

Get up off the floor

Remarks at Currencies, Capital, and Central Bank Balances: A Policy Conference

Panel on the Future of the Central Bank Balance Sheet

Hoover Institution

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Thank you.

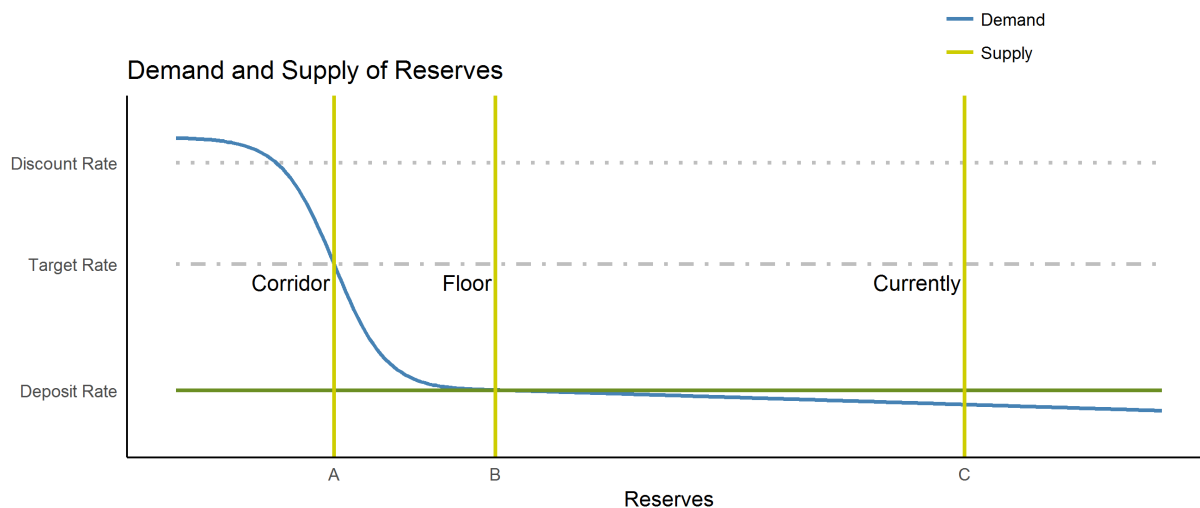
My remarks today will focus on three things. First, I will make the positive case for a small balance sheet/corridor system for the Fed's monetary policy implementation framework in the longer run. Second, I will list shortcomings of a large balance sheet/floor system. And third, I will describe some pitfalls in the process that have left us where we are now.

But first, a little background. By "corridor system" I mean a monetary policy framework where the Fed supplies a sufficiently small quantity of reserves that the fed funds rate trades between the IOER rate and the discount rate. I will often refer to this as the pre-crisis framework even though the Fed couldn't pay interest before the crisis so the bottom of the corridor then was 0. What I currently have in mind is that the Fed would continue to pay interest on excess reserves, but that that rate would be well below market rates – perhaps 50-100 basis points below.

This chart, which I believe will be familiar to most of you, illustrates the situation. The blue line is banks' demand for reserves at different levels of the fed funds rate. The yellow vertical line is the supply of reserves. As a result of large-scale asset purchases, the size of the Fed's balance sheet, and therefore the level of reserves, is enormous. The yellow line is currently far to the right, a bit over \$2 trillion. At that level, the fed funds rate has to be equal to or even a bit below the interest rate the Fed pays on reserves to leave banks content to hold the reserve balances supplied.

At present, the yellow line is creeping to the left as the Fed lets some assets mature without reinvesting the principal.

¹ These are my views, not those of The Clearing House or its member banks.



Eventually, supply will, or may, get to a point where it intersects the blue line at the IOER rate, point B. That point is the minimum quantity of reserves at which the Fed can operate a floor monetary policy framework. Any smaller, and the federal funds rate would be above the floor. No one knows where that point is. I think it will be at a high level, perhaps not that far below where we are now, for reasons I will discuss in a minute. But really, we are all just waiting and observing. A number of the costs of a floor-based system go up with the minimum necessary size of the balance sheet, so knowing where that point is will help the Fed decide about its framework.

Even further to the left, point A is where the supply curve hits the demand curve right in between the discount rate and the IOER rate. That is the supply consistent with a corridor system. Prior to the crisis, that level was about \$15 billion, with only \$1-2 billion in excess reserves. No one knows where that point is now either, although I suspect it is quite low for reasons I will discuss.

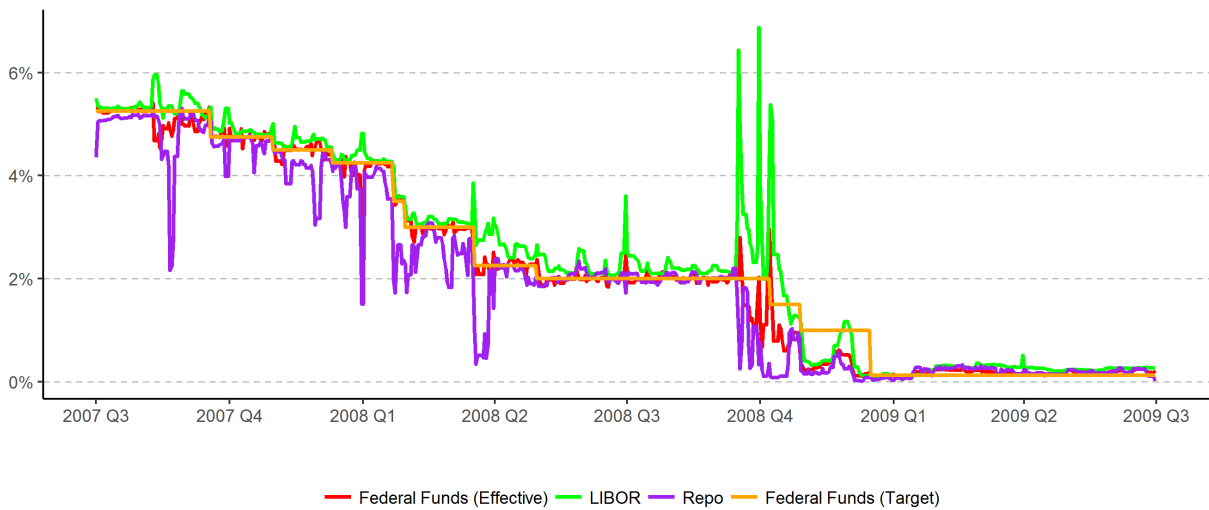
We may, of course, never learn where point A is, if the Fed decides to stick with a floor system. I think that would be a mistake, for a number of reasons.

Why is a corridor system preferable?

First, the Fed's pre-crisis framework worked well in normal times. The Fed conducted monetary policy by means of relatively small repos with broker dealers. Those transactions allowed the Fed to influence the fed funds market, a relatively small market where the Fed had tight control of both supply and demand. The Fed was usually not a counterparty in the fed funds market, except for the rare discount window loan. Changes in the fed funds rate were transmitted effectively to other money markets, including the repo market and term markets. Thus, without being an important counterparty to anyone, the Fed still had effective control of interest rates and thereby the economy.

Moreover, the pre-crisis framework also worked well in the crisis. From August 2007 through December 2008, the crisis was underway, but the FOMC's target range was not at zero. While spreads between money market rates became large and variable, as can be seen in the graph, reductions in the funds rate were still transmitted one-for-one into other money market rates.

Federal Funds vs. Money Market Rates



Source: FRED and TCH Staff Calculations

For reasons I will come to, a small balance sheet is better than a large balance sheet, and a small balance sheet is only possible under a corridor system, not a floor system. Banks are currently holding over \$2½ trillion in liquid assets to meet the liquidity coverage ratio requirement. If the interest rate the Fed pays on reserves is equal to the fed funds rate and approximately equal to other money market rates, banks will choose to satisfy their liquidity requirement in large part with reserves. The Fed will, of course, then have to meet that demand by holding a large portfolio of securities.

By contrast, under the corridor system, the Fed would end up with a relatively small balance sheet. I spoke with a number of bank Treasurers and CFOs about how they would adjust if the interest rate the Fed paid on excess reserves were 50-100 basis points below the fed funds rate. Not surprisingly they indicated they would find a way to minimize their excess reserves balances. They would reduce their LCR requirements by borrowing beyond 30 days or lending within 30 days. And they would hold Treasury or agency securities instead of reserves. There should be no shortage of securities: if the Fed is providing fewer reserves, it is holding correspondingly fewer government securities.

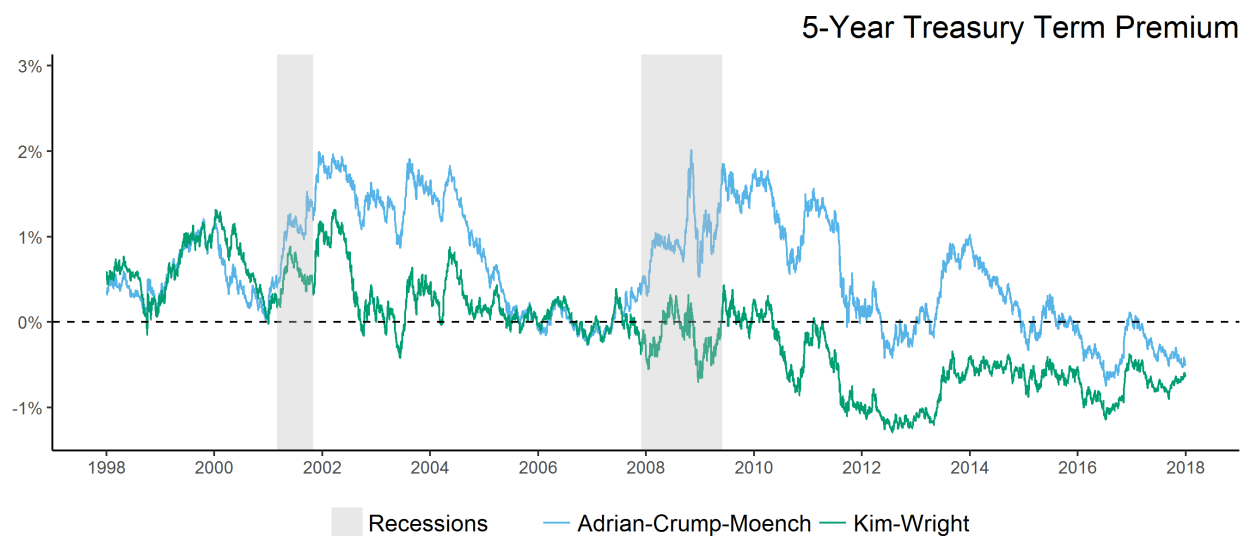
Finally, a smaller portfolio leaves the Fed better prepared if short-term rates again fall to zero. While theoretically it shouldn't matter, realistically, it would be easier for the Fed to conduct an asset purchase program starting with a small balance sheet.

What then is so bad about a floor system? In a nutshell, it will put the Fed at risk and increase its role in the financial system.

The first risk to the Fed is that it could lose completely the authority to pay interest on reserves. Currently, the Fed is paying interest at an annual rate of about \$37 billion. If excess reserves decline and interest rates rise as projected by the FOMC, then interest payments will gradually fall. However, if the demand for excess reserves remains elevated, or if the Fed needs to increase the fed funds rate quickly to prevent an unwanted rise in inflation, interest payments would rise, possibly sharply. Congress might

see such large payments to banks as unacceptable, and so take away or constrain the Fed's ability to pay interest on reserves.

The second risk is that a large balance sheet will reduce the Fed's income relative to a small balance sheet, which could have political implications. The Fed's expected net income is lower, not higher, for each Treasury security it holds in excess of currency outstanding. Treasury term premiums are negative, have been negative for years, and are likely to remain negative. If the 5-year term premium remains about -50 basis points, the Fed operates using a floor system, and excess reserves are about \$2 trillion, then the Fed will earn and remit to Treasury \$10 billion less each year than if the IOER rate was well below the fed funds rate and excess reserves were near zero.



Sources: FR Board of Governors, FRBNY

More broadly, a large balance sheet/floor system framework for monetary policy may result in the Fed becoming a much more integral part of the financial system than under a corridor system. If the Fed decides that it intends to control money markets broadly, rather than just the fed funds rate, and do so using deposit and lending facilities, not scarcity, it will inevitably find itself on one side or the other a huge amount of transactions. It is particularly doubtful that the Fed can successfully control the repo market, a massive market for which the Fed controls neither demand nor supply, without massive interventions. While the corridor system offered good monetary control with a small footprint, a floor system may offer relatively poor control with the Fed counterparty to all.

Problems with the process

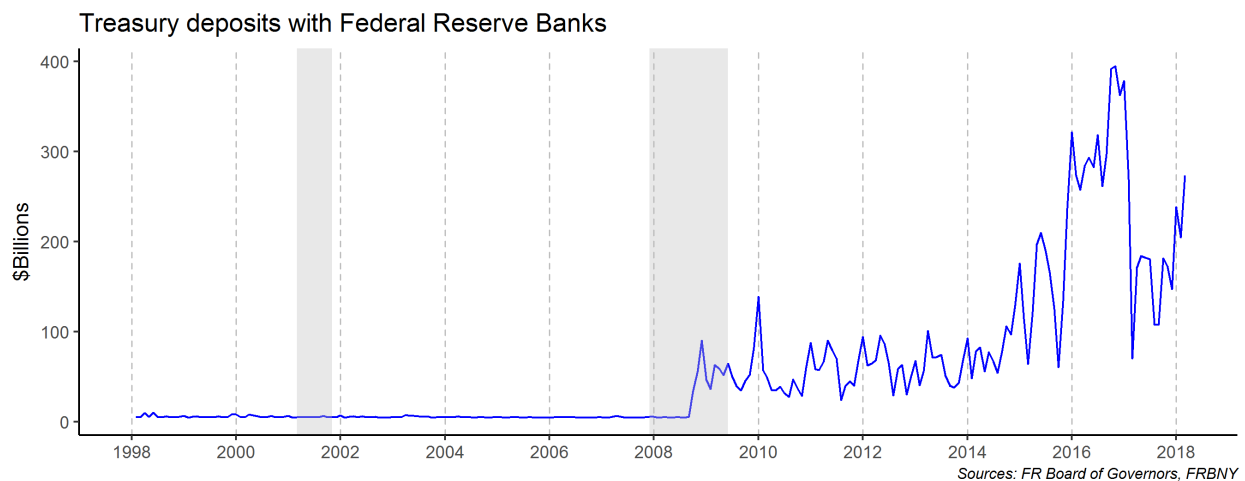
Over the past decade, the FOMC made a series of decisions about its balance sheet to address immediate problems that ended up having implications for its longer-run framework. In some cases, the FOMC made time-inconsistent plans in order to forge an internal consensus to provide more accommodation, only to later conclude those plans were unworkable. For example, when considering QE3, the Committee based its decision on a staff balance sheet forecast in which the purchases would end in 6 months even though the staff economic forecast showed no decline in the unemployment rate

over that period. The forecast for a limited purchase program was based in part on an implausible plan that, if necessary, the FOMC would simply announce that the program wasn't working. In the event, the program continued for 21 months.

Also noteworthy is the evolution of the Committee's plans for reducing its balance sheet. In June 2011, the Committee published "exit strategy principles" that included a plan to sell MBS gradually once tightening had begun. But in June 2013, in order to continue the flow-based purchases without having to contemplate losses on future asset sales, the Committee announced that it no longer intended to sell MBS, a decision enshrined in the new normalization principles it announced in 2014.

Lastly, the Fed has taken actions that have left it in a floor system for an extended period, and those actions both make a floor system look attractive and a corridor system look implausible. With excess reserves topping \$2¼ trillion, the fed funds market should have died entirely and today mostly consists of GSEs lending to FBOs. Now floor-system-advocates ask "How could the Fed target the interest rate in such an illiquid and odd market?"

With interest rates at zero, commercial banks were no longer able to provide the Treasury interest on its deposits, so the Treasury switched its deposits entirely to the Fed. The resulting increase in volatility of that account, shown in the graph, which causes corresponding volatility in the supply of reserves, hasn't troubled the Fed in a floor system but would make a corridor system unworkable.



With IOER above market rates, banks are satisfying liquidity requirements with excess reserves; indeed a number of bank consultants have told me that supervisors require that banks meet the requirements in large part with reserves, not with the alternatives. If that's true, then it is not just difficult, but impossible for the Fed to return to a small balance sheet.

Going forward, if the FOMC officially changes its monetary policy target from the fed funds rate to its new, broader, overnight bank funding rate, or its new secured overnight financing rate, a large balance sheet/floor system becomes almost inevitable. On the other hand, I suspect that it will only take a few

more grillings of Chairman Powell by Congress about the size of interest payments before a corridor system looks good again.