Reconsidering EXIT

Monetary Policy in a Global Setting: China and the United States
Federal Reserve Bank of San Francisco, Federal Reserve Bank of St. Louis, and the National Institute for Fiscal Studies at Tsinghua University

Beijing, China

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Introduction

Good afternoon. It is a pleasure to be able to share my views at this policy conference organized by the Federal Reserve Banks of San Francisco and St. Louis and the National Institute for Fiscal Studies at Tsinghua University.

Over the last five years, monetary policymakers in many countries have ventured into uncharted territory by adopting nontraditional policy tools to implement an ever-growing level of monetary accommodation. In the U.S., the Federal Reserve has lowered its policy rate – the federal funds rate – to essentially zero, where it has stayed for more than four years. Since the policy rate cannot go lower, the Fed has attempted to provide additional accommodation through large-scale asset purchases, or quantitative easing. These purchases are intended to put downward pressure on longer-term interest rates to encourage households and businesses to spend today rather than save.

Estimates vary as to how effective these purchases have been in providing meaningful stimulus to the U.S. economy. But one thing is certain: These policy actions have greatly expanded the size and have changed the composition of the Fed's balance sheet. Such changes will pose challenges for the inevitable return of monetary policy to a more neutral stance.

In March 2011, I shared some principles I thought should guide the Fed's eventual exit from this period of extraordinary monetary policy and its attempts to normalize policy.[1] I said at the time that an effective exit strategy had to begin by deciding on our destination — what monetary policy operating framework we will use after exit — and then articulating a systematic approach to getting there. I was gratified that in June of the same year, the Federal Open Market Committee (FOMC) adopted a similar set of exit principles.

A lot has changed with respect to the economy and monetary policy over the last two years. So it is entirely appropriate to reconsider the Fed's exit strategy. Of course, what I will discuss today are my own views and should not be construed as those of the Federal Reserve or my colleagues on the Committee.

The Economy and Monetary Policy Since Mid-2011

When we last considered our exit strategy, in June 2011, the U.S. had seen two years of economic recovery, growth averaged just 2.2 percent, and the unemployment rate had fallen from its peak of 10 percent to 9.1 percent. Since then, economic conditions have improved, but the pace has been uneven. Overall growth since June 2011 has remained modest, averaging just 2 percent at an annual rate, but the unemployment rate has fallen to 7.6 percent.

In June 2011, the Fed was winding down its second round of asset purchases, known as QE2. This program entailed the acquisition of $600 billion of longer-term Treasury securities. Over the course of the spring and summer of 2011, the European sovereign debt crisis had led many economic forecasters and policymakers to worry that global growth would deteriorate. In addition, the U.S. was confronting its own fiscal debacle

[1] Charles I. Plosser, "EXIT," Remarks to the Shadow Open Market Committee, March 25, 2011.

over the debt ceiling, leading to a downgrade of U.S. sovereign debt, which raised the level of uncertainty among U.S. businesses and consumers. In an attempt to address what appeared to be a slowdown in the pace of aggregate demand, the FOMC implemented the Maturity Extension Program, also known as Operation Twist, in September 2011. In this program, which remained in place until the end of last year, the Fed bought longer-term Treasuries and sold an equal amount of shorter-term Treasuries. While it did not increase the size of the Fed's balance sheet, it did result in a substantial change in its composition – indeed, the Fed no longer holds any short-term Treasuries in its portfolio.

The Fed took further policy action in September 2012. Expressing concern with the pace of the recovery, even while the unemployment rate had fallen from 9.0 percent in August 2011 to 8.1 percent in August 2012, the FOMC implemented the open-ended asset purchase program known as QE3. This program began with purchases of $40 billion in agency mortgage-backed securities (MBS) per month. In January 2013, it included purchases of $45 billion in longer-term Treasuries per month. The Fed is also reinvesting the proceeds of maturing or prepaid MBS securities into MBS and is rolling over maturing Treasury securities at auction. As a result, the Fed's balance sheet has expanded to about $3.2 trillion in assets and is growing at a pace of about $85 billion a month.

In addition, the FOMC has been using "forward guidance" as a policy tool to signal that rates will be kept low for a prolonged period. The forward guidance can be viewed as providing more transparency on the path of the target interest rate that monetary policymakers anticipate taking. This should help households and businesses be better informed about the future course of monetary policy and thus help them make better economic decisions today. In addition, by affecting the public's expectations about the *future* path of policy, this forward guidance can, at least in theory, impact the *current* economy.[2] The form of the forward guidance the FOMC provides has evolved since June 2011. In August 2011, for example, the FOMC told the public that it anticipated that economic conditions would likely warrant exceptionally low levels of the funds rate at least through the middle of 2013. The calendar date was extended twice: in January 2012, the date was extended to late 2014, and last September, it was extended to mid-2015.

There was some dissatisfaction with using a calendar date as forward guidance. I was opposed to its adoption, as I did not think it conveyed information on how the FOMC intended to adjust policy in reaction to changes in economic conditions, which was the more relevant basis for changing policy – not the calendar. As a result, such calendar-based guidance was open to misinterpretation. Indeed, many observers inferred from the date-based guidance that the Fed had a very pessimistic outlook on the economy. To partly address this issue, in December 2012, the FOMC changed its calendar-date forward guidance to state-contingent forward guidance, in the form of thresholds for unemployment and inflation. While I thought the move to state contingency was an improvement, my preference would have been to convey more information about the FOMC's reaction function rather than to focus on specific values for unemployment and inflation, which might (or might not) trigger the FOMC to change its policy.

The FOMC has also offered forward guidance for its open-ended asset purchase program. It has indicated that purchases will continue until the outlook for the labor market has improved substantially in the context of price stability. The Committee noted that it will take into account both the benefits and the costs of the purchases in determining their size, pace, and composition.

As a result of the Fed's policy actions, the size of the Fed's balance sheet, as I indicated a moment ago, is now much larger than it was before the crisis and is growing. Moreover, instead of holding 91 percent Treasury securities as we did in July 2007, we now hold

[2] See Charles I. Plosser, "Forward Guidance," Remarks at the Stanford Institute for Economic Policy Research's (SIEPR) Associates Meeting, February 12, 2013.

just 56 percent Treasuries, with the remainder in agency mortgage-backed securities. Instead of holding 32 percent of its portfolio in Treasury bills, today there are no Treasury bills and the duration of the Fed's Treasury portfolio has lengthened from about three years to about eight years.

Exit Principles

In March 2011, I stressed that to develop an appropriate exit strategy, it is important to know where we are going – that is, what we want our monetary policy operating framework to look like once policy has been normalized. The changes in the balance sheet since then have not altered my view of the key elements of that framework.

First, I believe we should seek to return to a framework in which the overnight interbank rate – that is, the federal funds rate – is the primary instrument of monetary policy. However, in my preferred policy framework, the federal funds rate target would be set in a corridor bounded below by the interest rate paid on reserves (IOR), which the Fed has been authorized to do since 2008, and bounded above by the discount rate, the rate at which banks can borrow at the Fed's discount window.[3] For this framework to work, the supply of reserves must be small enough so that reserves trade at the targeted funds rate above the IOR. This requirement, then, places a limit on the size of the Fed's balance sheet. This corridor system is similar to the system that the Fed used before the financial crisis; the only difference is that then, by law, the IOR was zero. It is also similar to arrangements found in many other central banks around the world.

But the ability to pay interest on reserves allows the FOMC to consider a different operating system. In particular, the Fed could use the interest rate on reserves as its policy rate, rather than the federal funds rate, to establish a floor for market rates. This framework implies that the size of the Fed's balance sheet is technically indeterminate

[3] The Fed is permitted to pay different interest rates on required reserves and excess reserves. When the rates differ, the rate paid on excess reserves establishes the lower bound in the corridor system, but we can ignore that complication here.

and could expand to be very large without necessarily affecting the implementation of monetary policy.

While operating a floor system will be necessary until the balance sheet has shrunk significantly, I do not see it as desirable in the long run and I would prefer the corridor system. First, as a matter of principle, I believe that central banks should face constraints on their ability to expand their balance sheets, especially in normal times.[4] Such constraints serve as a commitment device against using the balance sheet for purposes other than for monetary policy and thus can help maintain the central bank's political independence to conduct monetary policy. Second, the funds rate is more familiar to markets and policymakers. The IOR is an administered rate rather than a market rate, so it would supply less feedback about market conditions than a funds rate target. Third, as a matter of governance, the IOR is determined by the Board of Governors and not the FOMC. I would prefer to keep monetary policy under the purview of the FOMC.

The second characteristic of the desired operating environment follows from the first. To ensure that the funds rate constitutes a viable policy instrument and thus is above the IOR, the volume of reserves in the banking system must shrink to the point where the demand for reserves is consistent with the targeted funds rate. This will require a significant reduction in the size of the Fed's balance sheet. The extent of that reduction will depend on the amount of reserves present when the time comes to begin tightening policy. Currently, reserves total more than $1.8 trillion. They averaged less than $25 billion over the decade before the onset of the crisis. Even if we expect reserve balances to be somewhat higher in a regime with a higher IOR, the Fed would still need a significant reduction in reserve balances.

[4] See Charles I. Plosser, "A Credible Commitment to Normalization," Remarks at the Conference on Capital Markets in the Post-Crisis Environment, Global Interdependence Center and the Bank of Finland, Helsinki, Finland, June 6, 2011; and Charles I. Plosser, "Credible Commitments and Monetary Policy After the Crisis," Remarks at the Swiss National Bank Monetary Policy Conference, Zurich, Switzerland, September 24, 2010.

The third characteristic of my preferred framework addresses the composition of the Fed's portfolio and, in particular, the System Open Market Account, or SOMA. I believe that this portfolio should consist predominantly of U.S. Treasury securities and should be concentrated in short-term Treasuries, as it was before the crisis. Thus, the exit strategy must contemplate a significant restructuring of the balance sheet in terms of its composition and average maturity.

FOMC Exit Strategy, June 2011

The framework I just described is largely consistent with the exit strategy principles the FOMC adopted in June 2011. The FOMC went a step further and provided information on the sequence of steps the Committee would likely follow once normalization begins.

The FOMC indicated it would likely begin by ceasing to reinvest some or all of the payments of principal and interest in its security holdings.

Then, at the same time or sometime thereafter, the Committee would modify its forward guidance on the path of the fed funds rate and initiate reserve-draining operations to support future increases in the funds rate. Subsequently, when economic conditions warranted, increases in the funds rate would begin. The strategy acknowledged that, for some time during normalization, the interest rate on reserves and reserve levels will be used to bring the fed funds rate to its target, until reserve balances are substantially reduced.

Following increases in the fed funds rate and interest on reserves, the Committee would begin selling its agency securities. The pace of sales would be communicated to the public. It would likely be gradual and steady, but it could be adjusted as economic conditions warranted.

A notable aspect of the exit principles is that the Fed's holdings of mortgage-related securities would be eliminated over a period of three to five years, minimizing the extent to which the SOMA portfolio might affect the allocation of credit across sectors of the economy. This pace would be expected to normalize the size of the SOMA portfolio in two to three years, given the size and composition of the balance sheet at the time. The goal would be to reduce the volume of bank reserves to the smallest levels consistent with the efficient implementation of monetary policy.

Reconsidering the Exit Strategy

Since 2011, the Fed has gone to great lengths to provide more accommodation, particularly in the form of further asset purchases and forward guidance. Nevertheless, in my view, the exit principles adopted by the Committee two years ago still apply. In particular, we should still seek to return to operating in a corridor system, where the funds rate is the primary policy instrument, the balance sheet should shrink in size to enable such a system to operate, and the composition of the Fed's balance sheet should return to all Treasuries.

The specific timing and sequence of the steps detailed in the exit strategy may require some adjustments in light of the larger, and still growing, size of the balance sheet. Of course, an important precursor toward normalization is to stop purchasing more assets.

I was not in favor of the September and December decisions last year to further grow the balance sheet, as I believed that the costs exceeded the expected benefits. Nevertheless, the Committee chose to establish the current open-ended asset purchase program that would adapt to changing economic conditions, with particular attention to the labor market.

In addition to stopping asset purchases, the Fed should take two other steps as precursors to exit. First, we should seek to normalize the spread between the discount, or primary credit, rate, the rate at which banks borrow from the central bank, and the target federal funds rate. During the crisis, the Fed reduced the spread from 100 basis points to 25 basis points to ease strains in financial markets by encouraging borrowing at the discount window. In February 2010, it increased the discount rate by 25 basis points, so that the spread widened to 50 basis points, where it remains today. More than three years later, the crisis has passed and the other temporary lending programs the Fed initiated during the height of the crisis have disappeared. Thus, it may be a reasonable time to restore the spread to a more normal level.

Second, another step that might be taken before exit begins is to rethink our reinvestment strategy. There are no longer any short-term Treasuries in the Fed's portfolio. Rather than reinvesting maturing assets and prepaid assets into longer-term assets, it might be prudent to begin reinvesting in shorter-term assets. That would provide more flexibility in managing our balance sheet as we move forward.

If we do not stop purchases soon, one part of the exit strategy that might need to be reconsidered is asset sales. In June 2011, total reserves were about $1.6 trillion, and today, they are over $1.8 trillion. If asset purchases continue, reserve balances could grow to $2.25 trillion or even more. With a larger balance sheet, it may be necessary to sell assets at a somewhat faster pace than contemplated in the June 2011 principles to eliminate our MBS holdings in three to five years. An alternative is to lengthen the period over which the Fed anticipates it will hold its MBS.

Determining the optimal pace of normalization from a very large and long-duration balance sheet is a complicated task that will depend on the speed with which interest rates rise and the size of the balance sheet when normalization commences. One factor to consider is the fiscal implications. The large balance sheet has generated significant interest earnings on the Treasuries and agency debt. This has resulted in unusually large remittances to the U.S. Treasury over the last several years. For example, from 2003 to 2008, the Fed returned an average of about $27 billion to the Treasury. From 2009 to 2012, however, the average annual remittance rose to about $72 billion. Of course, all else being equal, the magnitude of the remittances is reduced by the interest the Fed pays on reserves.

Over time as the economy improves, interest rates will rise. Since the Fed's portfolio holds predominantly longer-term securities, interest received will not rise appreciably, but the interest paid on reserves will have to go up. Roughly speaking, if reserves total $2 trillion, remittances to the U.S. Treasury will fall by $20 billion for each 100-basis-point rise in the IOR.

In addition, should the Fed choose to sell long-term assets in a rising interest rate environment, it could experience capital losses. This would further reduce remittances to the Treasury. The more aggressively the Fed sells off its assets, the higher the losses and the more likely remittances to the Treasury could turn negative for a number of years.[5] Although negative remittances would not impair the Fed's ability to implement monetary policy, they may impose significant political risk for the institution. The Fed would be paying higher amounts of interest to the banks on their reserve balances while remitting nothing to the U.S. Treasury. The situation will be noticed, especially at a time when the federal government and the public are keenly focused on the need to reduce deficits. This could result in renewed calls to reduce the Fed's independence to set monetary policy. Such a loss of independence would impair our ability to pursue price stability. Thus, the potential for negative remittances as the Fed executes its exit, at the very least, poses a communications challenge for the institution.

As Chairman Bernanke pointed out in recent testimony, the FOMC might decide to refrain from asset sales as it exits and just let them run off, which is contrary to the exit strategy steps outlined in June 2011.[6] This would avoid the risk of negative remittances; however, it would delay a return to the corridor operating system. It may also have implications for the path of the fed funds rate required during exit and the volume of payments to the banks on their holdings of excess reserves.

[5] See Seth B. Carpenter, Jane E. Ihrig, Elizabeth C. Klee, Daniel W. Quinn, and Alexander H. Boote, "The Federal Reserve's Balance Sheet and Earnings: A Primer and Projections," Finance and Economics Discussion Series 2013-01, Board of Governors of the Federal Reserve System (2013).

[6] Ben S. Bernanke in response to questions at the hearing on Monetary Policy and the State of the Economy before the Committee on Financial Services, U.S. House of Representatives, February 27, 2013.

To the extent that a large balance sheet is helping to speed the recovery, as some believe, it would mean that the output gap would close more quickly than if the Fed were holding a smaller balance sheet. This would mean that the desired interest rate path during exit might have to be steeper if the Fed followed a strategy that did not incorporate asset sales and kept the balance sheet large, than if it sold assets and reduced the size of its balance sheet during exit, all else being equal. Of course, the exact calibration is highly uncertain. We have little theory or evidence to guide us in establishing a priori the most desirable path of sales. As a result, I am uncomfortable declaring at this point that we would not engage in sales. Nonetheless, the FOMC will need to fully consider the implications of maintaining a large balance sheet as it navigates its exit from the extraordinary monetary policy accommodation it has applied over the past five years.

Conclusion

In summary, the nontraditional policy actions taken by the Fed since the onset of the crisis and during the recovery have vastly expanded the size of the Fed's balance sheet and significantly changed the composition of its asset holdings. Eventually, economic conditions will improve enough that the Fed will need to begin exiting from this period of extraordinary policy accommodation and start normalizing the monetary policy operating framework.

Although there have been changes in monetary policy and the balance sheet over the past two years, I still generally subscribe to the exit strategy principles laid out by the FOMC in June 2011. In particular, we should return to an operating framework in which the federal funds rate is our policy instrument, we should shrink the size of our balance sheet consistent with this framework, and we should shorten the duration and return the composition of our portfolio to all Treasuries. The exact steps taken and the timing to arrive at this destination have many complexities that are difficult to fully anticipate, given the very limited theory and evidence we have in operating in these uncharted waters.