



INVESTMENT UPDATE

With the Federal Reserve now tentatively on the path to normalizing the overnight Fed funds rate, we thought it might be a good time to address the \$4.5 trillion elephant in the corner: The Fed's bloated balance sheet.

To bring you up to date: For decades, the Federal Reserve's balance sheet—the investments and cash that it held on its books (and the offsetting liabilities and retained equity)—was remarkably stable, a steady, anchored slab of capital that backed up the Fed's role as the central bank of the US. But during the financial crisis, the Fed expanded its balance sheet by putting in place special programs that would fund and support the global capital markets, particularly the US banking and brokerage industries.

These programs were effective in both providing emergency funding to institutions that were (in retrospect) dangerously under-capitalized, but even more importantly, they were essential in shoring up the public's confidence over the potential collapse of the global financial system.

As the chart above shows, by the end of 2008, these special programs caused the Fed's balance sheet to more than double from its pre-crisis baseline—from a little less than \$1 trillion to \$2.3 trillion—in six months. Once the crisis eased, the Fed quickly moved to wind these programs down. But instead of allowing the balance sheet to revert to pre-crisis levels the Fed embarked on its quantitative easing ("QE") program, buying up agency-issued mortgage-backed bonds (inflating their prices and lowering their yields) in order to reduce the rate on home mortgage loans and prop up the ailing US housing market. In mid-2010, the Fed implemented QE2, and began buying up Treasury notes and bonds to bring down rates for all borrowers. That was followed by QE2.5 (buying more long Treasuries in order to flatten the yield curve) and QE3, which involved purchasing both Treasuries and MBS from 2013 through most of 2014.

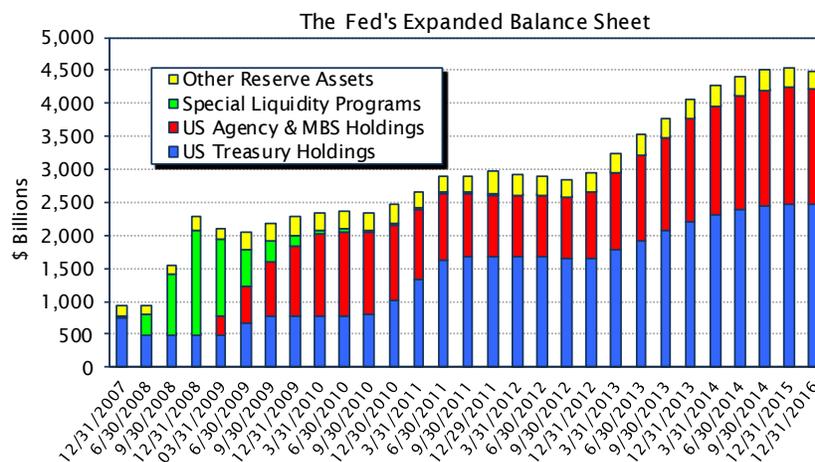
For more than two years now, the Fed has kept its balance sheet

stable at approximately \$4.5 trillion, by reinvesting the maturing principal of its \$2.5 trillion Treasury and \$1.7 trillion MBS portfolios every month. For each Treasury auction of new bonds and notes, the Fed puts in non-competitive bids, across the maturity range on a pro-rata basis, in an amount equal to the principal value that has just matured in the Fed's portfolio. Those reinvestments started out small, as most of the Fed's holdings were "out the curve," but the maturing Treasury bonds in the Fed's portfolio are starting to come in fast and furious—\$195 billion is due to mature in 2017, and more than \$420 billion in 2018. Clearly, the Fed is trying not to disturb the market, accepting non-competitive prices and taking the maturities in the same proportion as all other investors in the

monthly auctions, but there's no getting around that these purchases help to fund a big part of the US' budget deficit—the Fed's Treasury portfolio represents approximately 17% of outstanding Treasury securities. If the Fed reinvests all its 2017 Treasury maturities, as expected, it will be buying about one-third of expected is-

suance this year. And the impact on the MBS market may be even greater, as the Fed's reinvestment of its mortgage portfolio totaled more than \$400 billion in 2016; it's not unusual for the Fed to buy up essentially all of the new supply of MBS in any given month.

There's little doubt that both the special liquidity programs and the quantitative easing policies have done the jobs they were designed to do: first, stabilize the banking system, and second, lower interest rates and provide ample liquidity to encourage credit creation and economic growth. The liquidity programs went away quickly once their job had been done, but the QE program has carried on, with the Fed's balance sheet as big as it's ever been. The markets—if not the broader US economy—have become so used to the QE program that the Fed has been loath to wind it down. A few years ago, it was a foregone conclusion that the QE program would end with the Fed selling off these bonds once the economy was back on



solid footing. That changed in 2013, when the Fed announced that active selling of its holdings would be too disruptive, and that the new course of action would be to eventually allow the bonds to “roll off” the yield curve with the passage of time, and mature.

But even this passive approach to winding down the QE program could be disruptive. The capital markets haven’t really begun to price in the eventual winding down of the QE programs, and there is sure to be a reaction when they do. We need only look back at 2013’s “taper tantrum” for a hint at how the markets might react—you’ll recall that yields on benchmark 10-year bonds rose by approximately 60 basis points and the stock market sold off by 6% in the days following the announcement that the Fed would begin to grow its balance sheet at a slower rate by “tapering” its net purchases of Treasuries and MBS. It’s entirely possible that the US (and, most likely, global) bond and equity markets will react in a similarly negative fashion this time around, too. After all, now we’re talking about actually shrinking the balance sheet and relying on the market to absorb additional supply, not simply slowing down the growth of the balance sheet.

As mentioned above, in recent weeks the Fed has begun to speak more openly about how and when it will begin to reduce and eventually stop the reinvestment of its bond portfolios. The just-released minutes of the December 2016 meeting of the FOMC (the committee that sets monetary policy) documented that the committee discussed its Treasury and MBS

portfolios, saying that the Fed would continue to reinvest “until normalization of the level of the federal funds rate is well under way.” If the words “well under way” sound vague, that’s purely intentional. Fed President William Dudley, in a speech last month, said that economic growth will dictate the speed of future fed funds hikes. Five other Fed officials mentioned the balance sheet in interviews and speeches in January. Finally, the topic of the balance sheet, long put on the back burner, is finally moving ahead, with the Fed coordinating the manner in which it is communicating this impending change in monetary policy. That’s a good thing, as bond investors, in particular, have a keen interest in knowing when the extra liquidity and yield suppression (and price-propping) of Treasuries and MBS will end.

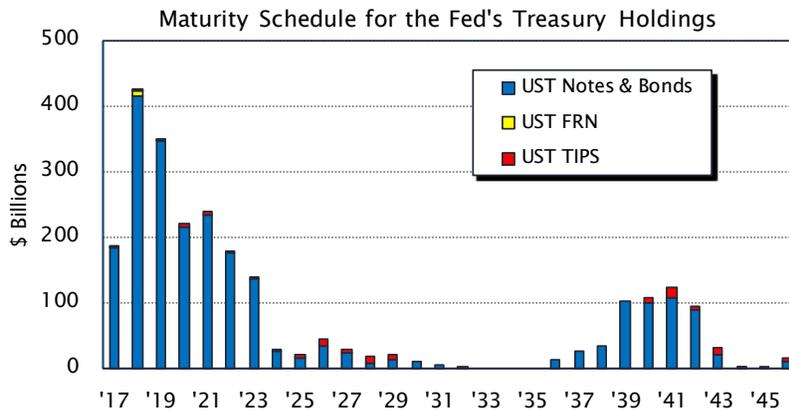
So when will the reinvestment of these huge portfolios begin to be wound down? When asked what level of Fed funds would be considered “well under way,” the median response in a survey of primary government bond dealers was 1.38%. How that translates to a calendar date is obviously dependent on many factors, but if we believe the Fed’s 2017 forecast, it will push up

the funds rate by 25 basis points three more times this year; that would place the funds rate at 1.25% by year-end. We believe that two rate hikes look a little more likely for 2017, with another two or three in 2018, which means that we could be looking at mid-2018 for start of the “big shrink.”

How the Fed manages to shrink its balance sheet is as important as when, and most Fed-watchers believe that the central bank will take a conservative approach by continuing the MBS reinvestment for some period of time after beginning the Treasury reinvestment wind-down, as the Fed doesn’t want to appear to be doing too much at once, and because the MBS purchases continue to directly support the all-important US housing market.

The Treasury portfolio is very front-end loaded (as the chart on this page shows), with half of the Fed’s Treasury holdings maturing in the next four years. This gives the Fed plenty of flexibility in how quickly it wants the portfolio to run off, by choosing to reinvest a lot or a little, depending on the health of the US economy and the reactions of the US and global markets. The Fed can also take a more active approach in managing the

duration of the balance sheet, either in its choice of maturities in its reinvesting decisions, or by swapping maturities for shorter or longer maturities among existing bonds in the portfolio (as it did during QE2.5). For example, if the economy continues to grow strongly, the Fed might decide to shorten the investment portfolio by both allowing bonds to run off without reinvest-



ing them and by selling some of its longer-dated bonds (there’s a bunch in the 2039–2042 range) and buying shorter bonds. Shortening trades are even more likely if rates continue to climb, as the MBS portfolio’s extending duration will need to be offset; mortgage prepayments slow (and MBS durations rise) due to fewer refinancing opportunities when mortgage rates rise.

Liquidity has been very good over recent months, with ample demand among global investors, including foreign governments and sovereign wealth funds (despite big selling of Treasuries by China). Nevertheless, the Fed is wise to keep “messaging” the markets and softening investors up well ahead of time. The Fed has maximum flexibility in handling the shrinking of its investment portfolio—but that same flexibility leaves investors with plenty of unanswered questions. After nearly a decade of quantitative easing, investors will have to come to grips with what it means to have the Fed turning off the liquidity spigot. It will soon be time to see if the economy—and the markets—can stand on their own.