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Monetary Policy Outlook

THE OBJECTIVE OF UNCONVENTIONAL MONETARY POLICY

Brian Sack, who manages the System Open Market Accounts at the New York Fed, recently gave a speech describing the key objectives of large-scale asset purchases (LSAP) by the Fed—or what is more popularly referred to as quantitative easing (QE). As the manager of the System Open Market Account, which handles Fed asset purchases, sales, and reverse repurchase (repo) activity, Sack is well positioned to assess the effects of the Fed's large-scale asset purchases.

In the following passage, Sack verifies that support of asset prices has become a major channel for the transmission of monetary policy to the real economy under QE (emphasis added):

*The first question I consider is whether the asset purchases have had their intended effects. It is important to recognize that the LSAP programs differ from the Fed's liquidity policies in terms of their policy intent. **The LSAPs were not aimed at supplying liquidity to financial institutions or at reducing systemic risk. Instead, they were intended to support economic activity by keeping longer-term private interest rates lower than they would otherwise be.***

*A primary channel through which this effect takes place is by narrowing the risk premiums on the assets being purchased... Put differently, **the purchases bid up the price of the asset and hence lower its yield. These effects would be expected to spill over into other assets that are similar in nature, to the extent that investors are willing to substitute between the assets. These patterns describe what researchers often refer to as the portfolio balance channel.***

Sack makes it very clear that the Fed was not just busy patching over liquidity shortfalls at financial institutions as various parts of the financial market went dark. Rather,

especially in the case of QE operations, the objective was to first place a floor on various private asset prices, and then to lift these asset prices (and reduce the yields they offered to investors) through large, targeted purchases:

With lower prospective returns on Treasury Securities and mortgage-backed securities, investors would naturally bid up the prices of other investments, including riskier assets such as corporate bonds and equities.

The idea was to use asset price signals and higher values of wealth holdings as a means of reviving economic growth.

Notice the transmission mechanism of monetary policy in Sack's account goes far beyond the usual story about the Fed setting short-term interest rates and signaling the path of the policy rate in the future to influence yields on longer-dated Treasury securities. Instead, the procedure Sack describes is first and foremost about boosting private asset prices in order to change economic behavior and redirect investment flows.

Sack then goes on to quantify the impact of Fed asset purchases on Treasury yields and mortgage-backed securities (MBS) (emphasis added):

Taken together, those measures suggest that the effect of all LSAP programs on the 10-year Treasury yield could be as large as 50 basis points, though I reiterate that such estimates have considerable uncertainty surrounding them.

The effects on the MBS rate have been even larger. This can be seen most easily in the spread of yields on mortgage-backed securities over those in Treasuries, adjusted for the prepayment option embedded in those securities. The option-adjusted spread has narrowed by about 100 basis points since the announcement of the program, with more than half of that decline occurring on days of substantive statements about the MBS purchase program.

How has the Fed been able to generate these substantial effects on longer-term interest rates? One word: size. The total amount of securities to be purchased under the LSAPs is quite large relative to the size of the relevant markets. That is particularly the case for mortgage-backed securities. Fed purchases to date have run at more than two times the net issuance of securities in this market. In the securities with 4 percent and 4.5 percent coupon rates, which have been among the most actively produced mortgage-backed securities since purchases began, the Fed has accumulated about two-thirds of the total outstanding amount of those issues. In other words, the Fed has been a substantial presence in these markets and has accordingly left a big footprint.

Sack recognizes the Fed has left a big footprint with its various interventions in financial asset markets. The Fed has changed the composition of private portfolios by purchasing assets and crediting reserves to the bank accounts of the sellers. In the process, the Fed has expanded its balance sheet by roughly \$1.3 trillion, and much of that now lies fallow as excess reserves on commercial bank balance sheets.

EXITING UNCONVENTIONAL MONETARY POLICY

The Federal Reserve's reliance on extraordinary maneuvers to keep the financial system intact over the past three years presents many questions for policymakers. One important question to consider is whether the Fed will need to replace the **fed funds rate** as its primary tool for influencing short-term interest rates.

Usually, the Fed targets the fed funds rate to accomplish policy objectives, and it hits the target through the purchase or sale of assets in the open market. These purchases and sales influence the supply of **reserves**—the risk-free, liquid assets traded in the fed funds market. Reserves consist of banks' deposits at the Fed plus currency that is physically held by banks. Reserves are assets for the banks but liabilities for the Fed, because the banks can demand payment on them at any time and the Fed is obligated to satisfy this obligation by paying Federal Reserve notes. Total reserves can be divided into two categories: reserves that the Fed requires banks to hold (**required reserves**) and any additional reserves the banks choose to hold (**excess reserves**).

The Fed's various unconventional measures have left the banking system awash in excess reserves. An increase in reserves leads to an increase in the money supply, at least according to the **reserve multiplier** theory of money creation, which goes something like this: (1) banks are required to hold only a fraction of their deposits aside as reserves, which are held at the Fed; (2) the Fed creates additional reserves by purchasing assets from the banking system; (3) assuming the banks have not had an increase in checkable deposits, the banks' required reserves remain the same; and (4) the banks can then loan out a multiple of their excess reserves, leading to an increase in money and credit in the economy. Because bank loans offer purchasing power not

immediately associated with an increase in the stock of produced goods or assets available for sale, higher consumer product and asset prices may result. In the extreme, accelerating inflation and asset bubbles can result.

William Dudley, president of the New York Federal Reserve, noted this during a speech he gave on July 29, 2009:

The sharp rise in excess reserves has caused the monetary base, which is simply the sum of currency plus total reserves, to expand significantly. The increases in excess reserves and in the monetary base generated by the Fed's balance-sheet growth have led some observers to worry that this expansion will ultimately prove inflationary. Proponents of this view say that the monetary base, the broad monetary aggregates, total credit outstanding and inflation have historically tended to move together, at least over longer time periods. Thus, if the monetary base is growing rapidly, as it has been over the past year, the view is that this growth will ultimately lead to inflation.

THE FED'S PERCEIVED LOOPHOLE

Under normal circumstances, the Fed would initiate a tightening cycle by announcing a higher fed funds rate target and then selling assets from its portfolio to reduce the reserves held by banks. This time around, the sequence is likely to be very different, with the Fed taking the following measures:

1. First, allow various credit facilities to run down and lapse as private market credit channels revive (February 1 is the expiration date for most of these facilities);
2. End outright purchases of Treasuries and mortgage-backed securities (MBS) from investors (March end, although the latest Federal Open Market Committee minutes reflect internal debate about the possibility of extending MBS purchases);
3. Reset the interest rate paid on excess reserves, using term deposits or reverse repos if necessary to raise the fed funds rate;
4. Remove reserves through outright sales to banks of Fed-held assets.

On Oct. 8, 2008, the Fed announced it would henceforth pay interest on both those reserves that it required banks to hold as well as on reserves banks may choose to

hold in excess of required reserves. Interest paid on reserves provides the Fed with a unique ability to decouple the interest rate (or price) it sets for short-term funds from the supply (or outstanding stock) of reserves. ***The interest rate on reserves becomes a floor that the Fed can raise at will without having to remove reserves from bank balance sheets*** (usually accomplished by selling assets held by the Fed to the banks, extinguishing reserves in the transaction). This was an important step at the time because the fed funds rate target was 1.5%, and the Fed was not yet prepared to go to a near-zero interest rate policy. The Fed knew it would not be able to maintain that target rate above zero while it was also flooding the system with liquidity through various emergency credit facilities and asset purchase programs following the Lehman/AIG debacle. Now the Fed can raise the short-term interest rate without having to reduce the liquidity cushion banks are holding in the form of excess reserves.

From the Fed's perspective, this appears to solve one of its concerns about exit strategies. If banks maintain a high liquidity preference following financial shocks, as was the case in the 1930s, then moves by the Fed that reduce bank reserves can lead the commercial banks to sell more securities (dampening prices of the assets sold) or contract their loan books (reducing credit available to fuel economic growth) in order to try to rebuild their reserve cushions. This can tip the economy back onto a debt deflation path, as was the case in 1937–8. Brian Sack noted the advantage the interest on excess reserves (IOER) offers (emphasis added):

A key part of the framework is the ability to pay interest on excess reserves. This authority alone may allow the FOMC to control short-term interest rates to its satisfaction, even if the banking system is saturated with a large amount of excess reserves.

WILL THE IOER APPROACH FLY?

Both Sack and Dudley acknowledge that the Fed's reliance upon interest payments on excess reserves as the linchpin of its exit strategy may not fly with market participants who see the pile of excess reserves sitting on bank balance sheets as dry tinder for future inflationary loan growth. Dudley in particular tried to put this issue to bed in his Oct. 5, 2009, speech when he noted (emphasis added):

*This concern is not well founded because the Federal Reserve now has the ability to pay interest on excess reserves... and this tool allows us to prevent excess reserves from leading to excessive credit creation. It works as follows. Because the Federal Reserve is the safest of counterparties, the IOER rate effectively becomes the risk-free rate. By raising that rate, the Federal Reserve raises the cost of credit because banks will not lend at rates below the IOER when they can instead hold these excess reserves on deposit with the Fed. **Because banks no longer seek to lend out their excess reserves, there is no increase in the amount of credit outstanding, no increase in economic activity and no risk that excessive credit creation will fuel an inflationary spiral.***

Dudley is insisting that in the event an inflationary spiral takes hold, the Fed stands prepared to raise the IOER to a sufficiently high level, such that banks would prefer to lend the excess reserves to the Fed rather than the private sector. It is worth considering, however, what that might mean for banks that have been buying Treasury debt lately. **As the Fed raises the IOER, and as other short-term interest rates follow, the cost of funds will rise for banks and the margin or spread between their cost of funds and the Treasury debt and other securities they acquired during the stretch of a near-zero fed funds rate will shrink.** In a worst-case scenario, the banks would find themselves earning less on their security holdings than they pay for their funds. Banks would then be inclined to dump their Treasury, agency, and MBS holdings on the marketplace, creating a second round of interest rate effects.

So what, then, might be the Fed's Plan B if it discovers it cannot simply tighten monetary policy without imperiling banks? Plan B involves a more direct route of dumping Treasury, GSE-issued debt, and MBS holdings onto the market, this time by the Fed itself. As Sack noted in his December speech (emphasis added):

*An alternative approach would be to reverse a portion of the portfolio-balance effects through asset sales. **Asset sales would put the portfolio risk back into the market at a faster pace than redemptions alone, forcing risk premiums to adjust more quickly in order to entice investors to hold that risk. The result would be to put upward pressure on Treasury yields and MBS rates independent of any changes in the expected path of short-term interest rates, so that less of the burden of financial tightening would fall on the short-term interest rate.***

In other words, the Fed would have to be willing to risk taking actions that would raise mortgage rates, reduce the value of existing bank security holdings and possibly take the housing market back down with it. **Again, all of this is predicated on the emergence of an inflationary spiral**, so perhaps under those conditions, we should expect housing would already be booming again.

Chairman Bernanke does not expect removal of excess reserves through asset sales to happen in the near future. As he said in his February 10th testimony:

I currently do not anticipate that the Federal Reserve will sell any of its security holdings in the near term, at least until after policy tightening has gotten under way and the economy is clearly in a sustainable recovery. However, to help reduce the size of our balance sheet and the quantity of reserves, we are allowing agency debt and MBS to run off as they mature or are prepaid. The Federal Reserve is currently rolling over all maturing Treasury securities, but in the future it may choose not to do so in all cases. In the long run, the Federal Reserve anticipates that its balance sheet will shrink toward more historically normal levels and that most or all of its security holdings will be Treasury securities. Although passively redeeming agency debt and MBS as they mature or are prepaid will move us in that direction, the Federal Reserve may also choose to sell securities in the future when the economic recovery is sufficiently advanced and the FOMC has determined that the associated financial tightening is warranted. Any such sales would be at a gradual pace, would be clearly communicated to market participants, and would entail appropriate consideration of economic conditions.

Brian Sack doubts that the mechanism the Fed has been emphasizing lately, called reverse repos, where the Fed lends securities temporarily to banks to soak up reserves, would be an effective monetary policy tool. As he puts it:

These operations would basically substitute one short-term, risk-free asset for another —replacing what is in effect an overnight loan to the Federal Reserve (reserves) with another short-term loan to the Fed (a reverse repo or term deposit). It is hard to believe that the willingness of an investor to hold risky assets or of a bank to make risky loans would be affected in any meaningful way by this substitution between such similar assets.

If Sack is correct — and he is well positioned to assess the situation—reverse repo or term deposit operations might prove too subtle to get the job done if the Fed concludes it needs to reduce reserves in the banking system. The weakness of reverse repos stems

from the fact that they cannot permanently extinguish reserves, as outright sales by the Fed to banks would clearly do. The Fed may have to move to outright sales of the assets they are holding.

However, Sack admits near the end of his speech that the decision makers at the Fed are, to a large extent, flying by the seat of their pants:

*The size, likelihood and timing of the appropriate adjustments will only become apparent over time, as they will depend on the evolution of the economy and financial markets. They will also depend importantly on the effectiveness of interest on reserves for controlling short-term interest rates in a high reserve environment — **a policy regime that has not been fully tested in U.S. markets and that will have to be evaluated in real time.***

In the post-quantitative easing environment, it is no longer clear what constitutes the key target or instrument of monetary policy. The IOER has been set up (and is now being actively marketed) as a replacement for the fed funds rate. But by construction, it intentionally breaks the link between the short-term policy rate and the amount of reserves in the banking system. As Brian Sack indicated in his speech, it remains to be seen whether the Fed's newfound ability to raise interest rates without reducing excess reserves in the banking system will keep inflation (and the expectation of inflation) at bay.

THE FED RAISES THE DISCOUNT RATE

The Fed surprised the markets by raising the discount rate charged to banks for direct loans by 0.25% to 0.75%. The discount rate is the rate offered at the discount window— an emergency offering for banks looking for temporary liquidity. Before the crisis, the discount rate was normally 100 basis points over the Fed Funds rate. Besides raising the discount rate, the Fed also said that the maximum maturity for discount loans will be reduced from as much as 90 days to overnight. Further, the Fed also announced that it has raised the minimum bid for Term Auction Facility (TAF) auctions by 0.25% to 0.50%. TAF is set to expire in March.

The discount rate increase should have little immediate impact. Recall that the banks are flooded with liquidity and should thus have little need to borrow from the

Fed's discount window. When discussing the possibility of higher rates and shorter maturities for discount loans, the Fed's January minutes stated (emphasis added):

*Participants generally agreed that such steps to return the Federal Reserve's liquidity provision to a normal footing would be technical adjustments to reflect the notable diminution of the market strains that had made the creation of new liquidity facilities and expansion of existing facilities necessary and emphasized that **such steps would not indicate a change in the Committee's assessment of the appropriate stance of monetary policy or the proper time to begin moving to a less accommodative policy stance.***

This passage from the minutes suggests two things: (1) the hike in the discount rate does not matter much in the near term; (2) *but* the Fed is serious about reducing banks' dependence on its lending.

Will the Fed follow up by raising the Fed Funds rate soon, possibly through the mechanism of interest on excess reserves? This seems unlikely, given the Fed's explicit statement that the discount rate move does not signal any change in the outlook for the economy or for monetary policy.

NOTE: For a very good graphic presentation on the mechanics of interest on excess reserves, watch this short video by macroeconomist Mark Thoma:

<http://moneywatch.bnet.com/economic-news/blog/maximum-utility/the-feds-exit-strategy/455/?tag=content;col1>

SOURCES:

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