SVB and Beyond: Regulating for liquidity

Darrell Duffie
Stanford University, Graduate School of Business

Remarks at
How to Get Back on Track: A Policy Conference
Hoover Institution, Stanford University
May 12, 2023

Thanks for the opportunity to speak with you all today about what we have learned from recent banking failures. First, however, I want to add my congratulations to John Taylor on the 30th anniversary of the Taylor rule.

As Professor Admati has just emphasized, we've learned a lot of lessons in the last couple of months about weaknesses in the regulation and supervision of banks. The failures of post-financial-crisis regulation and supervision of banks pretty much cover the gamut. These are quite disappointing, and implicate regulatory frameworks for failure resolution and capital sufficiency. In the area of capital requirements, we saw failures of stress testing, disclosure, and accounting---the entire capital regime. Let's just stipulate, as Anat has, that this was a solvency crisis.

However, I want to focus on what has been revealed by recent events about weaknesses in liquidity regulation. This is not to suggest that liquidity was the cause of failure of these banks, which was instead insufficient capital. However, as shown in Figure 1, which appeared this week in the Federal Reserve's Financial Stability Report, we've also learned that depositors at large banks are likely to flee from a bank now much more quickly now than they have in prior bank runs. You can see on this chart, for each of the largest bank failures of recent decades, the largest one-day deposit outflows. In the cases of Signature Bank and Silicon Valley Bank, more deposits left in a single day than the Fed’s Liquidity Coverage Rule (LCR) had anticipated would leave in an entire month.

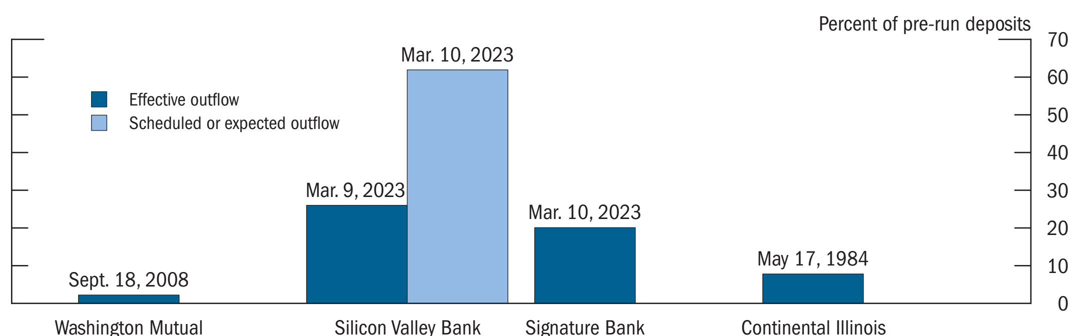

Figure 1. Significant one-day deposit outflows during several large bank failures. Source: Financial Stability Report, Federal Reserve Board, May, 2023.

What has changed the speed with which uninsured or large depositors might run, and what can the Federal Reserve can do about this?

According to recent analysis by Jason Goldberg of Barclays that was released last week, over the last decade there has been a huge increase in the amount of online banking and and even larger increase in mobile banking. For just for three large US banks, the number of their customers using mobile banking increased from about 20 million to about 120 million over the last 12 years. That's remarkable. Aided by other technology including social media such as Twitter, large wholesale depositors are connected to each other and to the news, while digital banking technology gives them the ability to move their money nearly instantly. And this is exactly what we saw at SVB and Signature Bank. People are not lining up outside the banks as they were in past classic bank runs.

Consider the hypothetical bank whose assets and liabilities are depicted in Figure 2. This is not intended to represent any particular actual bank. This bank has a large amount of wholesale deposits, essentially uninsured, as well as some insured deposits and other liabilities. This bank is meeting the LCR because, in current regulations, it's assumed that even over a 30-day period, depending on details that we won't cover today, either 25% or 40% of these wholesale operational deposits are at risk of fleeing the bank. So, this bank seems not to require much liquidity coverage under current standards. But I just showed you a moment ago in Figure 1 that perhaps 40% or 60% of wholesale deposits could leave in a single day. So something about liquidity regulations should be fixed.

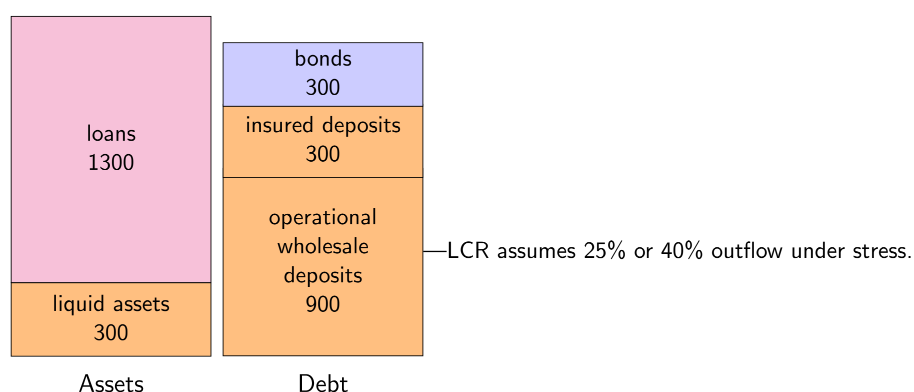

Figure 2. A weakened bank that meets the current Liquidity Coverage Ratio Rule, regarding coverage of potential outflows of deposits over a 30-day period.

Going forward, for the case of a solvent but weakened bank, how much liquidity, and what forms of liquidity, will be judged adequate to prevent a classic and destructive Diamond-Dybvig sort of bank run?

Banks currently meet a large part of their liquidity coverage requirements by stocking up on high quality liquid assets (HQLA). But suppose we get much more realistic about how much coverage is required for wholesale large uninsured depositors. If we assume, as I would, that a large depositor would leave essentially instantly, then one needs roughly 100% coverage of the wholesale uninsured depositors. Some of you might find that shocking. Do we really need to zoom from about 25% liquidity coverage to 100%? There are people here today from the private sector. If one of you were to learn today that a bank in which you are keeping your firm's uninsured deposits is at risk, what fraction of your deposits would you choose to leave in the bank? And how many of you might be left out of the news of that event? Well, I think the answer is pretty clear. If it were me, I would almost instantly move all of my deposits. Realistic liquidity coverage for these sorts of depositors would be close to 100%. Some of you knowledgeable pragmatists in the audience might say, "That's ridiculous, because it would trap in the banking system an enormous quantity of high quality liquid assets, which, for most of the time, are completely idle and unuseful."

An example of the negative impact of trapped HQLA occurred in September of 2019, when large banks were unwilling to let go of their Federal Reserve deposits to quell a serious liquidity problem in wholesale funding markets. Overnight interest rates in Treasury repo markets went up by nearly 1,000 basis points, intraday. On the JP Morgan earnings call that immediately followed that September 2019 crisis, Jamie Dimon was asked by an analyst why he didn't invest JP Morgan's enormous Federal Reserve balances into repos in order to earn those high interest rates. That form of arbitrage would probably have brought the repurchase agreement market from crisis back to normalcy. In his response, Jamie Dimon referred specifically to liquidity regulations that require large banks to cover all of their intraday liquidity needs—not merely over 30 days—with their own resources. The most popular liquidity source for meeting these requirements is Federal Reserve deposits. In effect, an enormous quantity of Federal Reserve deposits are now trapped by regulation. Figure 3 illustrates that, for adequate liquidity coverage, trillions of dollars of uninsured deposits in the US banking system would need to be covered by high quality liquid assets, including Federal Reserve deposts. That's just not realistic—unless the Fed increases the size of its balance sheet even further.

What regulatory change would satisfy my suggested need to radically increase liquidity coverage but at the same time allow for a much more realistic and useful approach for satisfying the crisis liquidity resources needed by banks? Going back to the formation of the Federal Reserve System, the primary purpose of the Fed has been to provide crisis liquidity to banks as a lender of last resort (LOLR). In the sort of crisis episode that we have seen over the past two months, banks should have posted lots of their assets at the Fed's discount window in order to receive the liquidity that they need to cover fleeing depositors. But that was not the case. Under current regulations, lender-of-last-resort liquidity from the Fed that does not count toward meeting a bank's regulatory liquidity needs. Currently, banks must be self-reliant in meeting their liquidity requirements.

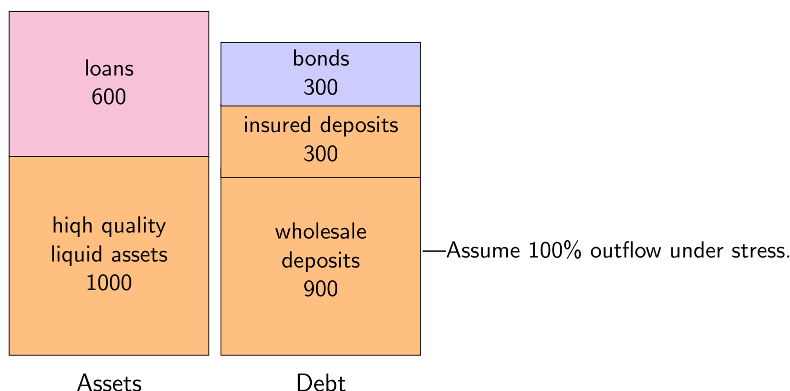

Figure 3. A bank that ties down a large stock of high quality liquid assets to meet a realistic assumption on deposit outflows.

That's a mistake, which has been recognized by others. In an exchange this morning with Bill Nelson of The Bank Policy Institute, Bill pointed to Mervyn King's speech, *Pawnbroker of Last Resort*, in which King suggests that the discount window should count toward bank liquidity requirements. That idea has been picked up by a number of others, including Bill Nelson himself and also my co-panelist today, Randy Quarles, in a speech that he gave some years ago. This approach of including LOLR support toward meeting regulatory liquidity requirements, depicted in Figure 4, has been tried in some countries, but not in the United States. This regulatory approach should be pushed forward in the US so that banks can both cover the liquidity needs imposed by their depositors and at the same time not tie down so much high-quality liquid assets that those liquid assets are not available in sufficient quantity when they're most needed elsewhere.

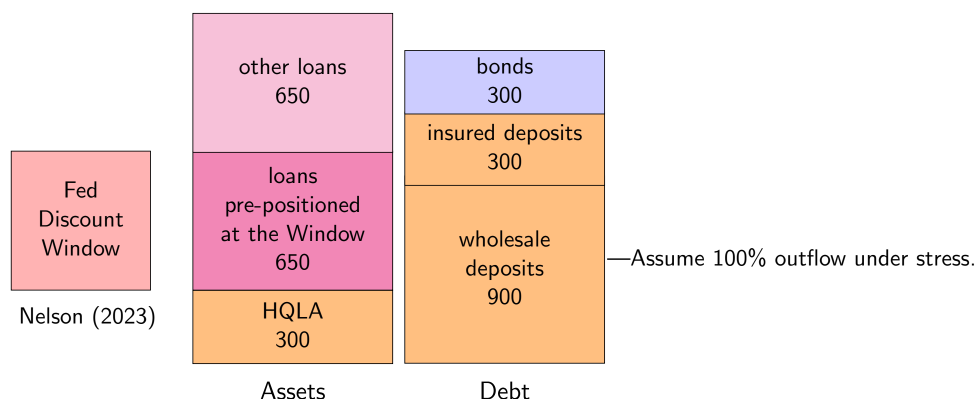

Figure 4. A bank that ties down less high quality liquid assets to meet a realistic assumption on deposit outflows, by relying also Fed for liquidity support by pre-positioning some of its less liquid assets at the Fed's Discount Window. Acess to the Discount Window, however, does not count toward liquidity coverage requirements in the current regulatory framework.

The Financial Stability Board put out two reports in the last 18 months that evaluate post-financial crisis banking regulation, quite positively. In a quiet part of one of those reports, however, there is a discussion of problems associated with the "usability" of high quality liquid assets. This brings to mind Charles Goodhart's famous parable of the "last taxi at the taxi stand." As I'm sure that almost everybody in the audience is aware, this is the story of a weary traveler who has arrived at the train station and is now looking for a taxi to go home. By analogy, taxis represent high quality liquid assets. The traveler thanks his good luck that there is indeed a taxi at the stand—but only one—and the passenger requests a lift home. However, the taxi driver says, "No, I'm sorry, but we're required by regulation to ensure that there is always at least one taxi left at the taxi stand in case someone arrives needing a ride. " The passenger says, "Well, I'm here, and ready to go home." But the taxi driver says, "No. Rules are rules; I can't take you because there would then be no taxis left at the stand." Via this analogy, you can see that trapping a large quantity of high quality liquid assets is serving no useful purpose and involves significant costs.

The discount window is not the Fed's only source of last-resort lending. Recently, the Federal Reserve also put in place a standing repo facility (SRF), which could be very useful. So far, however, many banks have not signed up for access to the SRF, and the SRF has rarely been used, except in testing. My guess is that many banks haven't signed up for the SRF because that involves some costs, whereas they are not allowed to count access to the SRF toward their liquidity coverage requirements.

Thank you very much for the chance to speak with you today.