they meant rising prices. To prevent inflation, they doubled reserve requirement ratios in three steps over less than a year. In addition, the Treasury temporarily stopped the gold inflow from expanding money by sterilizing gold inflows. Fiscal policy played a role also. Congress chose an election year, 1936, to issue bonuses to World War I members of the armed forces. Bonus checks could be cashed and most of them were. With the end of the bonus payments, government spending declined, and the fiscal stance tightened.

The end of the recession followed the reversal of monetary and fiscal actions. Gold sterilization ended. Fiscal stimulus increased. The economy emerged from the 1937-38 recession.

Conclusion

This paper is given in Germany, so I conclude with some brief remarks about the relevance of early Federal Reserve history for the early experience of the European Central Bank. I believe the most important lessons concern the role of economists, economic theory, and organization.

First, consider the role that economists played. In the 1920s, most economists and central bankers accepted the real bills doctrine and the gold standard as the guiding principles of monetary policy. Although there is much less consensus now, recent academic literature once again rejects the idea that money growth has a central role as an indicator of future inflation. Irving Fisher insisted on the importance of money, but his views were dismissed. Policy officials regarded him as a crank.

Second, by the role of theory, I do not mean elaborate structural models. I mean something much more like the day-to-day thinking and analysis that guides policy decisions and the relatively transparent models that many economists use to analyze policy. The IS-LM model is an example.

The persistent theme of much recent research is that the inflation process is best summarized by a two equation dynamic model with a single short-term interest rate. The central bank sets the nominal interest rate, so the dynamic model solves for output and inflation. The supply side of the model is a type of Phillips curve; the demand side is a dynamic IS curve.

This model is useful for teaching some basic principles of macroeconomics. As a policy model, it is deficient in several ways; I will mention two. First, despite much ancient and modern monetary experience, there is no possibility of bank runs and currency or exchange-rate crises. There is no lender-of-last resort function in the model.

Second, there is no role for money. All that remains of the money-creation process is a demand for money function. With the interest rate fixed by the central bank and inflation and output determined by aggregate demand and aggregate supply, the stock of money is determined

by demand. To make this work, one must impose on the model that long-term rates are only an average of expected future short-rates. Either the economy is closed or interest parity holds internationally. Neither restriction has much empirical support in the short-term.

The risk is that this orthodoxy, if that is what it is, will obscure policymaker's vision just as its 1920s counterpart misled them in the 1920s and 1930s. The Federal Reserve's most serious policy mistakes--the great depression of the 1930s and the great inflation of the 1970s--would have been avoided if the Federal Reserve had followed the signals given by the sustained growth of the monetary base, negative in one case, excessively high in the other.

Third, the orthodoxies of the 1920s were the gold standard and the real bills doctrine. I have spoken about the mistakes caused by relying on the real bills doctrine. Let me say a few words about the gold standard or more generally about fixed exchange rates.

Although the theory of the gold standard was well known, important parts did not affect central bank behavior. Both the United States and France tried to achieve stable price levels and a fixed exchange rate. Neither recognized that monetary policy has a single instrument. In general, it can achieve either a price or inflation target or maintain an exchange rate, but not both.

Many have pressed the European Central Bank in its first year to strengthen its dollar exchange rate. Some have declared the ECB a failure because the exchange rate has depreciated. It would be a mistake to weaken the credibility of the ECB's low inflation policy. It would be a mistake, also, to remove the remaining monetary means of lowering some of the burdens imposed by over-extended welfare state policies.

Fourth, I highlighted the failure to distinguish between nominal and real interest rates. I doubt that mistake will be repeated. But policy discussions rarely distinguish between real and nominal exchange rates.

Organization of the Federal Reserve was based on two principles that proved unworkable. The first established twelve semi-independent regional banks. This problem was overcome, in part, through the organization of System committees, under the leadership of Benjamin Strong of the New York bank. But regional banks could refuse to participate in open market operations. And they did refuse at crucial times. In the early 1930s the Boston and Chicago Reserve banks refused to purchase securities or participate in expansive actions.

The second organizational issue may have greater importance for the ECB. The Federal Reserve Act did not settle the relation between government and the central bank. The Board in Washington had supervisory authority, but operating responsibilities remained in the twelve banks. The dividing line was not clear before the Banking Act of 1935.

The ECB has begun to work out its relation to political authorities, but more remains to be done. It has a clearer mandate--price stability. But no central bank can, or should, pursue price stability at any cost. Even in its first year, there have been conflicts over cost of maintaining or restoring price stability. The relation of the ECB to the political system now evolving in Europe is still too open to be permanent.

Let me close by expanding an earlier comment. Economics has become much more formal and technical. The central banker's problem remains little changed. Of course, there are many new institutions, much greater sophistication in financial markets, and a much better understanding of how the economy operates.

Yet, it still remains true that the most costly mistakes that the Federal Reserve has made would have been avoided if they had followed a monetary rule, (not necessarily a rule for constant growth) or some other rule for price stability. The world economy and the U.S. would have benefited if the Federal Reserve had prevented the money stock from undergoing sustained decline or faster growth than the long-term growth of real income. Greater analytic sophistication is valuable, but a simple proposition would have prevented the worst errors.