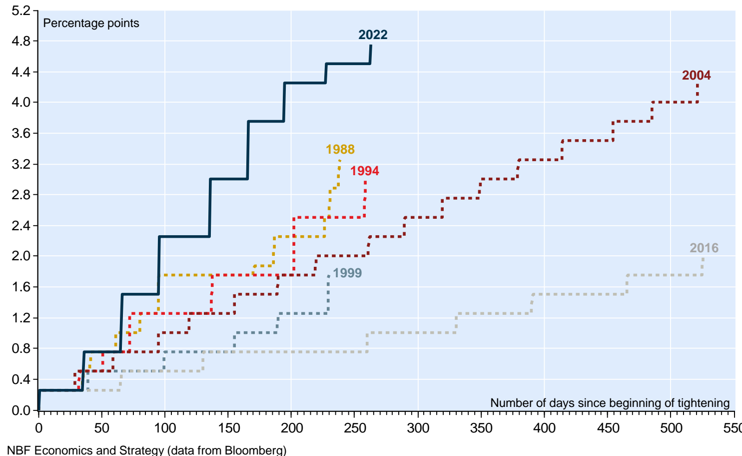
NATIONAL BANK OF CANADA
FINANCIAL MARKETS

April 13, 2023

The U.S. Banking Crisis: What Happened? And What's Next?

By Jocelyn Paquet

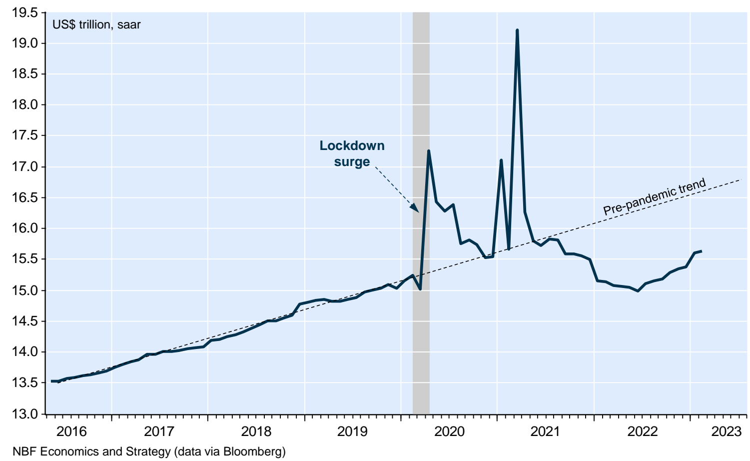
Our most assiduous readers will recall our past warnings about the potential effects of overly aggressive monetary tightening in the United States. While we have always recognized that high inflation required the Fed to raise policy rates, we were concerned that the pace at which the central bank was proceeding would eventually hurt the economy. Last month, these fears even encouraged us to revise our forecast to include a few quarters of negative growth.



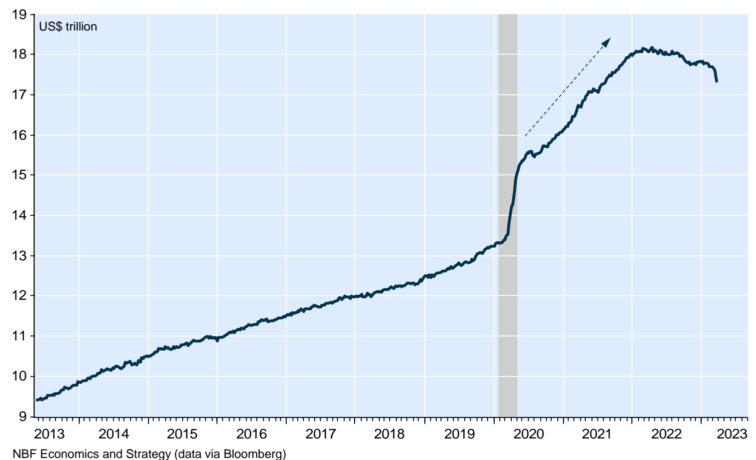
As in the stretching of an elastic band, the risk of an economic accident increased with each additional Fed hike. On March 10, the elastic snapped. On that day, the Federal Deposit Insurance Corporation (FDIC) was forced to take control of Silicon Valley Bank (SVB) in an attempt to restore confidence in the financial system and prevent a run on the banks from bringing the economy to a standstill.

The Origin of the Crisis

How can we explain this sudden turnaround? And above all, how did it happen that banks considered relatively safe only a month ago suddenly turned out to be so fragile? To understand the origins of the crisis, we have to go back to the beginning of the pandemic. When the coronavirus struck, the U.S. government sought to avoid a complete collapse of demand by offering cash compensations to people who had lost their jobs. But the payouts were well in excess of wage losses. The result was a jump in disposable income, something that had never before happened in a period of recession.

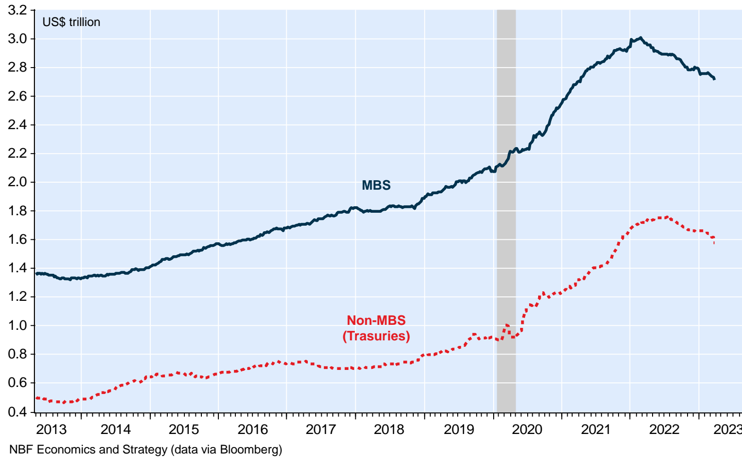


At the same time, health restrictions and fear of the virus led households to cut back on spending. Their bank balances increased accordingly. A similar phenomenon occurred on the corporate side. In an effort to take advantage of low interest rates and buoyant markets, companies issued vast amounts of debt, listed shares and/or obtained private funding. These actions, combined with a rapid rebound of demand, flooded businesses with cash, part of which they parked in their banks. The overall result was a large increase in deposits.



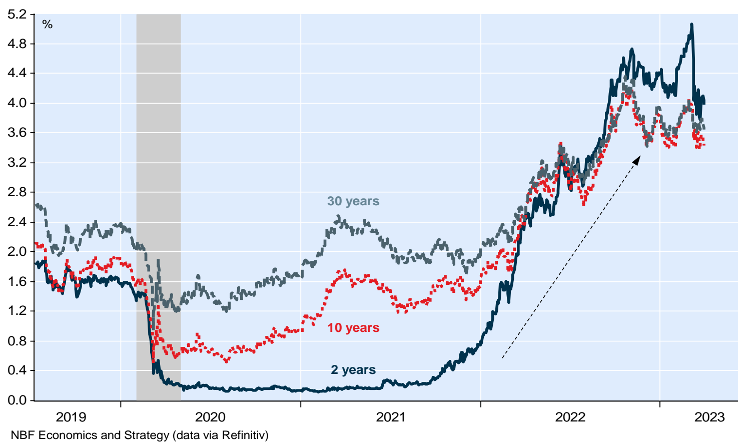
The banks' options for deploying this new money were rather limited. They could have used it to increase their cash holdings, but since cash does not earn interest, financial institutions do not tend to hold much more than is required by regulation. They could also have redistributed it as loans to households and businesses, but demand for such loans in the post-Covid period was insufficient to absorb all the excess deposits. The only other option available was to reinvest the money in financial assets, preferably treasury bills and mortgage-backed securities whose regulatory risk weighting did not oblige banks to increase their provisions against losses.

U.S.: Bank deposits funneled into Treasuries and MBSs
Assets of commercial banks: Treasuries and agency securities



By loading up on these assets, banks unfortunately exposed themselves to a price correction that soon followed. As inflation soared and the Fed attempted to control it by raising policy rates, Treasury yields rose dramatically at both the short and long ends of the curve.

U.S.: Rising yields caused "unrealized" losses to balloon
Yields of Treasury bonds



That knocked about $625 billion from the market value of bonds held by banks. This loss nevertheless remained "unrealized" at that point, since banks are not required to record losses on some of their bond holdings unless they are forced to sell them. Unfortunately, this is precisely what SVB was forced to do when its customers started to withdraw their deposits.

The increase in withdrawals was initially due to a simple need for liquidity on the part of the SVB's customers, not to a loss of confidence in the viability of the bank. As SVB's name implies, its depositor base was not diversified. It consisted mainly of tech enterprises at a stage of development requiring frequent injections of new capital. In the first months of the pandemic, this business model did not pose a problem – the funding was easily available on public and private markets. The situation changed drastically in late 2021, when stock markets began to fall and private financing dried up. This left tech firms much more dependent on their cash in the bank to fund their daily operations. SVB's deposit base began to shrink accordingly. Since it did not have enough cash for all these withdrawals, it was forced to sell T-bills and mortgage-backed securities at much lower prices than it had paid for them. The result was accounting losses.

Even at this point, SVB could no doubt have remained afloat were it not for its poor management of risk. With a deposit base so concentrated, it would have been prudent for this bank to cover its exposure to interest-rate movements – which was larger than at similar banks – as much as possible to limit its losses in the event of massive withdrawals. But it did not do so, and thus suffered the full effect of the downward revaluation of its assets. The situation might have been different if SVB had been considered "systemically important", resulting in much stricter regulation. But when the bank crisis erupted, SVB's $209 billion in assets were just below the $250-billion threshold of inclusion in this category.

News of SVB's misfortunes spread rapidly, causing many of its clients to begin doubting its ability to honour its deposits. Their fears were the stronger in that 97% of the deposits held at that bank exceeded the upper limit of $250,000 covered by the FDIC. In other words, many clients had much to lose in the event of SVB's failure. So the run on the bank was hardly surprising.

But as SVB's deposit holdings shrank, its losses soared. In a desperate attempt to plug the widening hole in its balance sheet, SVB tried to raise equity but its attempt failed, forcing the FDIC to retake control of it and extend its insurance coverage to all of its deposits (the same guarantees were offered to other struggling banks).

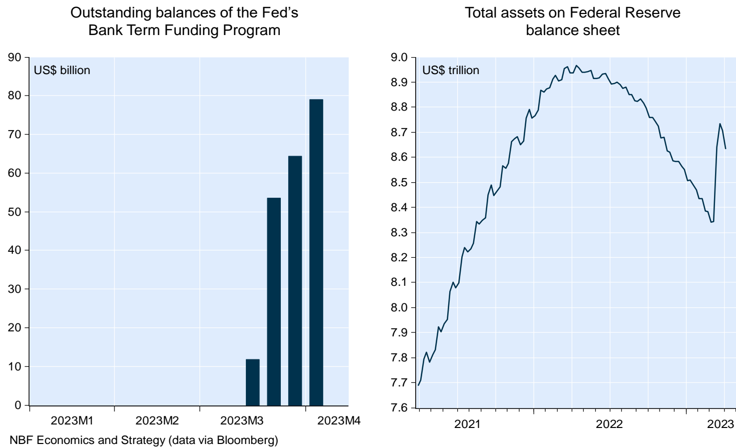
The Federal Reserve to the Rescue

Meanwhile the panic spread to other financial institutions. The worst hit by capital flight were those with the highest proportion of uninsured deposits and those with the greatest exposure to interest-rate movements. Regional banks, smaller and less closely regulated, were preponderant in these groups and were punished accordingly by equity markets. Many of them also saw sharp shrinkage in their deposit holdings.

U.S.: Stocks of regional banks got hit hard
Ishares U.S. regional banks ETF

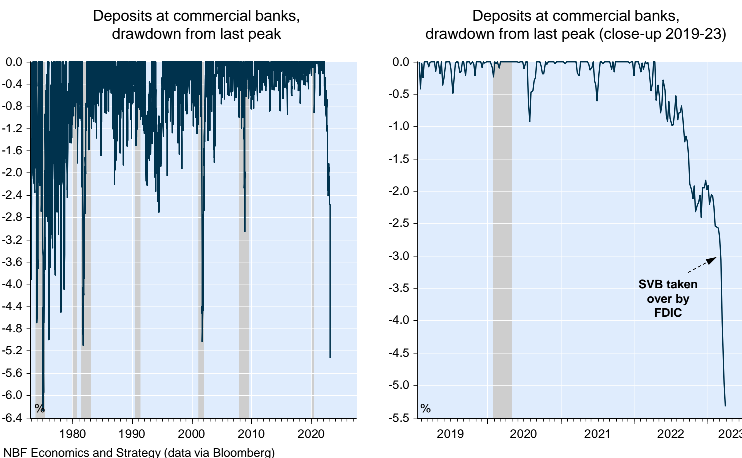
To stem the bleeding, the Federal Reserve had no choice but to introduce a bank credit line called the Bank Term Funding Program (BTFP). Under the terms of this new facility, the Fed agreed to lend money to troubled banks using their Treasury bills and mortgage-

backed securities as collateral. Although these securities were worth far less in the market (up to 50% less in some cases), the Fed agreed to trade them at par, offering 100 cents on the dollar to their counterparties. In just four weeks, banks withdrew no less than $79 billion from this facility, enabling them to honour their deposits without booking losses.

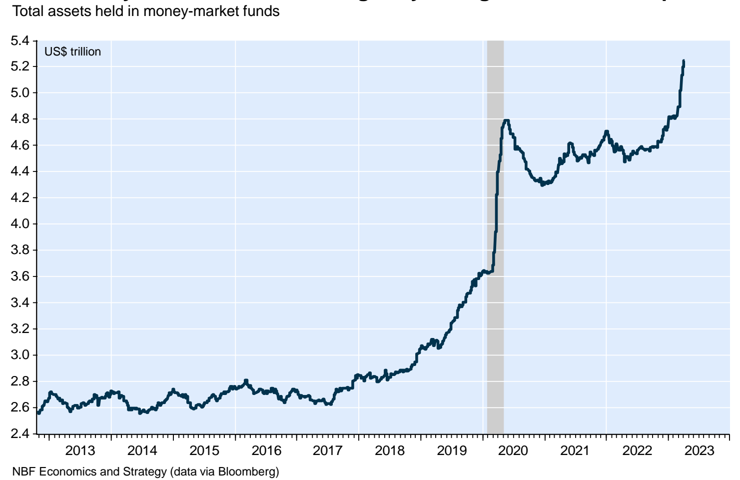


Deposit depletion began long before the collapse of the SVB

Do these Fed interventions mean that the U.S. banking system is out of the woods? Not quite. While the new credit facilities offered by the central bank have helped restore investor and depositor confidence in the regional banks, they will have no impact on the other factors that were already contributing to deposit depletion *before* the failure of SVB.

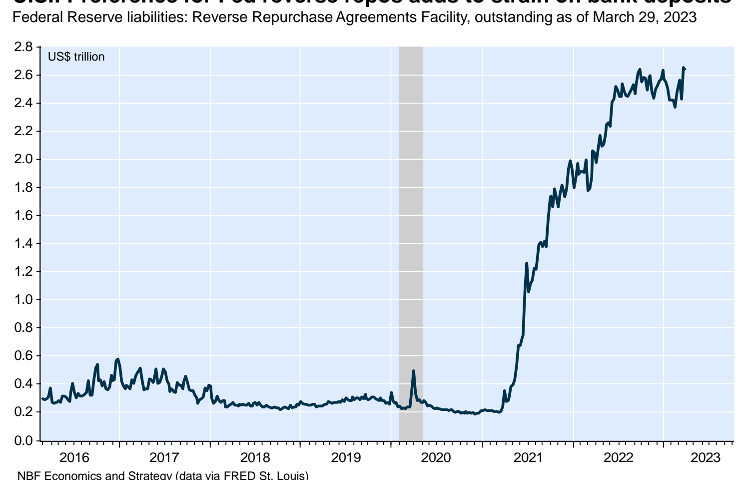


Primary among them is without doubt the massive flow of money into money-market funds, a phenomenon originating in the steep rise of short-term interest rates. As yields have risen in recent months, the opportunity cost of holding money in bank accounts that pay virtually no interest has increased. As a result, depositors began to look for a higher-paying alternative. Money market funds, which offered higher yields while providing a good level of flexibility, seemed to be the obvious choice. Not surprisingly, the total assets held in these funds began to increase.



We should note here that most of the time, an increase in the assets under management of money-market funds does not lead to a decrease in deposits. Think, for example, of a person X withdrawing $100 from his or her chequing account for investment in a money-market fund. The $100 will transit briefly through the fund manager's account on the way to reinvestment in short-term securities bought from a broker. The $100 will still count as a deposit at the end of the process, but in the broker's account.

The drain on deposits began rather when the money-market funds started placing their money with the Fed instead of in securities. Hard to blame them when the term repo facility offered by the central bank provided an interest rate nearly equal to that of short-term T-bills, with similar guarantees and greater flexibility (overnight maturity). When such a transaction takes place, the hypothetical $100 discussed above leaves person X's bank account and ends up on the central bank's balance sheet. Deposits are thus reduced by $100. Zooming out to the countrywide picture of the last two years, the deposit base has lost $2.6 trillion in this way. The attractiveness to money-market funds of term repos has been such that this instrument now amounts to 45% of the assets they hold.



When the Fed introduced its term repo facility in 2013, it was aware that such shifts were possible. That at least is what emerges from the transcript of the monetary policy meeting of April 29-30, 2014. During

this meeting, Fed staff had clearly signalled to Federal Open Market Committee (FOMC) members that "during crises, rapid take-up at the ON RRP [overnight reverse repurchase] facility could magnify flight-to-quality flows and contribute to a decline in the availability of short-term funding [for banks]."

The central bank staff had also suggested a few solutions to the problem. Specifically, they recommended lowering the rate paid by the term repo facility to reduce its attractiveness to money-market funds. We note that the 4.80% rate paid on overnight term repos is currently only 10 basis points less than what the Fed pays on bank reserves. Previously, the spread between these rates was 25 basis points and the use of the repo facility was virtually nil. So a re-widening of this gap could help attenuate part of the problem. We would not be surprised to see the Fed adopt this approach at a coming FOMC meeting.

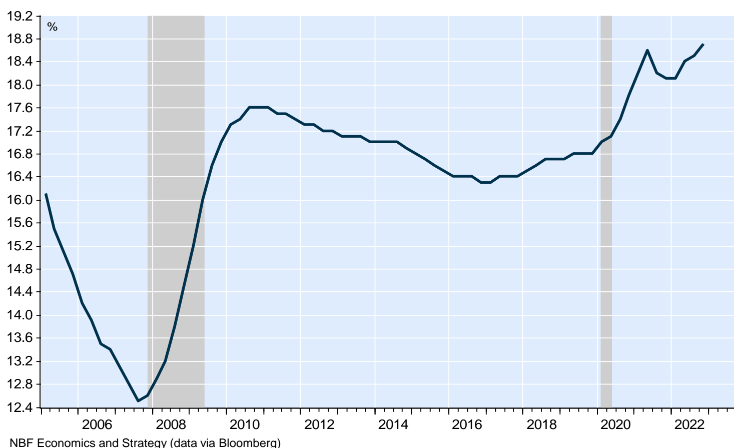
The other solution proposed by the Fed staff was simply to limit use of the term repo facility. Though we do not exclude this option completely, it seems to us less simple to apply and more arbitrary. What entities would be excluded and for what reason? How would thresholds of use be decided? We think the Fed would have a hard time finding convincing answers to these questions. It would be better off simply reducing the rate paid on the term repo facility and let market forces work their magic. But until a solution is found, depositors will likely continue to move their money into money market funds, and those funds will likely place it with the Fed.

Deposit depletion began long before the collapse of the SVB

In addition to the depletion of deposits, the banking crisis has also highlighted other issues that could destabilize the U.S. banking industry in the future. The most important of these may be the exposure of small banks to commercial real estate.

In an environment where a sizeable portion of workers are now choosing to work from home full-time, many are beginning to question the true value of some commercial real estate-backed assets, especially those in the nonfarm non-residential sector made up of 50% of office buildings. The latter tend to have high operating costs, which leaves them particularly vulnerable to a decline in rents or a rise in vacancy rates. And that's exactly what we're seeing right now.

U.S.: The new reality of work is pushing office vacancy rates higher …
Office real estate, vacancy rate in metropolitan areas



NBF Economics and Strategy (data via Bloomberg)

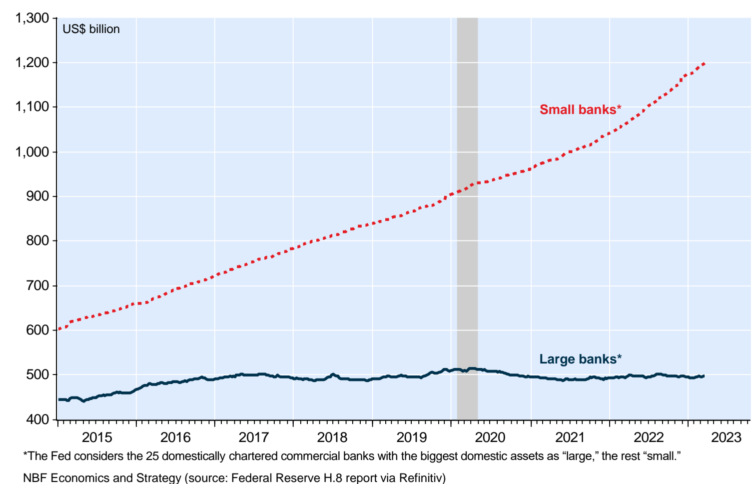
No wonder commercial mortgage-backed securities are taking a beating in public markets. Recent defaults by real estate giants such as Brookfield and Pimco sure didn't help as did the fact that $270 billion worth of commercial mortgages held by banks are scheduled to mature this year, the highest amount on record. Higher interest rates mean rolling that debt over will be costly.

… leading to a re-pricing of risk in commercial real estate
Average spread over Treasuries of BBB-rated commercial-mortgage-backed securities

NBF Economics and Strategy (data via Bloomberg)

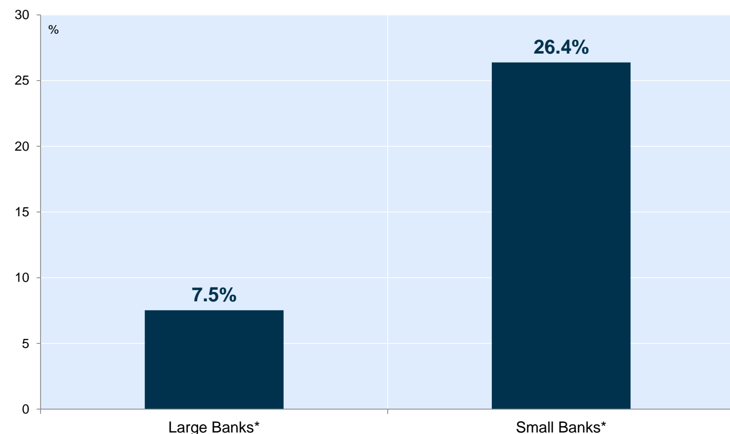
If the market's fears are realized, the liquidity problems that banks have recently faced could turn into solvency problems. Such a scenario is certainly not inevitable at this point, but if it were to occur, smaller banks would be particularly vulnerable since loans secured by nonresidential and nonagricultural commercial property represent a much larger share of their portfolios than those of larger banks.

U.S.: Small banks are more exposed to commercial real estate (1)
Domestically chartered commercial banks: real-estate loans secured by nonfarm nonresidential properties



*The Fed considers the 25 domestically chartered commercial banks with the biggest domestic assets as "large," the rest "small."
NBF Economics and Strategy (source: Federal Reserve H.8 report via Refinitiv)

U.S.: Small banks are more exposed to commercial real estate (2)
Commercial real estate loans secured by nonfarm nonresidential properties as a share of total loan book



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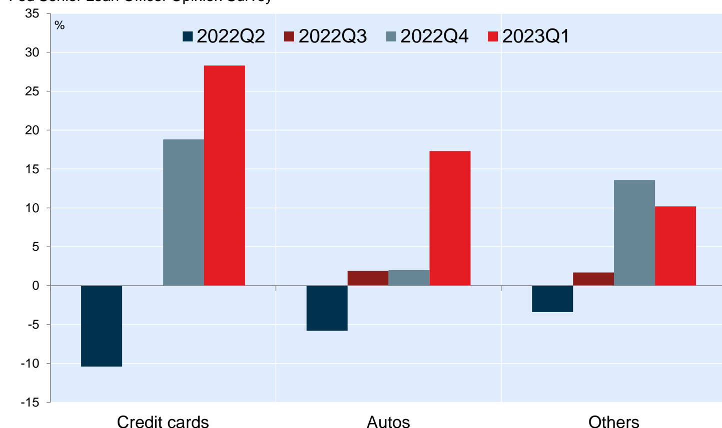
NBF Economics and Strategy (source: Federal Reserve H.8 report via Refinitiv)

Still, there are reasons for optimism. Default rate on commercial loans remains quite low and, should it rise, the Fed's stress tests suggest that banks would have enough capital and liquidity to handle it.

Any Impact on the Real Economy?

Needless to say, we will be closely monitoring developments in the banking system. But even if the risk can be contained - and the reduced use of Fed facilities does indeed seem to indicate a reprieve - recent events could have a negative impact on the real economy. The turmoil of the past few weeks has increased funding costs for financial institutions and this could be passed on to customers via tighter credit conditions. Given that banks are responsible for about one-third of the total supply of credit in the U.S. (with capital markets and mortgage lenders providing the rest) and play a critical role in lending to households and businesses, such a tightening would not be desirable. Especially since it would come at a time when banks are already being much more cautious. Indeed, the Fed's most recent Senior Loan Officer Survey, conducted between December 19 and January 6, already reported that a majority of banks had tightened their consumer lending standards before SVB's collapse.

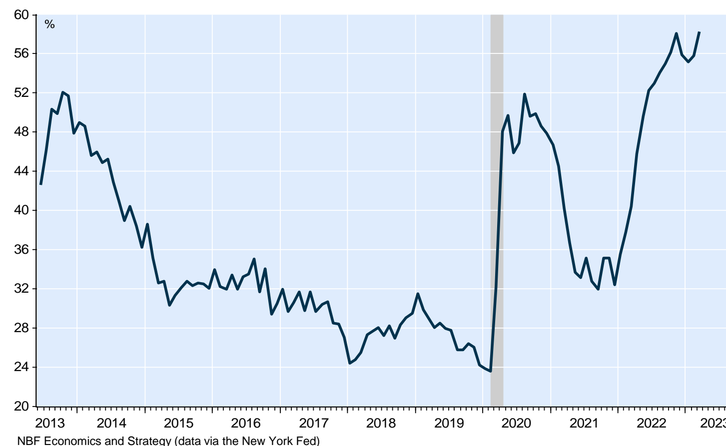
U.S. : Credit conditions were already tightening before SVB collapse (1)
Net percentage of banks tightening standards on consumer lending,
Fed Senior Loan Officer Opinion Survey



NBF Economics and Strategy (data via Refinitiv)

These findings were corroborated by another survey, this one conducted by the New York Fed, which showed a significant increase in the percentage of consumers noting a tightening of credit standards.

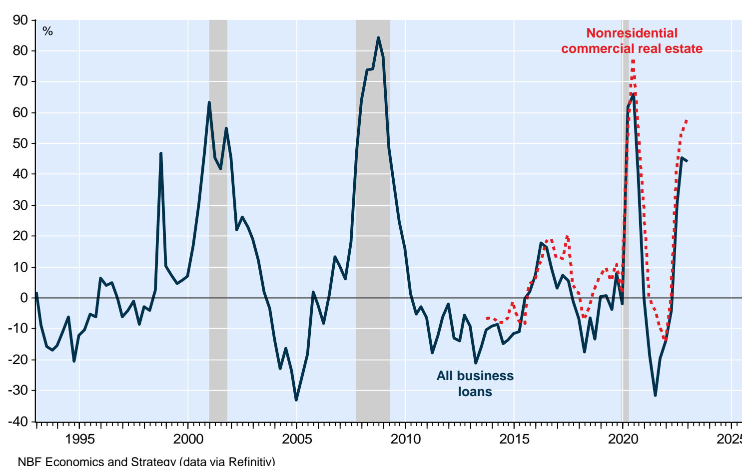
U.S. : Credit conditions were already tightening before SVB collapse (2)
Percentage of respondents saying it is harder/much harder to obtain credit compared with a year ago,
New York Fed's Survey of Consumer Expectations



NBF Economics and Strategy (data via the New York Fed)

And this is not just a problem for households. On the contrary, the Fed's Senior Loan Officer Survey also showed a significant tightening on the business lending side. Credit conditions appeared particularly tight in the non-residential real estate segment, which is probably not a coincidence given what was discussed above.

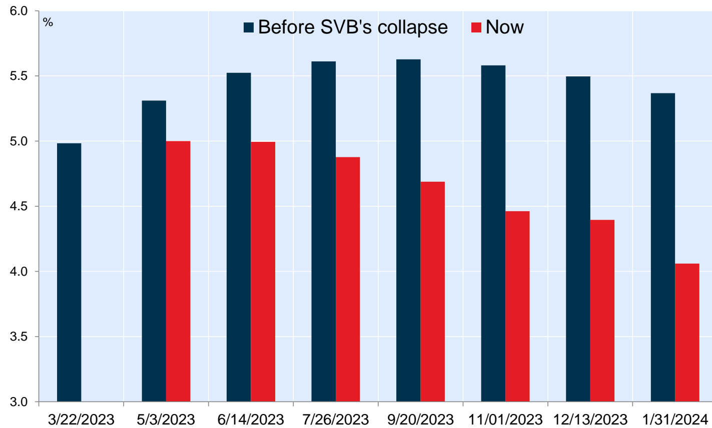
U.S. : Credit was already tightening before SVB collapse (3)
Net % of banks tightening standards for business lending – Fed Senior Loan Officer Opinion Survey



NBF Economics and Strategy (data via Refinitiv)

Fortunately, the tightening of credit conditions may be offset in part by less restrictive monetary policy. At least that is what markets are anticipating. Before the collapse of SVB, markets were suggesting that the Fed would raise rates to 5.6% in the middle of the year and keep them near that level for the rest of 2023. A month later, the overnight index swap market suggests that the Fed's tightening cycle may be over, with an additional 25-baiss point hike only half priced at the moment. More surprising still, market participants are now anticipating several rate cuts by the end of the year.

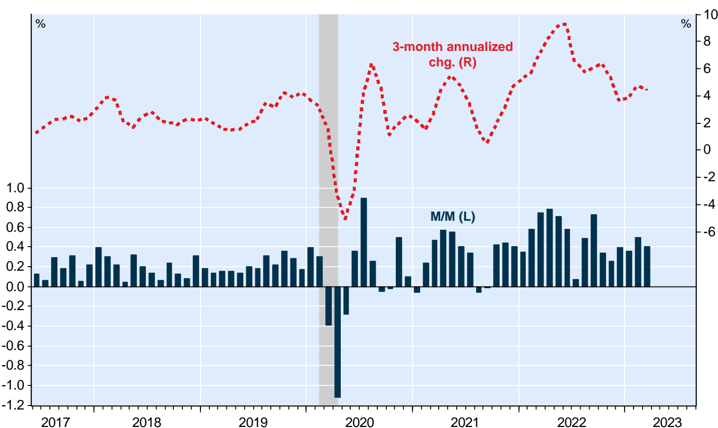
U.S.: Bank crisis completely upended rate expectations
Market anticipation of effective Fed funds rate at upcoming FOMC meetings



NBF Economics and Strategy (data via Bloomberg)

Such a scenario, if realized, would undoubtedly help support the economy, but it would require a major change in tone from the central bank, which, at last count, was still expecting policy rates to end the year around 5.125%. These expectations are not set in stone, as we learned last year when the Fed quickly dropped the term "transitory" in its communications and began to rapidly raise policy rates to stem inflationary pressures. That said, in this case, the shift to a more accommodative approach will have to be conditional on a significant deterioration in the labor market and a rapid slowdown in inflation, both of which are likely to take some time to be met.

U.S.: Fed's preferred inflation still showing too much momentum
Consumer Price Index, core services excluding housing



NBF Economics and Strategy (data via Bloomberg)

Given the resilience of the U.S. economy, we expect the Fed to hike by another 25 basis points at its next meeting (May 2-3). The central bank should then be in wait-and-see mode until the last quarter of the year, when the deterioration of the job market and the slowdown in inflation should allow it to start cutting rates. A monetary policy that remains restrictive for longer than the markets expect translates in our scenario into a below-consensus GDP trajectory. After a strong start in Q1, we indeed expect growth to slow sharply in Q2 before stalling in Q3. The U.S. economy is then expected to go through three quarters of negative growth at the turn of 2024. Under this scenario, real GDP should grow by 1.4% in 2023 before contracting by 0.4% next year.

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