

Workshop Comments: How should central banks steer money market interest rates?

By Lou Crandall
Wrightson ICAP

Prepared for the workshop, *Implementing Monetary Policy Post Crisis: What have we learned? What do we need to know?*

Columbia SIPA and the Federal Reserve Bank of New York
May 4, 2016

Comments on presentations by Francesco Papadia and Todd Keister

My comments will mainly focus on the points that Todd has made about the LCR. First though, I must say that I was intrigued when I saw Francesco's proposal for a derivatives-based strategy for bracketing overnight rates. Balance sheet constraints at the Fed's traditional counterparties could be an issue in the new world, and a derivatives-based operating framework could solve a lot of problems.

That said, Todd's presentation will be my primary focus, because the LCR really is a game-changer. The LCR has leapfrogged required reserves as the effective liquidity constraint on large banks in the U.S. It completely changes their liquidity management, and is likely, therefore, to change the way the Fed operates in the money markets. The LCR's long-run implications are being masked today because we have an abundance of reserves. I think it's too early to say what the Fed's operating procedures will look like once the balance sheet starts to normalize, but I'm pretty sure those procedures will have to take LCR effects into account.

Because there is so much uncertainty, I'm going to talk more about the kinds of problems I think the Fed's Open Market Desk will have to resolve in the coming years than about the still very uncertain solutions at which it will ultimately arrive.

I have three basic points to make.

1. Providing HQLA is unequivocally an appropriate role for the Fed.

I don't think there is any question that providing an adequate supply of LCR-eligible HQLA is a legitimate central bank function. In fact, I think it is a central bank obligation. One of the core roles of any financial system is to provide liquidity services to the public, and the new regulatory framework stipulates that those services can only be provided by regulated intermediaries if they hold commensurate amounts of central government or central bank liabilities as a liquidity reserve. Having imposed that liquidity requirement on banks, it would be perverse to starve the system of the HQLA needed to meet the legitimate liquidity needs of the nonfinancial public.

I understand why, at first glance, helping banks to meet their LCR requirements might seem like "cheating" on the part of the regulators. However, I think the opposite is the case. The LCR is a micro-prudential rule that is designed to make individual institutions more resilient; it is not a monetary-control device that is intended to prevent excessive aggregate credit creation. If the central bank artificially inflates the cost of meeting the new micro-

prudential requirements by creating a scarcity of LCR-eligible assets, it will either (1) impose unnecessary costs on bank customers or (2) encourage outflows to shadow-bank liquidity providers who are not subject to the tender mercies of Basel III. Avoiding inefficient and costly obstacles to liquidity provision is, to my mind, a natural 21st century extension of the “elastic currency” mandate in the preamble to the Federal Reserve Act.

2. The regulatory regime is really complex

While I think it’s clear that the LCR will help shape the dynamics of the post-normalization money markets, it is much harder to predict exactly what those dynamics will look like. The new regulatory framework, by design, has a large number of overlapping capital and liquidity rules. Different constraints may be binding at different times, and we don’t really know how banks will respond to them. It is impossible to do an armchair exercise to tell you what the marginal regulatory cost or regulatory constraint on a given kind of activity might be.

To take a narrow example, consider the potential range of responses of banks that hold fewer reserves than they want in the new world.

- I. Small banks are still subject to the old reserve requirement regime rather than the LCR. Therefore, they will respond to reserve deficiencies the way they always have—they will pay up for funds in the market rather than go to the discount window.
- II. A large bank whose LCR cushion was getting uncomfortably low might *reduce* the overnight rate it offers its customers and increase its term rates on a strategic basis in order to steer more funding into longer tenors. This is the kind of behavior predicted by [Todd’s paper](#), and is likely to be a critical part of money market dynamics going forward.
- III. A large bank that was in danger of actually breaching its LCR floor might follow a hybrid approach. It might lower the overnight rate it offers to relationship customers in an effort to restructure its core funding mix, while at the same time paying higher rates anonymously in the overnight brokered market to get more reserves into its account. The additional overnight borrowing by itself is a wash from an LCR perspective, as it boosts the numerator and the denominator by identical amounts. However, the increase in Level 1 HQLA may allow the bank to count more Level 2 HQLA against the LCR. (Only 60% of HQLA needs to be Level 1, and many banks will have surplus Level 2 assets on the balance sheet.) Unlocking surplus Level 2 HQLA by borrowing Level 1 assets overnight is an expensive long-run strategy from a leverage ratio perspective, but is clearly preferable to the embarrassment of an LCR violation.

In other words, different institutions may respond to the same circumstances in polar opposite ways, and there are even cases where the same institution will respond in different ways over time. The point is simply that we have no idea how aggregate funding behavior will respond to today’s intricate web of regulations that banks face once we move out of a world with a massive reserve surplus. It will be a very interesting but purely empirical question.

As an aside, it is worth noting that the specific question of how banks will respond to the new stack of liquidity regulations is actually relatively tractable compared to some of the other uncertainties about regulatory incentives in the post-crisis world. The new regulations impose so many clear-cut numerical thresholds that it would seem as though it should be possible to calculate marginal capital charges and regulatory costs with some confidence. However, the complex interactions of these regulations in the context of the firm's CCAR, CLAR, FRTB and [living-will](#) compliance efforts make it difficult to determine *a priori* how an individual institution will respond to market incentives in any given product at any given point in time. Having a better grasp of the internal capital markets at major institutions would be very helpful in understanding the actual costs and benefits of the various regulatory safeguards we have put in place.

3. The HQLA market is really complex

One of the defining characteristics of an LCR world is that Fed balances and Treasury securities are fungible. The old reserves market was a model of simplicity. You had one monopoly issuer (the Fed) providing a single instrument (reserve balances) to a homogenous group of buyers (banks) who needed the asset for only one reason (to meet statutory requirements). The Fed was in command of both sides of the market, as it could calculate the demand for reserves with nearly perfect precision, and had the operational tools to control the supply of reserves quite well.

The HQLA market is much more complicated place. On the supply side, there are now two issuers of Level 1 assets (the Fed and the Treasury), each of whom issues multiple forms of liquid instruments (reserves, RRP and clearinghouse deposits for the Fed; bills, FRNs and less liquid but still LCR-eligible coupons for the Treasury). On the demand side, there is now a diverse set of competing players who want to hold liquid assets for differing reasons (banks who must comply with the LCR, money funds who want liquid investments, investors who need to post high-quality collateral, etc. Post-normalization, the Fed will not be able to predict or control either side of the HQLA market with anything like the precision with which it could manage the pre-crisis market for reserves.

On the supply side, the Open Market Desk will face a broader set of challenges in stabilizing money market rates at an efficient equilibrium that is consistent with the FOMC's policy goals. Even leaving aside the fact that the broad HQLA market will be affected by shifts in the balance of supply and demand in the Treasury bill market, the Fed will have less control over the composition of its own balance sheet than in the past. The Treasury deposit at the Fed is one autonomous factor that will be much more difficult to predict in the future due to the demise of the Treasury tax and loan system and to recent changes in the government's cash management guidelines. Moreover, the expansion of the new category of not-quite-autonomous factors like the Fed's overnight RRP facility and interest-bearing deposits for clearinghouses introduces a whole new level of complexity. Activity in these programs, which will siphon off reserve balances that would otherwise have been available to meet banks' LCR requirements, will be sensitive to movements in market

interest rates. That will create new market feedback effects unlike anything we have seen in recent history. The increased scope for volatility in these components of the Fed's balance sheet could well mean that defensive "fine-tuning" open market operations in the future will be scaled in the hundreds of billions of dollars.

On the demand side, things get even trickier. In the current market environment, the Fed thinks of IOER arbitrage trades as a fundamentally stabilizing activity. In today's world, banks that borrow in the overnight market and leave the cash at the Fed in order to earn a spread relative to the IOER are helping to peg the effective fed funds rate in the middle of the Fed's target range. However, in a world with an LCR constraint on large banks and without an abundance of reserves, IOER arbitrage could become a significant complication for the Fed's Open Market Desk. Any reserves bottled up in the accounts of arb players become unavailable to meet either LCR needs or reserve requirements. As the [Bech and Keister paper](#) argues, a shortage of HQLA will tend to push overnight rates lower. That, in turn, would make the Fed IOER arb more attractive for any banks (especially FBOs) that are unconstrained by the LCR.

This is a potentially unstable dynamic. As market rates fall, more reserves are diverted to non-LCR purposes. That further increases the incentive for LCR-bound institutions to *lower* their overnight bid rates, reinforcing the downward trend in overnight money market rates. The Fed may need to step in to prevent feedback effects from disrupting money market rate relationships.

The bottom line is that interest on reserves is a fairly straightforward tool in a required-reserves world, but it's much more complicated in an LCR world.

And as another aside: It's important to note that only banks that are unconstrained by the LCR/SLR nexus will be able to do the IOER Fed arb. If there are no banks left to do that arb, then nuclear winter descends on the overnight market. The overnight unsecured deposit rate is only reliably linked to other rates when the overnight market is active – either because banks actually fund themselves there or because cash providers actively rely on that market for excess investment capacity. If the overnight market degenerates into a place where banks merely "exchange excess reserves" (an over-used shorthand that hasn't really been accurate in decades), overnight rates will be erratic and highly idiosyncratic. Regulatory debates often take for granted that restoring reserve scarcity would revive interbank "excess reserve" trading and make the effective fed funds rate and the overnight bank funding rate even more relevant measures of market activity than they are today. I think the opposite is true: in a world of rising reserve scarcity, both the EFR and OFR are potentially subject to *more* idiosyncratic pressure. The surprise here is that a smaller Fed balance sheet will actually make the Open Market Desk's life more difficult rather than less.

Conclusion

The complexity of the HQLA market will pose an array of new operational challenges for the Desk. However, that complexity itself is not necessarily a bad thing. Markets work best when they bring together a broad range of players participating for diverse reasons, and the HQLA market will certainly answer to that description. It will be less prone to the

extreme tail outcomes that were characteristic of the old reserves market, in which overnight rates could soar to the level of the Fed's overdraft charge on settlement dates if reserves happened to be in short supply, or crash nearly to zero if there was an inadvertent glut. The fact that the market for HQLA will be less artificial than the old reserves market will make it more difficult for the Desk to manipulate it, but the market itself may function reasonably well.