Monetary Policy in the United States: The Risks Associated With Unconventional Policies

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In the years since the financial crisis began in 2007, the Federal Reserve and other central banks have taken extraordinary and often unprecedented actions, first in responding as the crisis unfolded, and later in trying to adapt policy to the economic conditions that have prevailed since. These actions have involved extraordinary central bank lending, expanding central bank balance sheets and banking system reserves, broadening the range of assets purchased, and communicating about future policy settings.

While such unconventional central bank policies can at times be indispensable in responding to unconventional developments in national and global economies, there are accompanying risks that are important to bear in mind. In reviewing these tools and their related risks, it's helpful to be clear about what constitutes conventional policy, so I'll start there. Before I do, however, I also should be clear that the views I express are my own and do not necessarily represent the views of my Federal Reserve System colleagues.[1]

Before the financial crisis, the typical central bank conducted monetary policy by controlling a short-term nominal interest rate — usually a rate charged in interbank or other wholesale money market transactions. In the U.S., as in many other countries, this control was accomplished by manipulating the supply of the central bank's monetary liabilities. Before the crisis, a relatively stable, interest-sensitive demand for reserves by U.S. banks arose from the array of regulations surrounding the use of those balances. Legally required reserves were small, and with no interest earned on reserves, banks sought to economize on excess reserves. Against this incentive to minimize reserve holdings, banks' demand was supported by the use of reserves in settlement of interbank obligations and by the desire to avoid costly overdrafts.[2]

The Fed managed the supply of reserves through purchases and sales of U.S. Treasury securities — or repurchase transactions in those securities — so that the overnight interest rate in the market for interbank loans of reserves hit the Federal Open Market Committee's target. The FOMC in turn adjusted its target in response to changes in economic conditions and the

economic outlook so as to achieve low and stable inflation in a manner consistent with its congressional mandate (which also includes the pursuit of maximum employment and moderate long-term interest rates).

Unconventional Policy

In the wake of the financial crisis and the recession that followed, the Fed's policy has deviated in a number of ways from this conventional, precrisis approach — as have the policies of many other central banks. During the period from late 2007 through 2008, as the crisis was unfolding, the Fed conducted several emergency lending operations that went beyond the scope of previous precedents.[3] At first, these loans were not allowed to affect the outstanding amount of Federal Reserve monetary liabilities. This required offsetting sales of U.S. Treasury securities from the Fed's portfolio in order to drain reserves and avoid driving the interbank interest rate below the Fed's target. These lending operations changed the composition of the Fed's asset portfolio without changing the Fed's monetary liabilities, and thus constituted "credit policy," not monetary policy.[4] Such lending raises important issues related to the independence of central banks and their role in the financial system.[5] I have spoken at length about these issues on other occasions, but they are not my focus today.[6]

As the economy weakened in the fall of 2008, the Fed drove the interbank interest rate to near zero. As a general matter, unconventional monetary policy is associated with the extended period of time since then, during which the Fed's interest rate target has been essentially as low as it can go — in other words, at the "zero lower bound." The ability of banks and other members of the public to hold currency constrains the ability of the central bank to enforce a nominal interest target much less than zero. But in an exceptionally weak economy, the appropriate real rate of interest may be negative. A central bank that has credibility for low and stable inflation — so that inflation expectations are reasonably well anchored — will have difficulty making the real interest rate more than a little bit negative.

One possible strategy at the zero lower bound is to seek a lower real interest rate by engineering an increase in expected inflation, above the rate the central bank would otherwise target. By departing from its inflation target for a time, a central bank may be able to support economic growth by lowering the real interest rate, despite not being able to reduce the nominal interest rate below zero. Central banks operating at the zero lower bound have generally avoided this approach, and for good reason, in my view. In the United States, for example, the process of achieving credibility for low inflation was difficult and costly, taking the better part of two decades. This experience suggests that engineering medium-term variations in inflation expectations would be quite difficult to implement and would set precedents that pose longer-run risks to the central bank's credibility.

Forward Guidance

Setting aside strategies aimed at changing expected inflation, the Fed and other central banks at the zero lower bound have focused their efforts on longer-term interest rates. They have tried to bolster interest-sensitive sectors by reducing long rates to lower levels. Two broad strategies have been employed to attempt to reduce long-term rates: One provides "forward guidance" to

affect the public's beliefs about the future path of policy, including short-term rates, and the other relies on direct purchases of longer-term assets.

The Fed has deployed a number of approaches to communicating about its intentions and expectations for the path of short-term rates in recent years. The FOMC began by including qualitative language in its policy statements characterizing the time period over which it expected exceptionally low interest rates to be appropriate: At first it was "for some time" (December 2008 and January 2009), and then "an extended period" (March 2009 through June 2011). In August 2011, the Committee sharpened its guidance by specifying the time before which an increase in the federal funds rate seemed unlikely — and then moving this date further into the future several times. Finally, in December 2012, the Committee replaced this date-based forward guidance with a threshold for the unemployment rate, saying that "the exceptionally low range for the federal funds rate will be appropriate at least as long as the unemployment rate remains above 6-½ percent, inflation between one and two years ahead is projected to be no more than a half percentage point above the Committee's 2 percent longer-run goal, and longer-term inflation expectations continue to be well anchored." This form of forward guidance remains in place today.

These communication efforts have been generally aimed at easing financial conditions by pushing back the dates at which market participants believe short-term rates are likely to rise. Such communications by the central bank, however, inevitably face a conundrum. Forward guidance is effective when it alters the public's perception of the central bank's pattern of behavior in response to incoming data — in essence, the central bank's "reaction function." But there's always the possibility that the public will interpret the forward guidance in terms of the future evolution of the economic conditions to which the central bank reacts. The public might reason that, under its existing pattern of behavior, the central bank expects low rates to be warranted for a longer period because they expect the economy to be weaker. In this case, forward guidance could have the paradoxical effect of reducing current economic activity, by reducing expectations about the level of future economic activity.[7] It may be difficult to craft forward guidance in a way that definitively separates these two interpretations. The FOMC's use of numerical thresholds is in part an attempt to clarify that forward guidance about short-term interest rates is about the Committee's reaction function, not its economic outlook.

Ideally, a central bank can make clear that its communications concern its future reactions to incoming economic data. Forward guidance regarding central bank reaction patterns often takes the form of criteria for particular decisions, as in the case of the FOMC's thresholds for raising interest rates or the conditions under which the open-ended asset purchase program will likely be wound down.

Designing such conditional guidance involves trade-offs, however. Credibility requires consistency, over time, between a central bank's statements and its actual subsequent actions. A central bank's statements will have greater immediate effect on the public's expectations the more they are seen as limiting the central bank's future choices. Yet there are likely to be circumstances, ex post, in which the central bank feels constrained by past statements. Yielding to the temptation to implicitly renege by reworking decision criteria or citing unforeseen economic developments may have short-term appeal, but widely perceived discrepancies

between actual and foreshadowed behavior will inevitably erode the faith people place in future central bank statements. So central banks face an ex ante trade-off, as well, between the short-run value of exercising discretion and the ability to communicate effectively and credibly in the future.

Asset Purchases

The other unconventional method of influencing longer-term interest rates has been the purchase of long-term assets. The Fed has conducted four major rounds of asset purchases since 2009, including the so-called Maturity Extension Program in which purchases of longer-term Treasury securities were financed by the sale of shorter-term Treasury securities. The other programs were financed by creating bank reserves and involved purchases of Treasury securities, as well as securities issued by the housing-related government sponsored enterprises — so-called "agency MBS."

Large-scale asset purchases are motivated by a desire to have an influence on longer-term interest rates, above and beyond the influence of the public's beliefs about the path of short-term rates. That is, they are designed to act directly on the term premium — that part of a long-term rate that is not explained by expected future short rates. By reducing rates in this way, asset purchases are intended to stimulate economic activity by encouraging interest-sensitive components of spending by businesses and households.

The ability of central bank asset purchases to directly lower the term premium presumes some sorts of friction in financial markets. Otherwise, any decline in rates would create an arbitrage opportunity, and markets would undo the effects of central bank purchases. One type of friction that is often invoked to motivate asset purchases is "market segmentation" — the idea that certain investors have a special attraction for holding certain assets. If, in addition, the ability of other traders to arbitrage various market segments is limited by wealth or credit constraints, then differences in risk-adjusted expected returns could emerge and persist.

I don't find this theoretical foundation for the efficacy of central bank asset purchases to be particularly compelling. In modern financial markets, many distinct market segments — for instance, Treasury securities of different maturities — are linked by an array of derivative contracts. An investor with a pure preference for, say, a 10-year bond, should be able to closely approximate their desired stream of payments with swaps linked to other securities. The breadth and variety of such contracts make it hard to believe that the degree of segmentation is enough for asset purchases to generate significant interest rate effects.

I also have found the empirical evidence on the effects of asset purchases hard to interpret. Some of the evidence, using event study analysis of the effects on long-term rates of announcements about purchase programs, is ill-suited to discerning the kind of persistent effect on rates that would be needed to influence economic decisions. During the short windows over which effects are measured, asset price movements can be dominated by transitory market liquidity effects. Other studies draw on changes in the net supply of U.S. Treasury securities of varying maturities using data from the years before the crisis, and hence before the Fed undertook a purposeful program of asset purchases. Finally, when an effect on rates is detected, it's often difficult to

distinguish direct effects on term premia from effects due to changing expectations of future short rates.

Beyond the interest rate effects of asset purchases, the effect on real economic activity is even harder to detect. One approach has been to combine an estimated interest rate effect with estimates from previous work on the effects of long-term interest rates on economic activity.[8] Another, more integrated approach is to use rudimentary macro models incorporating the segmented markets ideas mentioned above.[9] Efforts along these lines have found relatively small macro effects of large asset purchases. On balance, my reading of the evidence suggests that the direct economic effects of the Fed's asset purchases have been minimal.

This does not mean, however, that asset purchases can have no effect when the central bank's interest target is at its zero lower bound. Asset purchases increase reserves, after all, and thus in principle could induce rapid money growth and rising inflation pressures. Now, however, reserve balances are less than half of the liquidity buffer of the banking system, so at this point the reserve expansion has not forced inflationary adjustments in bank's balance sheets. It's also the case that market participants thus far do not appear to expect such inflationary consequences.

In principle, one can think of asset purchases and forward guidance as distinct policy tools. But it has proven difficult to treat them as such, because announcements about asset purchases at times seem to also have had an effect on the public's beliefs about future interest rate policy. Perhaps this should be expected. Both asset purchases and interest rate settings reflect the central bank's reading of economic prospects. A change in one policy will inevitably be attributed to some extent to a change in the central bank's views on economic conditions, which will in turn be informative about the likely path of the other policy instrument. An example of the difficulty in separating the two instruments could be seen earlier this year when the prospects of winding down the Fed's asset purchase program appeared to reduce the expected time period over which interest rates were expected to remain near zero. Thus it's unreasonable to expect communications about near-term asset programs to have no effect on interest rate expectations, unless one believes that the Fed is viewed as having no special expertise in assessing economic conditions.

Exit Risks

While I have doubts about whether the effects of the Fed's asset purchases in the current environment have been large, I do believe those purchases entail some risks. In particular, I see two areas for concern. First, our current unconventional policies may make it more likely that we act too slowly when it's time to raise rates, and may make such a delay more costly. And second, our large purchases and ongoing holdings of MBS open the door to additional political difficulties for the Fed.

Even in times of conventional monetary policy, there is a risk that short-term interest rates are not adjusted appropriately, in the sense that later information reveals that rates were too low or too high in relation to the central bank's objectives. This risk is an inevitable consequence of our imperfect information about the economy. Under normal conditions, the central bank's credibility for its longer-term inflation objectives helps ensure that the consequences of such

policy misses are small, as long as they are corrected before too long. My concern is that the combination of forward guidance and a very large balance sheet has raised the likelihood of policy mistakes going forward, and also has raised the cost of such mistakes, should they occur.

The forward guidance in recent FOMC statements reads, in part, that "highly accommodative . . . policy will remain appropriate for a considerable time after . . . the economic recovery strengthens." This wording can reasonably be interpreted as promising or foreshadowing a lower level of short-term interest rates than our usual policy would dictate. Of course, there is a rationale for such commitments in the work of Gauti Eggertsson, Michael Woodford and others, but that work typically does not incorporate the possibility of policy mistakes. If there is any content to the just-quoted FOMC statement, then surely it indicates a willingness to tolerate a greater risk of keeping rates too low for too long. If that outcome does occur, then the large quantity of excess reserves — $2.2 trillion as of last week — would allow the banking system to expand quite rapidly, compared to conventional times, when excess reserves were typically less than $2 billion. The quantity of net new deposits the banking system is capable of creating at any one time (absent Fed accommodation through reserve expansion) is limited by the quantity of excess reserves, after all, and a rapid expansion in bank lending, and thus banking system deposits, would tend to generate inflationary pressures.[10]

The Fed could, of course, respond to those pressures by raising the interest rate it pays on excess reserves. What's more, the FOMC's forward guidance about interest rates includes inflation trip wires (or "knockouts"), and I believe that the Committee sincerely intends to prevent inflation from persistently exceeding its 2 percent target. But the uncharted nature of the territory we will be in — with very large reserve balances and forward guidance that specifies necessary but not sufficient conditions for raising rates — inevitably raises both the odds of a timing error and the potential magnitude of the consequences. The need for vigilance regarding the emergence of these risks suggests that we pay more attention to monetary and bank credit aggregates than we typically do in more conventional times.

Risks to Independence

In addition to expanding the size of its balance sheet, the Fed has altered the composition of its asset portfolio through substantial purchases of mortgage-backed securities. The Federal Reserve held $1.4 trillion of agency MBS and debt as of September 18, 2013, or 38 percent of total assets. Central bank purchases of unconventional securities have the capacity to generate political risks because they can be seen as altering the allocation and pricing of credit. I've mentioned my skepticism about the size of the price effects of asset purchases. Nonetheless, the Fed's purchases of agency MBS are clearly intended to reduce their relative yields and lower the retail cost of housing credit. If these purchases actually succeed in lowering the cost of housing credit, then the cost of credit to other borrowers will be higher than it otherwise would have been had the central bank instead purchased only Treasury debt.

When a central bank uses its independent balance sheet to choose among private sector assets, it invites special pleading from interest groups and risks entanglement in distributional politics. Similar political risks face a central bank, such as the European Central Bank, allocating investments across multiple sovereign debt issuers.

Political pressure to channel credit to favored sectors is not without precedent in the United States. Congress gave the Fed authority to buy the debt of U.S. agencies such as the housing government-sponsored enterprises in 1966 in response to the "credit crunch" that year that reduced flows to housing finance.[11] At first, the FOMC limited its activities in agency securities to short-term repurchase agreements, but Congress pressed the Fed to conduct outright purchases, at times explicitly threatening legislation to mandate purchases and reduce the Fed's statutory independence. In 1971, the FOMC relented and began outright purchases of the debt of the housing government-sponsored enterprises.[12] (By 1981, purchases had stopped, and the Fed's holdings ran off gradually over the 1980s and 1990s. Outright purchases of agency securities were not conducted again until early 2009.)

How central banks manage the political risks associated with forays into credit policy may prove pivotal for the evolution of central banking in advanced economies.[13] A central bank's core responsibility revolves around its liabilities — that is, the monetary assets it uniquely supplies. Being organized as distinct, off-budget intermediaries, however, requires them to hold assets, and just what assets the central bank should hold has been something of a conundrum.[14] Central bank operational independence has been critical to effective monetary policy under the fiat money standard that has prevailed in the decades since the demise of the gold standard and the Great Inflation of the 1970s. That independence has enabled central banks to generally resist pressures to provide short-term stimulus that in the past led to bad inflation dynamics.

Of the risks associated with unconventional monetary policies, those associated with central bank holdings of unconventional asset classes may be the most consequential. Violating the implied truce under which central banks avoid credit policy has the capacity to perturb the delicate governance equilibrium supporting the independent conduct of monetary policy. History provides numerous examples of compromised central bank independence leading to calamitous monetary policy.

Conclusion

More broadly, the variety of ways in which central banks have ventured into unconventional realms has given rise to a broader set of challenges. Taken as a whole, these unconventional policy measures have elevated the public profile of central banks and spotlighted the breadth of their statutory authorities. To the extent that the public has been surprised in recent years by the degree of autonomy central banks enjoy and concerned about the efficacy or fairness of their policies, the legitimacy of existing central bank governance arrangements is bound to be called into question. This, I believe, is the most critical challenge that central banks will face in the years ahead.

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[1] I am grateful to John Weinberg, Alex Wolman, Andreas Hornstein, Robert Hetzel, and Huberto Ennis for assistance in preparing these remarks.

[2] See Huberto M. Ennis and Todd Keister, "Understanding Monetary Policy Implementation," Federal Reserve Bank of Richmond Economic Quarterly, Summer 2008, vol. 94, no. 3 pp. 235-263.

[3] See http://www.federalreserve.gov/monetarypolicy/bst.htm for detailed information on the Board of Governors' website on all of the Fed's emergency lending facilities.

[4] Marvin Goodfriend and Robert G. King, "Financial Deregulation, Monetary Policy, and Central Banking," Federal Reserve Bank of Richmond Economic Review, May/June 1988, vol. 74, no. 3, pp. 3-22.
[5] Marvin Goodfriend, "Why We Need an 'Accord' for Federal Reserve Credit Policy: A Note," Federal Reserve Bank of Richmond Economic Quarterly, Winter 2001, vol. 87, no. 1, pp. 23-32; and Marvin Goodfriend and Jeffrey M. Lacker, "Limited Commitment and Central Bank Lending," Federal Reserve Bank of Richmond Economic Quarterly, Fall 1999, vol. 85, no. 4, pp. 1-27.
[6] See Jeffrey M. Lacker, "Ending 'Too Big to Fail' Is Going to Be Hard Work," Speech at Global Society of Fellows Conference, University of Richmond, Richmond, VA, April 9, 2013; and "Understanding the Interventionist Impulse of the Modern Central Bank," Speech at Cato Institute 29th Annual Monetary Conference, Washington, D.C., November 16, 2011.
[7] Michael Woodford, "Methods of Policy Accommodation at the Interest-Rate Lower Bound," Paper presented at the Federal Reserve Bank of Kansas City Economic Policy Symposium, Jackson Hole, WY, August 31, 2012.
[8] Hess Chung, Jean-Philippe Laforte, David Reifschneider, and John C. Williams, "Have We Underestimated the Likelihood and Severity of Zero Lower Bound Events?" Journal of Money, Credit and Banking, February 2012, vol. 44, Issue Supplement s1, pp. 47-82.
[9] An example is Han Chen, Vasco Cúrdia, and Andrea Ferrero, "The Macroeconomic Effects of Large-Scale Asset Purchase Programs," Economic Journal, November 2012, vol. 122, no. 564, pp. F289-F315.
[10] Huberto M. Ennis and Alexander L. Wolman, "Excess Reserves and the New Challenges for Monetary Policy," Federal Reserve Bank of Richmond Economic Brief No. 10-03, March 2010.
[11] When the Fed raised interest rates to counter inflation pressures, the Regulation Q ceilings on deposit interest rates became binding and resulted in sudden disintermediation of the thrift industry, which dominated mortgage finance. See Robert L. Hetzel. "The Monetary Policy of the Federal Reserve: A History," Cambridge: Cambridge University Press, 2008, pp. 132-136; and Raymond E. Owens and Stacey L. Schreft, "Identifying Credit Crunches," Contemporary Economic Policy, April 1995, vol. 13, no. 2, pp. 63-76.
[12] Purchases subsequently expanded to include the debt of other agencies, including the Washington, D.C., transit authority. When New York City came close to default, Congress pressured the Fed for emergency loans and asked why the Fed could support Washington but not New York. See Allan H. Meltzer. "A History of the Federal Reserve," Volume 2, Book 2, 1970-1986, Chicago: University of Chicago Press, 2009, pp. 900, 993.
[13] Marvin Goodfriend, "The Elusive Promise of Independent Central Banking," Bank of Japan Monetary and Economic Studies, November 2012, vol. 30, pp. 39-54.
[14] See Jeffrey M. Lacker, "A Look Back at the History of the Federal Reserve," Speech at Christopher Newport University, Newport News, VA, August 29, 2013.