



Managing Monetary Policy at the Zero Interest Bound

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Introduction

The Federal Reserve's near zero interest rate policy and \$2 trillion dollar balance sheet have done much to stabilize economic and financial conditions in the United States. Yet the recovery from the Great Recession is slow. Net private job creation remains too low to absorb the secular growth in the labor force, let alone what is needed to return to work those who lost their jobs in the Great Recession.

Measures of underlying inflation have trended lower in recent quarters. Ongoing disinflation and the likelihood that labor markets will remain weak for some time suggest that inflation could fall further. The risk is that inflation expectations are dragged down, raising real interest rates and tightening interest rate policy. With five year market-based inflation expectations running near 1 ½ %, deflation does not yet present a clear and present danger.

Nevertheless, the market appears to be expecting the Fed in November to resume large-scale purchases of Treasury securities financed by bank reserve creation. The Fed has let speculation about its monetary policy actions overtake the presentation of the framework in which they are to be undertaken. Whether or not it acts in November, the Fed must provide the public with a coherent framework for understanding expansive monetary policy at the zero interest bound.

The Fed should prepare to preempt deflation as part of its longstanding program to promote price

stability. The Fed can defeat deflation with monetary policy at the zero interest bound by expanding bank reserves well beyond \$1 trillion, if need be. The operational imperative is this: The Fed must explain how an aggressive expansion of reserves could work against deflation without creating inflation, so that lenders don't demand an inflation premium in long-term interest rates. The recovery from the Great Recession cannot continue unless the Fed stabilizes prices against both inflation and deflation.

The balance of the essay recommends a framework for managing monetary policy at the zero interest bound. The framework includes an explicit inflation objective, a bank reserves policy instrument, a description of the mechanics of broad liquidity, and cooperation from the fiscal authorities to enlarge the Fed's surplus capital account to make the strategy against deflation fully credible.

The Inflation Objective

There is skepticism about the power of monetary policy to act against deflation at the zero interest bound. The first step in acting against that skepticism should be for the Fed to publicly and explicitly commit to a 1 to 2 percent long run objective for core PCE inflation. A high-profile commitment would demonstrate the Fed's confidence in the power of monetary policy against deflation, and it would demonstrate the Fed's intention to hold the line on inflation at 2 percent. As discussed at length below, an operationally credible commitment against



inflation is essential for monetary policy to act flexibly and decisively against *deflation*, if need be. The Fed must explain that linkage to the public and put in place practices to support it. The place to start is by announcing an explicit target for inflation.

The Bank Reserves Policy Instrument

In August 2010 the FOMC directed the Desk at the NY Fed to keep the total face value of domestic securities held in the Fed's portfolio near its level at the time. The Fed is now operating with two targets—one for the federal funds rate and another for the size of its asset holdings. In effect, the Fed uses an interest on reserves policy instrument to target the federal funds rate; and the Fed uses a bank reserves policy instrument to achieve its asset acquisition target.

As a second step in clarifying and guiding the public's understanding of monetary policy at the zero interest bound, the Fed should describe the stance of policy in terms of its bank reserves policy instrument. The Fed's unique and primary responsibility as the nation's central bank is to stabilize inflation using its monopoly on the provision of currency and bank reserves. It is granted independence from Congress and the Administration to protect its money-creating powers from the political process. The source of the Fed's credibility over deflation is its independent power to manage bank reserves and currency. The Fed should speak of bank reserves as the instrument of monetary policy to remind the public of its power to stabilize the purchasing power of money. The Fed should explain the stance of monetary policy in terms of the promotion of price stability.

The Mechanics of Broad Liquidity

To appreciate the power of monetary policy at the zero bound, one needs to distinguish between

narrow and broad liquidity services.¹ In models of the demand for money, narrow liquidity services are provided by the medium of exchange, which allows banks and the public to economize on transaction costs or so-called shopping-time costs. When short-term interest rates are near zero, the marginal narrow liquidity services yield is also near zero.

Broad liquidity services are not exhausted, however, and they provide the leverage for monetary policy to stimulate the economy further at the zero interest bound. Broad liquidity services are valued because they minimize exposure of households and firms to the external finance premium. The existence of an external finance premium creates a demand for broad money known alternatively as precautionary savings, a liquid buffer stock, or self-insurance. In the US economy the public holds roughly one GDP in the form of broad liquidity which includes bank deposits, money market instruments, and short-term Treasury securities. Holding broad liquidity protects the public from having to go to banks or credit markets to borrow and pay an external finance premium.

The pecuniary yield on broadly liquid assets is near zero currently, but the total return includes a broad liquidity services yield which is why households and firms continue to hold liquid assets in spite of the fact that much higher pecuniary yields are available on relatively illiquid investments.

Monetary policy works at the zero bound by creating broadly liquid assets in the form of bank reserves. Generally speaking, the aggressive creation of bank reserves by the central bank drives down the marginal broad liquidity services yield by expanding the stock of broadly liquid assets in the economy. The effects are felt in a variety of ways. For instance, if new reserves are used to pay off bank loans, they offset a prior tightening of bank credit, reduce the



finance premium on other loans, or shift bank credit to borrowers more in need. By depressing the broad liquidity services yield, an expansion of reserves also induces the public to rebalance its portfolio, thereby bidding up the prices of relatively illiquid assets.

The Strategic Link: Credibility against Deflation Is Tied To Credibility against Inflation

Full credibility against *deflation* requires the public to understand the mechanics of monetary policy at the zero interest bound; and that the Fed has the independence, the operational capacity, and the desire to hold the line on inflation at its target. In other words—*Credibility against deflation is tied to credibility against inflation.*²

The public trusts the proven power of restrictive of interest rate policy over inflation because the Fed is willing to *overshoot*, knowing that it can pull the federal funds rate back flexibly if restrictive interest rate policy proves excessive. A case in point occurred during the Volcker disinflation in 1982 when the Fed pulled the federal funds rate down sharply in the face of near financial collapse from 14% in June to 9% in November.

The credibility problem in dealing with deflation at the zero interest bound is another matter. Common sense tells us that at some point a determined expansion of bank reserves must act against deflation, otherwise we could eliminate all taxes, and the government could finance its operations permanently with reserve creation alone. Yet, the bang for the buck of monetary policy at the zero bound is unknown. Thus, the Fed must be prepared to expand bank reserves well beyond \$1 trillion dollars, if need be, to act against deflation.

The problem is that short-term government securities

are perfect substitutes for bank reserves at the zero interest bound. Open market purchases must increase *net* broadly liquid assets to be effective. So the central bank must buy longer-term relatively illiquid Treasuries or other relatively illiquid assets with bank reserves. The longer the maturity of the securities purchased, the larger is the bang for the buck of an injection of reserves at the zero bound. Since the Fed's reserve liabilities pay short-term interest, effective monetary policy at the zero bound exposes the Fed to substantial interest rate risk.

The Fed must be willing to *overshoot* against deflation for monetary policy to be credible. If inflation unexpectedly becomes a threat the Fed must be able to raise market interest rates flexibly by paying interest on reserves, even with trillions of dollars of reserves and long-term securities on its balance sheet.

A negative cash flow problem could arise if the Fed is either insufficiently preemptive against deflation or insufficiently preemptive against inflation.³ If the Fed is too slow against deflation, buying long term securities at high prices and very low interest, then interest earnings conceivably could become insufficient to pay interest on reserves if the Fed has to raise interest rates against inflation before it can shrink its balance sheet. Alternatively, a negative cash flow problem could arise if the Fed is insufficiently preemptive against inflation and subsequently has to invert the yield curve before it can shrink its balance sheet.

The Fed should enlarge its surplus capital to *self-insure* the payment of interest on reserves with the cooperation of the fiscal authorities, Treasury and Congress. The fiscal authorities could transfer new Treasury securities directly to the Fed. Or the fiscal

2. The discussion draws on Section 6.2 of the author's "Central Banking in the Credit Turmoil: An Assessment of Federal Reserve Practice," forthcoming in the *Journal of Monetary Economics*, January 2011.

3. The presence of non-interest bearing currency on the Fed balance sheet provides a cushion against negative cash flow problems.



authorities could let the Fed retain interest earnings to buildup surplus capital gradually. The first alternative is preferable because it is immediate. Either way, the enlargement of the Fed's capital account would have no fiscal cost as long as the Fed did not draw on the interest or the principal of its surplus capital. The Fed would simply return to the Treasury all the interest on the Treasuries in its enlarged capital account. Nevertheless, enlarging the Fed's surplus capital would secure its financial independence and the flexibility of its stabilization powers at the zero interest bound.

The Fed's power to act independently, flexibly, and decisively with monetary policy is widely regarded as essential for the maintenance of macroeconomic and financial market stability. Accordingly, the Fed deserves cooperation from the fiscal authorities to secure its independence at the zero interest bound.

Unless the Fed links strategically its monetary policy against deflation with its interest on reserves policy against inflation, the Fed is unlikely to get credibility for monetary policy actions against deflation, should they become necessary. Any policy actions—whether interest rate actions or monetary policy actions—derive their power from the expected *follow through*. The market must know that there is follow through—that the Fed has the operational capacity and the willingness to follow up its policy actions against deflation with whatever balance sheet expansion is needed. Without follow through, expansionary monetary policy actions will lack *punch*.

To sum up, monetary policy against deflation must be *credible*. The Fed must convince markets that it is willing to risk overshooting balance sheet expansion against *deflation* because it has the operational, financial, and political independence to use interest on reserves to raise interest rates promptly as

inflation returns to its target range, regardless of the size of its balance sheet.