

## Excess Reserves, Then and Now

Lessons from the Great Depression can provide useful perspectives for judging the consequences of current monetary policy.

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After several years of comparative inactivity, bank lending for commercial and industrial (C&I) loans increased moderately in 2011. (See *Research Reports*, Oct. 3.) That positive trend may be accelerating. Reversing a long series of negative quarterly numbers since the onset of the crisis, C&I loans have increased in each quarter of 2011 and grew at an annual rate of 4.3 percent in Sept. 2011, the latest month for which data is available.

The monetary aggregates are also finally showing signs of life. From a recent low of \$8.47 trillion in Jan. 2010, M2 now stands at \$9.59 trillion, an increase of 13.2 percent. The 12-month increase is 10.2 percent, and the increase for the most recent three months is at an annualized rate of 20.4 percent.

(This rapid increase in M2, however, may be fueled in part by savers' transfers of funds from money market funds back into bank accounts. This allows people to take advantage of federal deposit insurance in light of the uncertainty that has emerged in response to the European debt crisis.)

Only time will tell if these rapid increases in the monetary aggregates are the harbingers of high inflation, as the Fed's excess reserves first leak

and then gush out into the banking system's mechanisms for the creation of money and credit.

The quantity theory of money holds that increases of Federal Reserve credit (expansion of its balance sheet and of the monetary base) lead inexorably to increases in spendable media of exchange held by the public.

Initially, this normally results in an increase in economic activity—real-sector stimulus. Unfortunately, with a long and variable lag (six to

18 months), it also leads to increases in the consumer price level. In other words: inflation.

If the quantity theorists are right, then the Fed should stop its monetary easing policies now, and proposals for a new round of quantitative easing should be considered utmost folly. It is reasonable to suspect that such a rationale underlay the dissents of three voting Federal Reserve Bank presidents at the last two Federal Open Market Committee (FOMC) meetings. Meanwhile, the existing policy of monetary ease continues on a 7-3 vote.

The Federal Reserve Board of Governors argues that the Fed's emergency actions in 2008-2009 and the subsequent federal fiscal stimulus were necessary for the recovery, but these points are uncertain. The Board also argues that the Fed's subsequent quantitative easing programs, adding nearly \$2 trillion to the Fed's balance sheet, were necessary for the degree of recovery thus far.

The Fed drove short-term market interest rates to nearly zero by Dec. 2008, a target range of 0 to 0.25 percent (annualized) for federal funds, and announced its intention to pay interest on both required and excess reserves in Oct. 2008.

Paying interest has the effect of encouraging banks to retain excess reserves, reserves held by banks over statutory requirements, at the Fed.

This is not the first time Fed policy has had this impact. An earlier instance was during the Great Depression. Comparison of that era with our own adds weight to the argument about the consequences of excess reserves.

Currently, the Fed's interest rate policy discourages banks from making loans at prevailing market rates—not a good thing for a recovery. On Oct. 13, the weighted

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average federal funds rate was only 0.07 percent (annualized), and for several weeks some reported trades have occurred daily at 0.01 percent. The lowest recent average rate was 0.06 percent on Sept. 30, at the end of a quarter of great market turmoil because of concern about Europe. These nominal interest rates effectively are zero, but real rates are below zero.

The impact of any Fed monetary stimulus has been reduced and possibly nearly eliminated by the payment of positive interest on excess reserves. As Professor Edward J. Kane of Boston College explained in a recent note:

“What is different about this experience is that the Fed is paying interest on these excess reserves. . . . What the Fed could do that it could not do before is to make that interest rate negative. Even a zero rate for excess reserves would be helpful. It would make lending more attractive to banks and put us back into the regime that monetarists have investigated in the past. A negative rate would break new ground. Excess reserves should pay less than the Fed funds rate to avoid subsidization. Excess reserves currently are more attractive than selling them as Fed funds because they can be rolled over at no cost and can be liquidated without waiting for a day to pass.”

The Fed has offered an interest rate of 0.25 percent for excess reserves since the inception of the program. Gerald Dwyer of the Federal Reserve Bank of Atlanta posted the following prophetic comment on the Bank’s website in Oct. 2009:

“Currently, banks receive a higher interest rate from holding excess reserves than from holding three-month Treasury bills. As long as the interest rates on reserves and risk-free assets are similar and banks’ demand for risk-free assets

does not decline, there is no obvious reason why excess reserves will decline.”

The market interest rate on three-month Treasury bills has been around 0.01 percent for several weeks at this writing and reached zero on Sept. 22 and Oct. 5. Even more surprising has been the market rate for four-week Treasury bills: The rate became negative (-0.01 percent) on several occasions lately and as recently as Sept. 29. Professor Kane’s observation and Mr. Dwyer’s prediction generally have been borne out.

During the Great Depression, the only prior occasion in Federal Reserve history when there were large and lasting amounts of excess reserves, excess reserves remained at or near zero through year-end 1931, never exceeding \$130 million or

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about 5 percent of total reserves.

Excess reserves exceeded \$150 million in April 1932, and never were reduced to an amount that could be considered normal until 1942. The two peak amounts of excess reserves were reached in the fourth quarters of 1935 and 1940. The Dec. 11, 1935, reporting date showed \$3.30 billion of excess reserves versus \$6.04 billion of total reserves, about 55 percent of the total. The same figures for Oct. 30, 1940, were \$6.93 billion of excess reserves, 49 percent of the total of \$14.18 billion.

The proportion of excess reserves remained above or near 40 percent of total reserves through most of 1941 and declined steadily throughout 1942.

The necessity of financing the U.S. war effort forced innovations in all standard banking system financing devices as well as those at

the Federal Reserve, the Reconstruction Finance Corporation, and the Treasury. This eventually eliminated the perceived problem of excess reserves. Monthly averages of excess reserves fell to \$2.33 billion in the third quarter of 1942, 19 percent of total reserves of \$12.23 billion, the lowest proportion since 1933. Afterward, excess reserves generally were not regarded as a monetary policy problem.

Research by Milton Friedman and Anna J. Schwartz, Allan Meltzer, and others over the years has documented amply the Fed’s expressions of concern for free or excess reserves during the 1930s.

The Fed frequently interpreted the presence of excess reserves as signals of potentially harmful monetary ease. Meltzer (2003) points out that the Fed’s dominant monetary policy model from the mid-1920s through the 1930s was aimed at requiring the banking system, especially in New York, to operate with little in excess reserves.

The model required banks to constantly need to borrow at least small amounts at the Federal Reserve banks’ discount windows to meet their reserve requirements. Friedman and Schwartz interpret the influence of this dominant policy model (known as the Riefler-Burgess model) consistently with Meltzer.

The Fed persistently interpreted excess reserves as a signal of insufficient policy tightness because banks’ borrowings were below the desired target.

The Board of Governors’ official publications of the 1930s paid attention to excess reserves, generally in the context of rationalizing the absence of a more active program of open-market purchases of Treasury securities or commercial bills of exchange. Excess reserves also created a rationale for increasing reserve requirements to reduce or eliminate them.

The most notable Fed policy action on reserves in the 1930s, also the one most frequently criticized in subsequent academic publications, was the increase of reserve requirements in 1936-37. The Board doubled reserve requirements, from 13 percent of demand deposits for banks in the principal financial centers to 26 percent, in three stages: Aug. 1936, March 1937, and May 1937. There were corresponding but smaller increases for banks in smaller reserve cities. The increase temporarily absorbed excess reserves, as the Fed intended.

Friedman and Schwartz and Meltzer identify the Treasury's changing policies regarding gold inflows from Europe as the driving factor in changes of excess reserve levels prior to the increased reserve requirements in 1936, as well as in the years afterward until World War II.

During these times, the Treasury sold securities holdings, withdrawing cash from the banking system, to prevent the gold inflows from expanding the money supply and the reserves of the banking system.

Excess reserves fell to \$1.71 billion, about 28 percent of total reserves of \$6.21 billion, on Sept. 16, 1936, and then rose until shortly after the second and third installment of the three reserve requirement increases were announced on Jan. 30, 1937 (\$2.19 billion excess vs. \$6.77 billion required, Feb. 17, 1937). Afterward, excess reserves fell to \$704 million (vs. \$6.64 billion required) on Aug. 4, 1937.

The 1937 decline of excess reserves accompanied a pronounced collapse of general U.S. economic activity, which until then had been recovering nicely from the low level of 1933. Meltzer notes that "real GNP fell 18 percent and industrial production 32 percent," with corresponding increases of unemployment from mid-1937 to mid-1938.

On April 16, 1938, the Board reduced the top reserve requirement by about one-eighth, from 26

to 22.75 percent for the banks in the major financial centers, with corresponding reductions elsewhere.

Meltzer interprets the April 1938 reduction of required reserves as the Fed's contribution to part of the White House economic recovery program of that spring, including a temporary halt to efforts designed to offset the impact of European gold inflows.

The April 1938 reduction of required reserves occurred even though excess reserves had been rising again for more than six months, to \$1.73 billion (23 percent of the \$7.47 billion required). There were no further sustained decreases in excess reserves until World War II.

The causes of the 1937-1938 recession are various. It probably overstates the case to call the Board's increase of reserve requirements the primary cause. Academic opinion generally holds that the increase was not helpful and worsened the atmospherics of the political and economic environment of the time.

In his summary of the recession-causing factors from other studies as well as his own, Meltzer identifies several government decisions other than Fed policy that contributed to the recession. These include:

- A reduction of World War I soldiers' bonus payments made the year before as a form of federal stimulus to the economy (in other words, the stimulus program ended)
- Passage of an undistributed profits tax (which had the perverse effect of taxing part of corporations' capital if it could not be invested or paid out as dividends fast enough. The tax was repealed effective in 1940)
- The beginning of collection of Social Security taxes (which the economy experienced as a new tax and not a replacement tax)
- A new round of anti-trust actions intended to hold down price increases
- The initial round of labor orga-

nizing and strikes under the new Wagner Act of 1935

- Administration rhetoric deemed hostile to business interests

The key conclusion drawn by most scholars of the 1930s is that Federal Reserve policy decisions occasionally were badly skewed by the continuing and usually growing presence of excess reserves in the banking system. The Board of Governor's public statements on the 1936-1937 reserve requirement increases express concern about the continued existence of excessive reserves as the driving factor in support for the increases.

One valid lesson from this study of the way the government handled excess reserves during the 1930s could be that we should ignore the presence of excess reserves in the banking system as a day-to-day guide to the Fed's monetary policy.

It was a misinterpretation of the presence of excess reserves that drove the 1930s Fed to refrain from expansionist monetary policies (such as purchasing Treasury securities or commercial bills of exchange in the open market) during periods of negative real interest rates not unlike the present. Just because the financial markets operated with a large quantity of excess reserves did not mean that credit conditions were easy in the real or non-financial economy, or that easy times on Wall Street equaled easy times on Main Street.

Today, a plausible argument can be made that the Fed recreated the 1930s problem of excess reserves by continuing to pursue policies of monetary ease once the excess appeared and clearly was not going away soon.

In retrospect, it is difficult to see how further expansion of the excess reserves pool by the quantitative easing programs in 2009-2011, once the initial round of emergency lending generally ceased in March 2009, assisted in the maintenance of sound economic conditions or helped lay

the basis for a sustained recovery. For now, tightening should only go as far as getting real interest rates out of negative territory.

Interest-earning excess reserves constitute an administrative problem for the Fed and are a drain on net federal income as long as the Fed pays interest on them. (The Fed's interest payments reduce its own income and, thus, the "interest on Federal Reserve notes" paid to the Treasury.) Real rates of return have to become positive for borrowers to identify projects for which they wish to borrow and for lenders to prefer to lend instead of receiving net positive interest payments for excess reserves held at the Fed.

On balance, it would be better for the Fed at least to take steps to discourage the further accumulation of excess reserves and to retire, say, at least 10 percent of them each year (by open-market sales of Treasury securities or, if feasible, government agency securities) for the next 10 years.

Sales of such comparably modest quantities (about \$160 billion a year at the current level) probably would be more than offset by net Fed purchases of Treasury securities for the foreseeable future. After all, the 1930s experience shows that it can take a long time to dispose of excess reserves.

Disposing of them would remove a temptation to inflate away the debt. It also would improve the quality of the Fed's responses to monetary policy developments by enabling the Fed to manage open-market purchases and sales in a positive nominal interest rates environment.

Positive interest rates, in the present environment, would provide relief to savers relying on interest income and might encourage some of the more entrepreneurial spirits in society to undertake new projects.

The recent decline of some market interest rates to zero and even below should be taken as an alarm bell for the Fed showing that current policies are not working. It is hard to make interest rates turn more positive in the face of a market overhang of \$1.6 trillion of excess reserves paying a positive rate of return in a stagnant economic environment.

It may turn out that there are no policies that could resist the depressive effects of external events beyond our control on the U.S. banking system, ranging from military engagements abroad to bank failure or sovereign debt default in Europe. But it would be a policy mistake not to begin now to try to offset the domestic economic drag of

excess reserves while awaiting more bad news from abroad.

In the 1930s, after all, it was gold flows prompted by political turmoil in Europe that helped create the Fed's policy conundrums of that era. The inflows increased overall bank reserves then and increased excess reserves, once the excess emerged. After the Treasury began to offset gold inflows, a policy that amounted to stop-go driven by political factors, excess reserves stabilized until the next round of Treasury responses, a cycle that repeated itself several times in the 1930s.

It is easy to imagine a general flight of foreign capital into the U.S. dollar, with a corresponding increase of U.S. bank deposits (and reserves!) today. This could come about if any number of events analogous to those of the 1930s occurred—for example, the European economic policy coordination falling apart, military or crime-driven actions abroad disrupting local economies, or China's investment bubble bursting. Any present-day analysis of excess reserves should weigh such possibilities.

But the wisest decision would be to gradually remove excess reserves. Their existence is a barrier to improving U.S. policy responses to global crises today.

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