

Fed Exit Strategies - Technical Analysis

December 2, 2010, Bob Eisenbeis, Chief Monetary Economist

A lot of attention is now being paid to the Fed's quantitative easing program. This follows the Federal Open market Committee (FOMC) action on Nov 3 and the subsequent speeches by Chairman Bernanke at the European Central Bank (ECB) and by other FOMC participants.

In his ECB speech, the Chairman tried to assure the public that once the current stresses have eased, the Fed is confident it can execute an effective exit strategy before inflation expectations and actual inflation get out of hand. In particular, he mentioned several policy tools including the use of interest on reserves, the discount rate and term deposits to manage short-term interest rates, short term expanded repo transactions with broker dealers and money market mutual funds, and strategic asset sales that will enable the system to drain reserves as needed.

It is time to take a look at how feasible and effective such tools may be and whether the claim is credible. This discussion is technical and complex, but that is because the problem itself is complex. The bottom line is that the combination of complexity and the need for both delicate timing and precise and clear communication makes one less sanguine than Federal Reserve officials are in their ability to pull it off.

Presently, there are three relevant short-term interest rates that are part of the Fed's tool kit. The first is the Federal Funds target rate, which is set by the FOMC. Presently, it is not a point specific target like it was before the onset of the crisis. Rather, the FOMC has instructed the Open Market Desk to try to keep the effective funds rate, which is a volume-weighted average, between 0 and 25 basis points. Further, the FOMC has stated that it will do so for an "extended period of time."

The second relevant interest rate is the one the Fed pays to banks on excess reserve balances held on deposit with their appropriate Federal Reserve Bank. This rate is set not by the FOMC but by the Board of Governors (BOG). Presently, this rate is 25 basis points.

Finally, there is the discount rate, which is the rate at which banks can borrow against eligible collateral should they need liquidity or funds. (Actually, there are three discount rates, but only one matters for our purposes here) This is presently set at a penalty rate of 75 basis points. It, too, is set by the BOG, not the FOMC. Already, because different policy bodies control these rates, we can see the potential for a sticky coordination problem between the FOMC and BOG. We will comment on that later.

Since the start of the Federal Reserve's mortgage-backed securities purchase program in early 2009, the Fed's holdings of such assets have increased to some \$1.2 trillion. Most of the Fed payments for those securities have ended up in the form of bank's excess reserves. Banks have been receiving 25 basis points in interest on those reserves. Furthermore, since April of 2009 the effective Federal Funds Rate has ranged between 11 and 21 basis points. This means that banks have also been able to borrow additional funds in the overnight Federal Funds market and hold those funds at the Fed, earning a risk-free spread of from 4 to 14 basis points. To put this in perspective, each single basis point of interest spread to the banks equals \$100 million pretax earnings on the spread if the excess reserve deposits of the banks are \$1 trillion.

The positive effective funds rate is in part due to the fact the now-government-owned mortgage GSEs accumulate funds from mortgage payments and lend them out in the Federal Funds market until the funds have to be paid to the holders of mortgage-backed securities. The GSE's do not have the legal authority to make direct reserve deposits with the Fed. Thus, the taxpayer is now a significant source of the subsidy payments to the banking system, with low-interest loans being provided by Freddie, Fannie, and the other GSEs and from interest payments on excess reserves from the Federal Reserve. This is one of the reasons that bank earnings have improved.

The structure of the current set of policy interest rates is out of whack, because the target federal funds rate and the associated effective federal funds rate are below the rate paid on excess reserves, rather than lying within the policy rate corridor that the Fed has instituted. That corridor is customarily bounded from below by the interest rate paid on reserves and from above by the discount rate. Federal Reserve communications make it clear that it ultimately plans to employ the interest-rate corridor as a policy regime, similar to that employed by the ECB and other central banks.

The Fed faces several issues, however, in getting to that point. First, it needs to decide upon the width of the corridor. Central banks around the world are using policy rate corridors employ corridors of different widths and there are differing views as to its appropriate size. Secondly, it needs to drop the 0-25 basis-point target range and revert to a single rate target that is positioned between the rate paid on reserves and the discount rate. This act alone should be the main signal that policy is changing. Finally, it needs to develop policies to govern the adjustments of the levels of the upper and lower bounds of the corridor, as distinct from more subtle changes in the target funds rate within the corridor, so as to bracket what presumably would be the

appropriate equilibrium Federal Funds Rate.

Each of these decisions requires careful consideration, both with respect to the sequence and timing of the moves. Additionally, the structure, operations, and policies governing this new regime will have to be carefully worked out and communicated to market participants to avoid creating uncertainty. An additional wrinkle is the fact that the decisions on both the rate paid on deposits and the discount rate are the province of the BOG and not the FOMC. The real power over policy now lies with the BOG and not the FOMC. The politics between the BOG and the Reserve Bank presidents over the determination of policy also needs to be settled. The potential to marginalize the Reserve Bank presidents is significant. Because of the law, there is little they can do about it.

None of the design or political issues is trivial nor are they straightforward or easy to communicate to the public. Moving the target funds rate, for example, as opposed to simply adjusting the rate paid on reserves, will have different policy impacts and will entail subtly different policy strategies. Studies of other countries' experiences have shown that it is possible to drain reserves from the system by simply adjusting the reserve deposit rate without raising short-term interest rates. These issues will all take time to work out, and it is reasonable to question whether decisions will be made in a timely enough fashion, should inflation break out unexpectedly. Furthermore, it is reasonable to ask and expect more details on how these will be addressed than we have been given to date.

Now let's consider another tool that has been widely touted by Federal Reserve officials, and that is the payment of interest on so-called term reserve deposits. The Fed has begun a small program to auction term reserve deposits (think of this as the Fed offering banks a Federal Reserve 28-day CD). Excess reserves could be placed in such an account and presumably at a rate greater than the current 25 basis points paid on reserve deposits. The funds in term deposits would not be available to meet required reserves but could serve as discount-window collateral under current rules.

Now, the rate paid on such accounts would have to be within the reserve deposit rate /discount rate corridor. If the rate were higher, then banks would simply borrow at the discount window, obtain term deposits, and use those deposits as eligible collateral for additional discount-window borrowings, etc. They would continue to earn the spread between their cost of funds and the discount rate. This would simply be free money. But the current corridor is only 50 basis points, since the reserve deposit rate is 25 basis points and the discount rate is 50 basis points. Will a slightly higher rate be sufficient to idle the excess reserves, should the Fed attempt to use this tool to prevent credit expansion and inflation?

One doesn't know the limits of such a program. In the short run, with no loan demand, term deposits are likely to be temporarily attractive to banks, especially since they would be eligible collateral for discount-window borrowing, should the need for liquidity arise. However, that could quickly change should the economy start to expand and loan demand pick up. When that happens, term deposits will not likely be attractive or an effective tool. Because those deposits would be eligible collateral, they could instantly become available to finance credit expansion. Clearly, the Fed's ability to attract such funds will depend critically upon where it sets the discount rate relative to other market rates and how it chooses to administer the discount window. Right now access is more of a right than a privilege, but that might have to change again.

A third supposed tool is to employ short-term repurchase agreements as a way to sterilize reserves. The Fed has experimented with broadening the institutions with which it engages in short-term repo transactions to include, for example, money-market mutual funds. But repurchase agreements do not permanently remove reserves from the system; they only sterilize them temporarily so they are not available to support credit expansion. These repurchase agreement transactions would involve selling assets out of the Fed's portfolio overnight or on a term basis under an agreement to buy the assets back at a specified price, the spread being the return to the Fed's counterparty. Again, that spread will be constrained by the width of the reserve deposit rate/discount rate corridor, or counterparties could borrow either directly or indirectly from the discount window and arbitrage the Fed for a risk-free return. So short-term repos are not a permanent solution, and again, will entail costs.

Finally, what about asset sales? The Fed typically purchases securities and holds them to maturity. It employs book-value accounting and doesn't mark those securities to market. However, if the Fed were to begin asset sales, that would most certainly be in a rising-interest-rate environment. In that case, the Fed would have to sell those assets for less than their purchase prices. This means that the Fed would incur capital losses and would have to recognize those losses by writing down its capital account.

At Cumberland, we have devised the CUMB-E index, which estimates the sensitivity of the value of the Fed's assets to changes in interest rates. Presently, we estimate that a 60-basis-point upward movement in the yield curve would be sufficient to exhaust the Federal Reserve's capital account if it were to mark its assets to market.

We have done more, however. Taking into account the size and distribution of the Fed's asset purchase program, we asked the question, if the Fed were to attempt to sell all its mortgage-backed securities, how big would the losses be for given changes in interest rates? That analysis shows, for example, that if interest rates on MBS were to increase by 170 basis points as the result of Fed sales or other movement in market rates, then the Fed could only sell about 40 percent of its MBS portfolio before the capital losses on those sales would exhaust its book capital. The analysis also shows that asset sales are more feasible from its Treasury portfolio than from its MBS holdings; but regardless, the Fed's capital would be wiped out by such sales before short-term rates reached anywhere near where they should be when the economy has returned to normal.

Now some might argue that the Fed's capital position is irrelevant and that the Treasury could always inject more funds into the Fed. But what happens to member-bank stock holdings of Federal Reserve stock? All member banks are required to purchase equity in a Federal Reserve Bank. Would that stock have to be written off? How might the Treasury supply capital funds to the Fed? The only feasible way to quickly get capital back into the Federal Reserve would be for the Treasury to remit previous earnings that the Fed had paid to the Treasury. There would, of course, be budget implications for the Treasury, and what

would the international perception be?

The point of this long, complex, and technical discussion is to suggest that designing, executing and communicating an exit strategy is complicated and involves a huge number of issues that must be laid out very precisely and clearly so the public and markets can understand what was being done and why. Then there are the likely market reactions to such a move.

We have noted before that bond managers who are sitting on portfolios of low-yielding bonds are not likely to wait around while the Fed tries to lay out and execute a gradual exit strategy. They will be prompted to sell their portfolios, and there is likely to be an abrupt upward shift in interest rates that will leave the Fed's strategy woefully behind. All of this implies that the Fed may end up behind the curve in reversing policy. There is the source of the inflation risk that is on the upside. That has obvious implications for the future path of interest rates.

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