

## Newsletter: April 2023

Last month, Silicon Valley Bank, a California bank with \$212 billion of assets, and Signature Bank, a New York bank with \$110 billion of assets, were taken over by the Federal Deposit Insurance Corporation (FDIC). They represented the second and third largest bank failures in US history, respectively. These events have important implications for banking regulation, the economy, and financial markets.

### What Happened?

Here is a simplified illustrative bank balance sheet:

reserves	10	deposits	80
bonds	30	borrowings	10
loans	60	equity capital	10
total assets	100	total liabilities & capital	100

The two primary functions of banks are to offer deposit accounts and to make loans. Deposits and loans typically represent the largest liability, or source of funding, and the largest asset, respectively, on a bank's balance sheet. In addition to loans, a bank's other assets include reserves, which are held on deposit with the Federal Reserve, and bonds. Banks make money by earning more interest on their assets than they pay on their liabilities.

Changes in a bank's deposits directly correspond to changes in its reserves. If, say, someone pays a \$100 utility bill from his deposit account at bank A to the utility company, which has its own deposit account at bank B, then Bank A's deposits and reserves will both decline by \$100, and bank B's deposits and reserves will both increase by \$100. Banks hold reserves in part to accommodate such deposit outflows, and deposits are a convenient way for individuals and businesses to send and receive payments.

In the illustrative balance sheet above, the amount of reserves is only one-eighth of the amount of deposits. This indicates why the US banking system is referred to as a "fractional reserve" system—only a fraction of deposits is held as reserves, and the balance is invested in loans and bonds. The amount of reserves, though much lower than the amount of deposits, is normally sufficient to accommodate any deposit outflows in the ordinary course of business. A bank run occurs when deposit withdrawal requests exceed reserves, forcing the bank to try to sell other assets, such as bonds and loans, and/or to borrow money in order to raise additional reserves.

An important characteristic of bank runs is that they can begin for any number of reasons, but *regardless of why they begin, at some point they become self-fulfilling.* If a bank experiences a modest level of deposit outflows that can be easily covered by its reserves on hand, then other depositors may reasonably conclude that they can safely keep their money with the bank. But as the perceived risk of greater deposit outflows increases, eventually it becomes individually rational for depositors to withdraw their money, lest it become trapped inside of a failed bank. As more depositors act on this premise, conditions may reach a tipping point, thereby inducing a run on the bank. The mutual anticipation of other depositors' behavior plays a critical role in creating the

run—whatever the objective merits of the initial situation, it is the subjective perceptions of how other depositors may behave that force the moment to its crisis. As the proverb says, “If you must panic, then panic early.”

In the case of Silicon Valley Bank, the proximate catalyst for the bank run was that Moody’s Investor Services had been preparing to downgrade the company’s credit rating, in response to which it sought to raise additional equity capital and sold part of its bond portfolio at a loss. The bank’s actions were announced in a press release on the evening of Wednesday, March 8<sup>th</sup>. The next day, depositors withdrew, or attempted to withdraw, approximately \$42 billion, and by Friday the FDIC had assumed control of the bank, which just a few days prior had a nearly \$17 billion market cap. During the same 48-hour period, a deposit run also occurred at Signature Bank, which was taken over by the FDIC on Sunday, March 12<sup>th</sup>.

Two sets of underlying conditions preceded these bank runs:

- When interest rates were close to zero, the banks invested in long-duration bonds that subsequently declined in value as the Federal Reserve raised interest rates. As we discussed in our January 2023 newsletter, “One of the worst-performing asset classes last year in fact was long-duration US Treasury bonds, which were down more than 30%. Treasury bonds may have effectively zero credit risk, but their market prices are sensitive to changes in interest rates (and the longer the duration, or remaining maturity, of the bond, the greater the sensitivity).” A Treasury bond may be purchased at par and ultimately redeemed at par upon maturity; but if interest rates rise in the meantime, the market price of the bond—i.e., the amount of reserves into which it may be converted in the present—will be less than par.
- The banks had risky and low-quality deposit franchises. Many of Silicon Valley Bank’s depositors were venture capital-funded technology startups and related individuals, who were located in and around Menlo Park, CA, where the bank was headquartered. Thus, the bank’s depositors were generally in similar and highly correlated lines of business, which weakened as the venture capital funding environment softened. Moreover, some of the depositors knew each other professionally and socially and communicated with each other in the lead-up to the bank run. And with nearly 90% of the deposits in excess of the \$250,000 FDIC-insured limit, depositors had an additional incentive to withdraw their money. Signature Bank was in a comparable position, with many of its depositors involved in the New York City commercial real estate business and with an even greater percentage of its deposits in excess of the FDIC-insured limit. Technology exacerbated the foregoing issues and differentiated this crisis from prior banking crises: social media and messaging apps facilitated easy communication among depositors, while mobile banking allowed money to be transferred within a few moments using a smartphone.

### **Banking Regulation**

In conjunction with the failures of Silicon Valley Bank and Signature Bank, the FDIC, Federal Reserve, and US Treasury Department announced that they would “fully protect” all of the depositors at each bank, including deposits in excess of the \$250,000 insured limit. The Federal Reserve also introduced the Bank Term Funding Program (BTFP), a new facility that would lend reserves to banks at 100% of the *par value* of Treasury bonds and similar securities. For instance, if a bank had purchased a bond at 100 cents on the dollar, only to see its market price decline to 80 cents on the dollar, it could now borrow 100 cents from the Federal Reserve using that bond as collateral. The BTFP is intended to reduce the probability that depositors will seek to withdraw their money from banks whose bond portfolios have declined in value and to provide additional liquidity with which banks can accommodate such withdrawals.

In the wake of these events, there has been an ongoing shift of deposits from small banks to large banks, as the latter are perceived to carry an implicit unlimited deposit guarantee by virtue of being “too big to fail.” If the government stepped in to protect uninsured depositors of a bank with a \$110 billion of assets (i.e., Signature Bank), would it allow depositors to lose money at a bank with \$500 billion of assets? Probably not.

With respect to what the permanent regulatory response to these bank failures ought to look like, there have been several calls to substantially increase, or even eliminate altogether, the current \$250,000 FDIC-insured limit on deposits, which would require congressional legislation. After all, many of the depositors at the two failed banks were businesses whose natural working capital needs tend to run higher than \$250,000. But whether the depositors in question are individuals or businesses, the question being newly debated is whether it is optimal for the system to rely on *depositors* to monitor the health of their banks and to spread their deposits at multiple banks to accommodate the insurance limit. One argument is that it is *regulators* who should be monitoring the banks and that unlimited FDIC deposit insurance could be paid for simply by increasing the levy that banks are already being charged to finance FDIC deposit insurance at its current levels. Problems with this argument include the moral hazard associated with any insurance market and the degree of regulatory effectiveness. That is to say, if all deposits were insured by the FDIC, then depositors would no longer have a reason to exercise *any* oversight of their banks, and they would be fully replaced in that function with regulators, who, unlike depositors, do not have skin in the game and are in any case fallible enough.

The prevailing regulatory framework at any given point in time is usually geared towards the most recent major crisis and is thereby purblind to the conditions from which the next crisis can emerge. The 2008 financial crisis was characterized, among other things, by a housing market crash, which led to credit deterioration in mortgage-related securities of all kinds, the negative impact of which was amplified by complexity and opacity in the structure and distribution of these securities. As former Secretary of the Treasury Paul O'Neill put it, "If you have 10 bottles of water, and one bottle has poison in it, and you didn't know which one, you probably wouldn't drink out of any of the 10 bottles." The most significant regulatory/legislative response to that crisis was the Dodd-Frank Act, which, throughout its nearly 1,400 pages, mandated sundry reforms, including the administration of "stress tests" to banks on an annual basis. These were intended to test banks' resiliency in the face of various economic shocks, such as a housing market downturn or a prolonged recession, and to trigger remediation efforts in the event that any bank's resiliency was deemed insufficient.

In recent years, these stress tests failed to model the very scenario that ended up coming to fruition: a large and rapid increase in interest rates, which caused the market value of long-duration bonds to decline. This was the case not only in the 2022 stress test scenarios—which were issued in February of that year, which was a month before the Federal Reserve began raising interest rates and a little more than a year before the bank failures discussed above—but also, remarkably, in the 2023 stress test scenarios—which were issued in February of this year, when the Federal funds rate had already been raised by a cumulative 4.5% in less than a year and the negative impact of higher interest rates on banks' bond portfolios had been a matter of public record for several months. If that strikes you as incredible, consider the fact that former US Representative Barney Frank, co-sponsor of the Dodd-Frank Act, himself had been a director of the board at Signature Bank for nearly eight years by the time it was taken over by the FDIC.

It is tempting to lay the blame at the feet of the individual regulators in question and surmise that if we had just regulated *better*—e.g., if we had designed more realistic or more varied stress test scenarios—then perhaps these failures could have been avoided. On a deeper level, however, it seems to us that crises, almost by definition, emerge from areas to which not enough people are paying sufficient attention. And after nearly 14 years of interest rates that were not much greater than zero for any extended period of time, the damage that a rapid increase in interest rates can wreak on a bond portfolio, which, after all, is a simple and even an ancient concept, was able to lurk undetected for many months until a true crisis emerged—first gradually, and then suddenly.

Although it has little chance of becoming reality, we are favorably disposed to a banking system sometimes referred to as "narrow banking," which is predicated on the idea that while the two primary functions of banks are to offer deposit accounts and to make loans, not only is it not necessary that these two functions be

provided by the *same* bank, it may in fact be desirable that they be provided by different kinds of institutions subject to wholly distinct regulatory frameworks. “Narrow banks” could offer deposit accounts and limit their assets to reserves (and perhaps Treasury bills), thereby maintaining an asset profile that could be fully and immediately liquidated at par. Other banks could make loans, invest in bonds and other securities, and make other risky investments, but would be prohibited from offering deposit accounts. Institutions within the latter group would inevitably sometimes run into trouble with respect to their assets, but bondholders and the like rather than depositors would bear the associated risk. Narrow banking would solve the inherent maturity mismatch in the “borrow short/lend long” business model of banks today, whereby deposits, which are withdrawable on demand, are backed by longer-duration loans and bonds, whose market values can fluctuate.

### **The Economy & Financial Markets**

We noted earlier that there has been an ongoing shift of deposits from small banks to large banks. At the same time, there has been a net reduction of deposits within the overall banking system, as individuals and businesses move their money out of deposits and into money market funds or directly into Treasury and other securities. While the former trend is largely about the perceived safety of a deposit at one bank vs. another, the latter is largely about differential interest rates paid on deposits vs. money market funds and Treasury securities. Deposits tend to pay lower interest rates because they offer non-interest-related benefits, such as the aforementioned convenience of sending and receiving payments, and during a cycle of interest rate increases, deposit rates tend to adjust upwards with a lag, leading to temporarily even greater interest rate differentials.

The principal macroeconomic upshot of these trends is that lending activity is likely to slow down as banks become more conservative in the management of their balance sheets. As an individual bank loses deposits (and hence reserves), its reserves/deposits ratio will decline, and reducing lending activity is one of the natural ways for a bank to restore this ratio. Recall the illustrative bank balance sheet above, which had \$10 of reserves against \$80 of deposits, for a reserves/deposits ratio of 12.5%. If \$5 of deposits are withdrawn, then the reserves/deposits ratio will decline to 6.7%, and loans would have to decline by more than 7% in order to restore the ratio to 12.5%.<sup>1</sup>

There are other ways for a bank to offset a decline in deposits. It could sell securities, access additional borrowing, or pay higher rates on its deposits to avoid losing them in the first place or to attract them back. But all of these other options similarly reduce the bank’s interest income and/or increase its interest expense, leading to a compression in its overall earnings. And when banks become less profitable, particularly if it is a result of more expensive funding costs, they tend to respond by being more selective in their underwriting, which results in less overall lending activity, which in turn acts as a headwind on economic growth.

Even in the case where deposits are simply leaving one bank and going to another, the net macroeconomic effect is still likely to be negative, as long as the diminution in lending activity at the former bank is not fully offset by an increase in lending activity at the latter. Consider a bank small enough for depositors to wonder whether the government would backstop all deposits in the event of failure. That bank is likely to be quite conservative when it comes to making new loans in the current environment. Now consider a much larger bank to which the deposits in this example have flowed. That bank may hesitate to increase its lending in part because it is unclear how long those new deposits will stay at the bank. Small banks in the US are a particularly important source of funding for small businesses, which in the aggregate are highly significant with respect to job creation. Thus, the problems facing especially smaller banks may contribute to a weakening of the labor market in the months ahead.

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<sup>1</sup> \$10 of reserves against \$80 deposits = 12.5%. \$5 of reserves against \$75 deposits = 6.7%. 12.5% of \$75 is ~\$9.4, which implies the need for ~\$4.4 of additional reserves, which corresponds to more than 7% of the \$60 of loans.

As a stock-specific aside, Beck Mack + Oliver has had a long-running bullish view on select alternative asset managers, which benefited from the Dodd-Frank Act insofar as asset origination opportunities migrated out of the banking system, which certain non-depository financial institutions were in a position to take advantage of. We believe that a similar dynamic could play out in the months ahead as banks in general retrench, thereby creating opportunities for other businesses to originate assets at attractive economics. This is a theme that we hope to elaborate on in an upcoming newsletter.

In our January 2023 newsletter, we wrote, “Our best guess is that absent some kind of new exogenous shock—and we arguably have had more than our fair share of those in recent years—the probability of something worse than a mild recession over the next year or so remains low.” Alas, the recent bank failures and ongoing stress in the banking system count as such a shock. It is not that we believe that a deep or prolonged recession has necessarily become the *most* likely outcome, but the probability of that outcome is certainly higher today than it was just a month ago.

Amid this backdrop, it is notable that the S&P 500 ended March at its highest level since mid-February and is up more than 7% year-to-date. As of March 8<sup>th</sup>, which was the day before the bank runs reached their tipping point, the 2-year Treasury yield was 5.07%, up from 4.43% at the beginning of the year and at its highest level since 2007. Despite this run-up in bond yields, which was driven by expectations of further increases in the Federal funds rate, the S&P at that time was up more than 4% on the year, demonstrating a kind of resilience in the face of this upward repricing of interest rates and supported in part by data suggesting that the economy was continuing to expand. Now the probability of a recession certainly seems greater, but the equity market has nevertheless powered even higher as the 2-year Treasury yield ended the month at 4.03%, lower even than where it began the year and reflective of the view that the Federal funds rate will be lower throughout the year than previously expected. An Occam’s razor explanation of these observations would be that the positive effect on valuation multiples from lower interest rates has more than offset the negative effect on corporate earnings from a worse economic outlook. To this we might add that the inflationary trend, though noisy and far from linear, seems to us to be continuing to move in the right direction. Whether this in turn suggests that we are potentially headed back to the “secular stagnation” of low nominal interest rates, low inflation, and slow economic growth that we experienced during the long decade between the 2008 financial crisis and the onset of COVID, we will leave for another day. As always, we remain focused on identifying and owning durable businesses with pricing power and trading at sensible multiples of free cash flow.

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