



# fed watch: balance sheet & interest rate normalization

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As the Federal Reserve (the Fed) moves toward the end of quantitative easing (QE) this year and begins to target interest rate normalization next year, we expect some unfamiliar tools to help smooth the transition to a less accommodative policy stance. For context, the size of the Fed's balance sheet has grown from about \$900 billion in 2008 to \$4.2 trillion in April 2014,<sup>i</sup> while policy rates have been set near zero since December 2008. How can the Fed reverse course without disrupting financial markets and potentially harming the recovery it has fought so hard to bring about?

We expect the Fed's balance sheet to remain persistently large throughout the process of interest rate normalization. We think the Fed will operate a "floor system," an approach to monetary policy that divorces the quantity of reserves in the system from the interest rate target. Under a floor system, the Fed will employ new tools to manage the level of short-term rates. We expect that these tools, specifically interest on excess reserves (IOER) and the reverse repo facility (RRP), will prove to be sound and sufficient for normalizing rates in the presence of a large Fed balance sheet. We do not believe this framework, or the tools used to implement it, will present any new mechanical or systemic risks. The Fed will retain control over the size of its balance sheet, the composition of its assets and the level of short-term interest rates.

It's important to note that the Federal Open Market Committee (FOMC) has yet to provide updated formal guidance on this topic.<sup>ii</sup> However, consensus appears to be building around a process like the one described below.<sup>iii</sup> Still, in the absence of formal guidance, what follows is educated speculation.

## THE FED'S TOOLKIT

The Fed was granted the authority to pay interest on reserves (IOR), both required (IORR) and excess, in October 2008.<sup>iv</sup> The ability to pay IOER should, in theory, allow the Fed to employ a floor system, with the level of short-term rates determined by the rate paid on reserves, regardless of the quantity of those reserves. Though IOER is available only to depository institutions, the presence of arbitrage opportunities should, in theory, pull all short-term rates toward this rate. However, due to capacity constraints and regulatory considerations, institutions have had limited ability and incentive to capitalize on these arbitrage opportunities. As a result, IOER has been a very ineffective floor so far, and many short-term rates (fed funds, Treasury repo, etc.) have persistently cleared well below it. While the degree of deviation has thus far been constrained by the proximity to the zero lower bound, this could present a significant challenge when it comes time for the Fed to lift the policy rate. In the presence of a large Fed balance sheet, IOER alone is unlikely to be sufficient in maintaining a floor on short-term rates in a rising rate environment.

## KEY TAKEAWAYS

- The size of the Fed's balance sheet should remain large throughout the normalization process.
- RRP and IOER, set equal to one another, will likely be the primary policy rates. This should provide an effective floor for short-term rates. The link between the quantity of reserves (the size of the Fed's balance sheet) and the policy rate would be severed; the federal funds rate temporarily becomes obsolete.
- The Fed retains control over the size and composition of the assets on its balance sheet, allowing responsiveness in future bouts of stress.
- The Fed's liabilities will be primarily comprised of currency in circulation, bank reserves and RRP. Market demand for liquidity will largely determine the ratio of reserves to RRP, with minimal consequences for policy.



Enter the RRP. Similar to IOER, RRP represents an overnight risk-free asset. Importantly, and unlike IOER, RRP is directly accessible by nonbanks, like the government-sponsored enterprises (GSEs) and money market mutual funds. Indications are that RRP will soon become a full allotment facility, thereby removing any capacity constraints. Together, RRP and IOER will provide broad, direct access to the policy rate. This will greatly reduce reliance on arbitrage activities for policy transmission and will result in a much more effective floor on short-term rates.

When it comes time to increase the policy rate, RRP and IOER will presumably be set at a similar rate and will move higher in lockstep. This framework will allow the Fed greater ability to control the level of short-term rates without regard for the quantity of reserves. The market will be left to determine the composition of the Fed's liabilities, composed of currency in circulation, excess reserves and RRP. Presumably, market demand for liquidity will determine the balance between excess reserves and RRP. Assuming similar rates, the ratio of RRP to excess reserves is of minimal consequence for policy or the greater economy.

In this framework, the federal funds rate would become obsolete. In reality, due to the high outstanding level of reserves, it already is. As of December 2013, it was estimated that there were only about \$60 billion notional outstanding in federal funds transactions.<sup>17</sup> The amount of excess reserves currently stands at just about \$2.5 trillion.<sup>18</sup> While the fed funds rate would cease to be a policy target, the fed funds market would remain, and a relatively small volume of interbank transactions would continue to take place. In "normal" times, the fed funds rate should clear marginally above the RRP rate; RRP is a secured transaction (with the Fed as counterparty), while fed funds are unsecured interbank transactions. In times of stress, the fed funds rate could drift wider than the RRP rate.

We have yet to address the term deposit facility (TDF), which is another of the Fed's new reserve management tools. We do not expect TDF will be an integral part of the new framework. TDF does little to improve upon the IOER framework, as TDF is only available to depository institutions already eligible for IOER. Presumably, in order to entice participation in TDF, the Fed would have to offer a positive term premium above the expected path of the overnight policy rate. This seems an unnecessary complication with no obvious operational benefits. This isn't to say that TDF couldn't serve as a signaling tool or provide the Fed with more direct control over very near-dated forwards; it could. However, in the course of normal policy operations, we believe that the use of TDF would dilute the communication of monetary policy.

## CONSIDERATIONS

A persistently large Fed balance sheet in a rising rate environment increases the probability that the Fed will one day find itself in a negative carry position. This would occur if the weighted average financing cost of its liabilities (currency, reserves and RRP) exceeds the rate of income on its assets. We believe this is inconsequential in an economic sense, but it could increase political pressure on the Fed.

Some continue to express concern over a dire scenario in which this large pool of liquidity becomes "hot," and the Fed finds itself unwilling to raise rates to a level necessary to rein in liquidity. Fundamentally, it is extremely difficult to envision a scenario in which this combination of events would come to pass. However, if this were to somehow occur, the Fed could utilize another traditional policy tool: the reserve requirement ratio. An increase in the reserve requirement ratio would immediately convert a share of excess reserves into required reserves, reining in liquidity without a change in the policy rate.

We do not expect an impact on LIBOR, which should continue to trade at a positive spread above the expected path of the underlying policy rate, from the mechanical effect of shifting the de facto policy rate to RRP and IOER. However, the framework described above affords the Fed plenty of flexibility in responding to a potential shock. Should an alternative framework limiting the Fed's flexibility be adopted, LIBOR could widen relative to the policy rate.



## THE END GAME

Over time, as the level of GDP grows and the Fed's assets are allowed to pay down or mature without reinvestment, the Fed's balance sheet will eventually shrink to what might be considered a more appropriate size relative to GDP. However, the question of what might be the appropriate size, or the steady state of reserves, is likely to remain open for some time. We expect the Fed's balance sheet to be larger than what was considered normal before the financial crisis.

We believe the IOER and RRP will be mainstays of the policy toolkit going forward. Initially, they will be the primary policy rates and will set the floor in a rising rate environment. Eventually, if and when the size of the balance sheet and the level of rates normalize, the Fed could transition from a floor system to a "corridor system," with the fed funds rate re-emerging as a policy tool. In a corridor system, IOER and RRP would continue to provide the floor, the discount rate would provide the ceiling, and the fed funds target rate would be set within the corridor. The Fed would employ more traditional open market operations to actively manage the quantity of reserves in order to drive market rates toward the target rate. However, we think a corridor system is a distant consideration and believe the Fed will maintain a larger steady-state quantity of reserves with a floor system for quite some time.

## ENDNOTES

<sup>i</sup> Federal Reserve Economic Data (FRED), Federal Reserve Bank of St. Louis, *All Federal Reserve Banks—Total Assets, Eliminations from Consolidation (WALCL)*, Board of Governors of the Federal Reserve System, <https://research.stlouisfed.org/fred2/series/WALCL>, as of April 17, 2014.

<sup>ii</sup> *The Fed last addressed its exit strategy in June 2011. The blueprint established then has since been deemed outdated.*

<sup>iii</sup> *This analysis draws on ideas set forth in a Peterson Institute for International Economics paper entitled "Monetary Policy with Abundant Liquidity: A New Operating Framework for the Federal Reserve," by Joseph E. Gagnon and Brian Sack. <http://www.piie.com/publications/pb/pb14-4.pdf>.*

<sup>iv</sup> *The authority to pay IOR was granted in 2006 and was set to become effective in 2011, but with the onset of the financial crisis, the effective date was pulled forward to 2008.*

<sup>v</sup> *Gara Afonso, Alex Entz, and Eric LeSueur, "Who's Lending in the Fed Funds Market?", Liberty Street Economics blog post, Federal Reserve Bank of New York, December 2, 2013, <http://libertystreeteconomics.newyorkfed.org/2013/12/mbs-lending-in-the-fed-funds-market.html>, as of April 17, 2014.*

<sup>vi</sup> Federal Reserve Economic Data (FRED), Federal Reserve Bank of St. Louis, *Excess Reserves of Depository Institutions (EXCSRESNS)*, Federal Reserve Bank of St. Louis, <https://research.stlouisfed.org/fred2/series/EXCSRESNS>, as of April 17, 2014.

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