

# The Fed's Rough Road

**QUESTION:** What's the biggest bank in the United States?



# Ahead

BY JAMES R. BARTH AND  
APANARD (PENNY) PRABHA

**It's NOT JPMorgan Chase, which topped \$2.4 trillion  
in assets at the end of the first quarter 2013...**

## FED'S ROUGH ROAD AHEAD

...It's the Federal Reserve, with \$3.3 trillion – which, by the way, also makes it the largest bank in the world.

No reason you should have known the answer, though, unless you're a financial markets junkie. After all, in June 2007 the Fed carried a mere \$900 billion on the asset side of the ledger. But over the next five years, the portfolio nearly quadrupled in size. Note the historically unprecedented initial jump in the figure below, followed by steady growth thereafter.

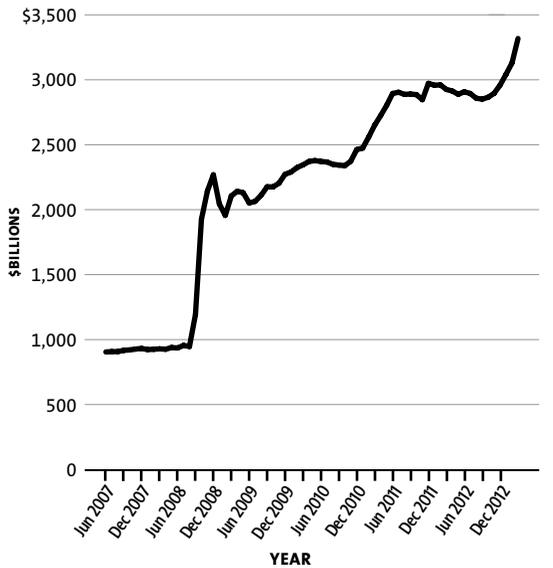
While the Federal Reserve's assets were ballooning, they were also changing drastically in composition. In June 2007, Treasury securities amounted to 88 percent of the total. But 10 months later, just 55 percent of the Fed's assets consisted of Treasuries. In the interim, the Fed purchased an astonishing \$1.1 trillion

in other securities.

The other side of the Fed's balance sheet was also changing in composition (and, of course, size). In June 2007, currency in circulation (\$810 billion) accounted for 90 percent of Fed total liabilities plus capital. By April 2013, currency in circulation had increased to \$1.2 trillion – people have a preference for greenbacks in hard times – but its share of Fed liabilities had declined to 36 percent. Thus, while currency substantially grew, so, too, did private bank reserves deposited at the Fed. Indeed, bank reserves increased from \$45 billion to a whopping \$1.9 trillion. Of these private bank deposits, reserves exceeding the legal minimum that banks are obliged to hold accounted for 5 percent of the total in June 2007; they had increased to 94 percent in April 2013. It was thus the tremendous increase in excess reserves during this period that supported the growth in total assets.

All of the changes were due to unconventional monetary policies applied in response to the financial crisis and the recession that followed. Here, we'll put these policies into historical perspective, offering an analysis of the Fed's motives. And we'll outline the Fed's rough road ahead as it confronts the problem of an "exit strategy" – finding a way to reverse course without risking further disruptions once the economy recovers.

### THE FED'S TOTAL ASSETS



JIM BARTH is a senior fellow at the Milken Institute and the Lowder Eminent Scholar in Finance at Auburn University. PENNY PRABHA is an economist at the Milken Institute.

### PAST AS PROLOGUE

When President Woodrow Wilson signed legislation creating the Fed in 1913, the primary goal was to guard against the depositors' runs that had episodically wreaked havoc on the banking system. When enough depositors lost confidence in the safety of their money and rushed to withdraw it, banks were forced to sell assets at fire-sale prices to raise cash. Such runs forced otherwise solvent but illiquid banks to close their doors, often triggering a

cascade of other bank defaults and generating systemic crises.

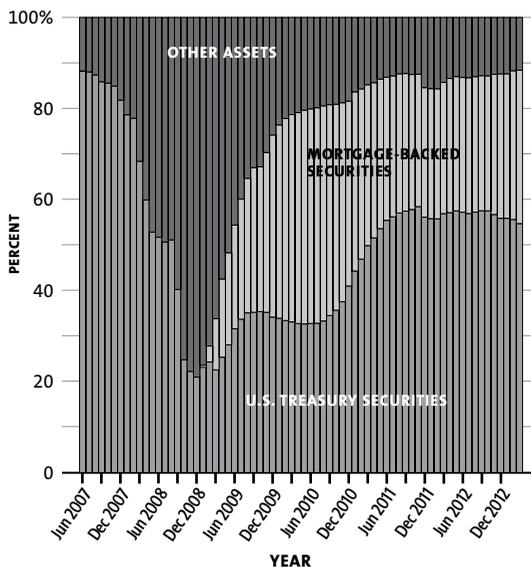
The Fed deterred contagious runs by standing ready to lend cash to solvent but illiquid banks – to maintain, in the language of the law that created America’s central bank, an “elastic” currency. Everything seemed to work fine until the collapse of the stock market in 1929-30. But when the calamity struck, the Fed largely viewed its role in the narrow terms of defending solvent banks against the need to sell illiquid assets in a hurry to meet the wishes of depositors. It failed to provide systemic liquidity through “open market” operations – that is, to expand the money supply and lower market interest rates by purchasing bonds with cash from anyone who wished to sell them.

Why the error? The Fed was apparently convinced that monetary policy was already quite easy since short-term nominal interest rates were already historically low. What the Fed missed, though, was that prices were falling across the economy, and that “real” interest rates – nominal rates minus expected inflation (which was negative) – were quite high. If the Fed had taken more aggressive action to increase the money supply as a means of combating deflation, real interest rates would have fallen and both individuals and businesses would have had greater incentive to borrow and invest.

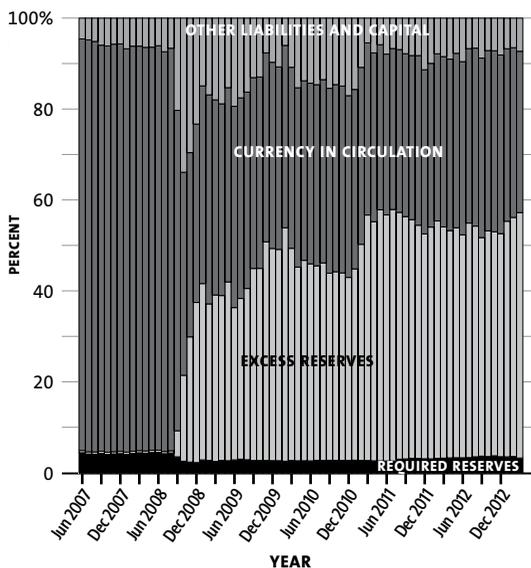
**NEVER AGAIN?**

After more than 80 years and too many studies to count, there is still no consensus on how to parcel out the blame for the depth and length of the Great Depression. But it is now widely agreed that the fact short-term nominal interest rates are hovering near zero is not an adequate excuse for the Fed to stand aloof when banks are in trouble and the economy is slumping. The Fed can (and should) purchase

**COMPOSITION OF THE FED’S ASSETS**



**COMPOSITION OF THE FED’S LIABILITIES**



**NOTE:** “Other assets” includes federal agency debt securities, repurchase agreements, loans and other credit extensions, gold and cash reserves and other assets. **SOURCE:** Federal Reserve

bonds on the open market as a way to ensure that the money supply grows sufficiently to contain deflationary pressures.



This provides some perspective on the actions taken by the Fed in response to the financial crisis that blossomed in the summer of 2007. By the end of that year, the economy had entered a recession – the most severe downturn since the Great Depression – which lasted until the summer of 2009. As the financial crisis worsened and the economy continued to deteriorate, the Fed undertook a series of initiatives, each less conventional than the previous one. First, beginning in August 2007, it cut the target “federal funds” rate (the rate

at which banks borrow money from one another overnight) from 5.25 percent to 4.25 percent by December of that year. In that latter month, the Fed also established the Term Auction Facility, which offered collateralized loans to banks at rates set by auction – what amounted to a more flexible form of open market operations. By year-end 2008, the funds auctioned through TAF totaled some \$450 billion. The last TAF auction of loans (with a one-month term) took place in March 2010, which left a zero balance in April.



The Fed didn't stop there in its efforts to maintain liquidity. In March 2008, it also made short-term collateralized loans available to top bond market players through a program called the Primary Dealer Credit Facility. All told, the PDCF lent \$37.4 billion, all of which was repaid by February 2010.

In September 2008, Lehman Brothers failed. This set off a chain reaction, as losses mounted on the short-term bonds that had been issued by Lehman. Money market funds were major investors in such commercial

paper. As a result, there was a run on these funds (which weren't insured by the federal government and had no routine way to borrow from the Fed) and a severe disruption in the commercial paper market.

The Fed responded by establishing the Commercial Paper Funding Facility in October 2008 to offer loans to commercial paper issuers. Also, since the market for securitized assets had virtually shut down in the crisis, the Fed created the Term Asset-Backed Securities Loan Facility in November 2008 to

## **FED'S ROUGH ROAD AHEAD**

allow institutional investors to borrow to finance purchases of the AAA-rated tranches of some classes of asset-backed securities.

Note that, with both programs, the Fed was breaking precedent in lending money directly to institutions outside the banking system. And it went further, providing direct financing to facilitate the acquisition of the investment bank Bear Stearns by JPMorgan Chase and to prevent the default of the giant insurer AIG. Collectively, these and other programs at

direct GSE debt and \$300 billion in longer-term Treasuries. As of March 2010, the total securities held outright by the Fed under QE1 amounted to \$2 trillion.

But despite the Fed's support of longer-term lending through QE1, the economy still grew sluggishly – far behind the pace recorded in other recoveries – and unemployment remained unacceptably high. At the same time, the inflation rate declined and deflation became a concern. So, once more unto the breach: a second round of quantitative

**When the Fed announced QE3, it made clear that the program would continue until unemployment fell to acceptable levels, unless inflation became a clear and present danger.**

their peak provided a total of \$1.6 trillion in credit and liquidity to financial institutions.

The beat went on. The Fed continued to cut its target for the federal funds rate in small increments, reaching zero-to-0.25 percent at the end of 2008. As a result, the Fed ran out of room to stimulate the economy further through reductions in short-term rates. But the Fed was determined to do more, and it initiated a series of new and novel programs. Hence, the first round of “quantitative easing” (QE1), under which it purchased massive quantities of illiquid securities with longer maturities – \$500 billion worth of mortgage-based securities backed by the government-sponsored housing finance enterprises (Fannie Mae, Freddie Mac and Ginnie Mae) plus \$100 billion of the direct obligations of Fannie Mae, Freddie Mac and the Federal Home Loan Banks.

In March 2009, this program was expanded to purchase an additional \$750 billion of mortgage securities backed by U.S. government agencies, another \$100 billion in

easing (QE2) was announced in November 2010. This involved the purchase of another \$600 billion of longer-term Treasury securities by the end of the second quarter of 2011, a pace of about \$75 billion per month. Then, from September 2011 to December 2012, the Fed extended the average maturity of its security holdings by purchasing Treasuries with remaining maturities of six years to 30 years – a program dubbed “Operation Twist.” Thus, by December 2012, the Fed held a total of \$2.7 trillion in securities acquired through QE1 and QE2.

In view of the extraordinary actions that were already being taken – and market uncertainty about what it would do next – the Fed had earlier decided to provide more information about its objectives. In January 2012, it announced a 2 percent inflation target and a target range for unemployment of 5.2-to-6.0 percent. (Subsequently, in March 2013, the Fed changed the latter to a maximum of 6.5 percent.) Unemployment was still above the target in September 2012, so the Fed an-

nounced yet a third round of quantitative easing. And it recommitted the central bank to the maturity-extension program. These actions combined are increasing the Federal Reserve's holdings of longer-term securities by about \$85 billion each month.

When the Fed announced QE3, it made clear that the program would continue until unemployment fell to acceptable levels, unless inflation became a clear and present danger. The total amount of assets to be purchased, therefore, was to depend upon how the labor market evolved. As of April 2013, the additional securities held outright by the Fed under QE3 amounted to \$338 billion, bringing the total Fed holdings of securities to \$3 trillion.

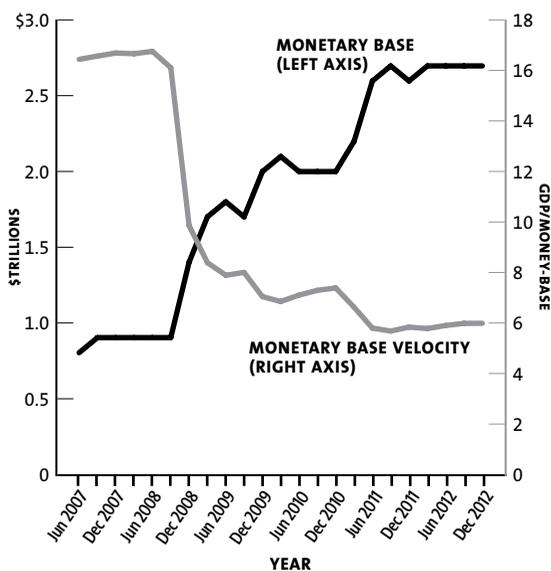
### FOLLOWING THE MONEY

Monetarists – who aren't in scarce supply these days – predicted that the massive purchase of securities by the Fed (and the equivalent expansion of money held by the private sector) would inevitably lead to inflation. That hasn't happened, however, for reasons made clear by an instant refresher in one aspect of macroeconomics.

Increasing the money supply through Fed open market operations works to increase the demand for goods and services by adding to the funds that banks have on hand to lend. But it still depends on the banks' willingness to make the loans – what Keynes dubbed the problem of “pushing on a string.” And thus far, private lenders aren't cooperating: most of the extra cash accrued by financial institutions is resting quietly as excess reserves in their accounts at the Fed. In more technical terms, the increase in the monetary base has been offset by a decline in the “velocity” of money.

The reserves held by banks, moreover, are no longer noninterest bearing, so the banks' enthusiasm for redirecting the money into

### MONETARY BASE AND VELOCITY OF MONEY



**NOTE:** The velocity of the US money base is calculated by dividing the nominal GDP by the money base.  
**SOURCES:** Federal Reserve Bank of St. Louis, U.S. Bureau of Labor Statistics and the Milken Institute

loans is reduced. The Fed began paying an interest rate of 0.25 percent on these reserves starting in October 2008 – with the objective, one assumes, of generating some income for banks when they were reeling from losses in mortgages, yet earning virtually no income on holdings of short-term Treasury securities. Although the rate paid on these reserves may seem low, most banks pay much less to their own depositors. This enables banks to hold a riskless asset that allows them to earn a positive net interest margin when funded with checking deposits.

Consider another wrinkle here. Thanks to quantitative easing operations, the Fed now owns \$3 trillion-plus in interest-bearing securities. It has to pay interest to its depositors – the aforementioned 0.25 percent owed to banks on reserves. But the average earnings on those assets far exceed 0.25 percent. And as a result, the Fed is earning a ton of interest

## **FED'S ROUGH ROAD AHEAD**

income, which it must transfer to the Treasury after deducting expenses. Thus in 2012, the Fed paid some \$89 billion to the Treasury, up from \$29 billion in 2006 (before anybody had ever dreamed of quantitative easing). Indeed, over the past four years the Fed has transferred \$291 billion to the Treasury.

In itself, that's no reason to continue the quantitative easing programs. But you can see how politicians seeking to plug budget deficits – not to mention banks happy to earn billions without risk from their Fed deposits – could get used to them.

### **UNTANGLING THE GORDIAN KNOT**

As employment and economic activity return to more normal levels, the Fed will certainly take actions to raise interest rates. Banks will presumably play their part in the recovery, reducing their excess reserves on deposit with the Fed and extending more credit to households and businesses. It is, of course, important that the Fed get the timing of its actions right here. If it moves too quickly to tighten credit and thereby contain inflationary pressures, it could choke off the recovery. If it moves too deliberately, it could fail to curtail a spike in inflation or an asset bubble. The problem for the Fed is that the strength of the economic recovery is unknown, and it must therefore rely on forecasts that could trigger inappropriate actions.

Admittedly, the timing will be difficult. But the Fed has long been forced to walk the tightrope between inflation and recession, and to stay on course despite less-than-certain crosswinds. Why do we expect the balancing act to be harder this time around?

For one thing, the Fed controls only nominal interest rates and not real rates, which depend on expectations about prices. And one could argue that inflation expectations are es-

pecially volatile right now. For another, years of very low nominal interest rates have led many households to move their savings into equities, helping to push stocks into record-high territory. A turnaround in nominal rates could lead to stock market declines that retard consumption – and thus the pace of recovery.

Then, there are the complications that will follow from the unwinding of the Fed's huge portfolio acquired through the quantitative easing initiatives. In past recoveries, only short-term Treasury securities were sold in open-market operations. This time, the Fed will presumably be selling off a heterogeneous portfolio, with a less predictable impact on both liquidity and relative asset values.

Note, too, that as the Fed unwinds its portfolio, the excess interest income that now ends up as revenues on the federal budget will fall. What's more, when the Fed sells assets, it will have to formally acknowledge losses from the acquisition price, which could be quite substantial on securities with long maturities. Neither the likely loss of income to the Treasury nor the paper losses to the Fed on security sales offers a good reason to defer action. But the retreat from quantitative easing will put the spotlight on the Fed in an era in which partisanship has invaded every aspect of America's governance.

The last and most important complication is that the Fed is entering a period in which its independence can no longer be taken for granted. In part, that follows from Washington's aforementioned extreme partisanship. But the problem is more fundamental. However justified by circumstances, the Fed's extraordinary forays into both quantitative easing and executive functions long left to the Treasury have invited greater scrutiny. Just how this will play out – or how it will affect the Fed's capacity to operate and communicate effectively in the future – is anyone's guess. **M**