

Bank-turmoil considerations

By Jesper Rangvid

Large US and European banks have been discussed, challenged, rescued, closed, and taken over during the past weeks. It looks like 2008, but is it? Most likely not, but it was not supposed to happen. During crises, drastic and controversial decisions are taken. Given time constraints, nervousness, uncertainty, and the stakes at play, it is almost unavoidable that mistakes are made. I will discuss some of the controversial decisions and whether they, in my opinion, were mistakenly taken.

These have been tough weeks in global banking. Large US banks have been closed, UBS was forced to take over Credit Suisse, bank bonds and shares were hammered, and everybody has been asking me whether this is the start of a new financial crisis like in 2008 (as you know, I chaired the government-appointed Committee that investigated the Causes and Consequences of the Financial Crisis in Denmark (links in Danish: [link](#), [link](#))).

My answer to the latter question is “most likely not, as banks are generally more robust today”. At the same time, I also answer that “it is of course worrying when large banks on both sides of the Atlantic are severely challenged”. This was not supposed to happen, given all the regulation introduced after the 2008-09 financial crisis, but it did.

While I believe most readers of this blog should be reasonably updated on the main facts relative to Silicon Valley Bank, Credit Suisse, and so on, given that everything has

been written everywhere, the turmoil has left me pondering some of the important decisions taken, and I will share those considerations here.

Why no stress testing of SVB's interest rate exposure?

During the past couple of years, Silicon Valley Bank (SVB) has experienced large inflows. Deposits grew from USD 62bn at the end of 2019 to USD 192bn at the end of 2021 (and USD 173bn at the end of 2022), i.e., more than a three-fold increase in two years. The question is, what do you do with so much money arriving at your desk with such speed?

SVB's customers, tech companies, did not need to borrow, or at least not as much. Remember, they were the ones depositing all the money. Thus, SVB decided to invest in US government bonds instead. SVB's Investments Securities (item on the balance sheet) grew from USD 27bn in 2019 to USD 120bn in 2022.

Today, we know that SVB bought long-term bonds but did not hedge the associated interest rate exposure. When interest rates rose during 2022, bond prices dropped.

We also know that these bonds were reported at Hold-To-Maturity values at SVB. I.e., if SVB had been able to hold on to the bonds until they matured, everything would have been fine. However, as rumors arose that the bank had experienced losses on its bond portfolio, people started withdrawing their money. To raise cash to honor depositors, SVB had to sell bonds at the prevailing market price, which, as mentioned, were significantly below face

values. Hence, SVB realized the losses on its bond portfolio.

The reason so many people withdrew their money is that many of them were uninsured. 93% of the deposits in SVB exceeded the deposit guarantee of USD 250,000. Afraid of losing money, people withdrew their unguaranteed deposits when rumors started. Withdrawals intensified, and the bank was finally closed by the relevant authorities on March 10, 2023 ([link](#)).

If SVB had bought short-term bonds, the problem would not have been this big, because short-term bonds do not fall as much in value when interest rates rise (duration is shorter). But they bought long-term bonds to harvest slightly higher returns, thereby loading up on interest rate risk.

The big question is why SVB was allowed to pile up on interest rate risk. Why was SVB not subjected to stress tests with respect to the interest rate risk on its assets? Or, to be precise, why were banks with balance sheets up to USD 250 billion (SVB's balance sheet was USD 211 billion in 2022) exempted from such stress tests as part of the 2018 Dodd-Frank rollback ([link](#))?

The idea of the 2018 Dodd-Frank rollback was that regulation should be reduced for all but the largest banks. However, a bank with a balance sheet of USD 200+ billion is still a very large bank. As the crisis hit, it became clear to everybody how large the bank was. When the bank was closed, authorities immediately deemed SVB to be systemic ([link](#)), ensuring that depositors would have full access to all their money.

Had the bank not been exempted from these stress tests, I expect the relevant authorities would have realized that the bank would run

into trouble when interest rates rose and customers withdrew their deposits. You could argue that the authorities should have discovered the bank's interest rate exposure anyway, but explicitly removing such stress tests certainly seems to have been a very bad idea.

In Europe, the largest banks are subject to stress tests on their interest rate exposures. The results from the latest tests ([link](#)) reveal that "Overall, our analysis shows that the euro area banking sector would remain broadly resilient to a variety of interest rate shocks", but also that "The overall resilience of the euro area banking sector shouldn't distract from bank-specific situations that might warrant supervisory actions." These tests are conducted for the largest banks in the euro area, but it's important to remember that a euro area bank is considered "significant" when its balance sheet is above EUR 30 billion, in contrast to the aforementioned USD 250 billion threshold in the US. I.e., smaller banks than in the US are subject to these stress tests.

There is thus hope that European banks are more robust towards interest rate increases than their American counterparts. And, in any case, it appears to have been a mistake not to subject banks such as SVB to interest rate shocks in stress tests.

How many banks face similar challenges?

Given that the problems at SVB relate to its large holdings of bonds, which have fallen in value as interest rates have increased but were reported at face value in the books, in addition to its large fraction of uninsured

deposits, the natural question is how many other banks are in the same situation.

This super interesting and timely paper ([link](#)) contains some positive and some disturbing news. Disturbingly, the paper finds that the market value of US banks' bonds is USD 2 trillion lower than the accounting value (USD 24 trillion). This (USD 2 trillion) corresponds approximately to the total equity in US banks, meaning that if banks incurred this loss, *all else equal*, the total US banking sector would be insolvent. Notice the *all else equal* here, meaning this is not a prediction but a mere calculation. It is also disturbing that SVB is not an outlier in this regard, meaning that many banks would incur losses if they had to sell their bonds today.

On the other hand, and more reassuringly, SVB is a clear outlier when it comes to its reliance on unsecured deposit funding. Similarly, SVB had one of the highest ratios of marked-to-market values of assets relative to uninsured deposits. This is an important metric when it comes to assessing the risk of bank runs because if the market value of assets cannot cover the uninsured deposits, these depositors will get nervous when rumors start floating around. In other words, when it comes to the risk of bank runs, SVB was an outlier and an extreme case.

Also, while the USD 2 trillion paper loss is a lot of money, it is at the same time a rough estimate and it does not consider any interest rate hedges banks might have, whether being natural or explicit hedges.

So, SVB was an outlier, but the authors still find that "if only half of uninsured depositors decide to withdraw, almost 190

banks are at potential risk of impairing insured depositors."

I am not aware of any such analysis of European banks. At first glance, though, it seems as if European banks are less subject to these risks. First, as mentioned, banks in Europe are subject to stress tests on interest rate risks. Second, when there are differences between the accounting and market values of assets, European banks need to hold capital against these paper losses. So, let's cross fingers for Europe here.

Why allow banks to report bonds at face value?

Bum bum.... Good question.

Balance sheets should reflect the value of a company's assets and liabilities. There are cases where using hold-to-maturity accounting makes sense, such as when a long-term liability is hedged by a bond that matures at the same value at the same time as the liability. In such cases, short-term market volatility is less relevant than the ability to pay the liability at maturity.

As an example, imagine you must pay USD 100 in ten years. You are hedged if you buy a bond that matures at USD 100 in ten years. In this case, you can argue that it doesn't really matter whether the bond trades at 100, 90, or 80 today. You need 100 in ten years, not today.

However, problems may arise if the company needs the funds before the maturity date, such as during a bank run when depositors demand immediate withdrawal of their funds. In such cases, the short-term value of assets becomes critical.

In Europe, as mentioned, capital surcharges are imposed on the differences between book and market values. While this may mitigate some of the risks, it remains a sensible topic if it is sufficient.

Why allow banks to repo bonds at face value?

(This is almost the same headline as that of the previous paragraph, but this headline says “repo” while the previous said “report”).

The US authorities made another controversial decision during the turmoil: to lend money to banks against collateral *at face value* ([link](#)).

It is not controversial that central banks provide liquidity to banks in times of trouble. Or, at least, that is not what I want to discuss here. Good old Bagehot wrote in his 1873 book *Lombard Street: A Description of the Money Market*, the by-now famous words that a central bank in times of crisis should extend liquidity “most freely... to merchants, to minor bankers, to 'this and that man,' whenever the security is good.” Today, this is interpreted as implying that central banks in times of crisis should lend to solvent banks against high-quality collateral, typically at a penalty rate and against a haircut, to prevent financial market panic and bank runs.

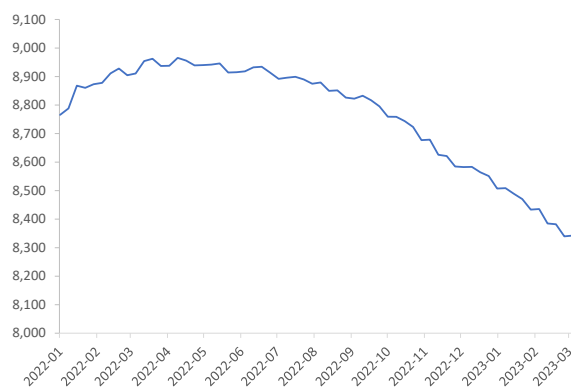
The Fed decided to act otherwise. In the new Bank Term Funding Program ([link](#)), banks can repo the bonds they post as collateral at face value, even when the market value is significantly below the face value, because interest rates have risen as discussed above.

Bagehot would say that if the bond (with face value USD 100) that is pledged as collateral is worth USD 90 today, the bank that pledges the collateral can borrow USD 90 at most. I write “at most” because a haircut is typically applied, meaning the bank can borrow, e.g., USD 88. Instead of adhering to this principle, the Fed allows the bank to borrow USD 100 (face value) against this bond, despite it being worth only USD 90. By doing so, the Fed exposes itself to credit risk. This is, of course, controversial, and, in my opinion, wrong.

But banks were happy. Figure 1 shows how US banks took advantage of this opportunity. The Fed’s balance sheet has been shrinking throughout 2022 due to Quantitative Tightening, but rose dramatically last week as banks found the new Fed funding program attractive and used it to hoard liquidity.

Figure 1. Fed balance sheet, weekly observations, Jan. 2022 – March 2023.

Data source: Fed St. Louis Database



Why guarantee all deposits?

Finally, this list of controversial decisions would not be complete without discussing the decision to make all depositors whole.

As mentioned, the US authorities – after the fact – changed their view about SVB, suddenly viewing it as systemic ([link](#)), such that “depositors would have full access to all their money”.

Usually, deposits above USD 250,000 are uninsured. There are good reasons why we have limits on deposit insurance: we want large depositors to consider the riskiness of the bank when making deposits. If all deposits are made whole, they need not care about the risks of banks. Banks with risky business models can then offer high interest rates to attract cheap deposit funding, and they may succeed because customers will be happy to deposit their money in that bank, despite its riskiness, when they expect to be bailed out if the bank fails. Market discipline is out, and moral hazard is in. This is, of course, not good.

The US authorities decided to guarantee all depositors to prevent further turmoil. This is of course understandable. However, the risk is that we end up with a more fragile banking system in the long run.

Why write down AT1 in CS to zero, without wiping out its equity?

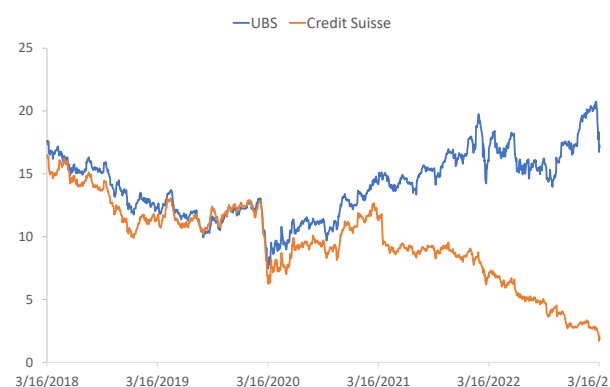
As should be clear from the discussions above, I am skeptical about some of the decisions made by US authorities. Are the Europeans better? They stress test their significant banks, including interest-rate stress tests, and have not rolled back post-financial crisis regulations. So far so good. However, the Swiss decision to write down all Additional Tier 1 (AT1) capital in Credit Suisse was controversial.

The Credit Suisse story is a sad one. The bank has been involved in money-laundering

and espionage scandals, incurred large losses due to dodgy loans to lender Greensill Capital ([link](#)) and hedge fund Archegod Capital ([link](#)), and more. The bank has clearly not been able to turn things around, and it was a disaster looming. In the autumn, I called the Credit Suisse situation a threat to financial stability in Europe ([link](#)). Unfortunately, my prediction was correct, as we now see.

Credit Suisse’s troubles can perhaps best be illustrated by comparing its share price with that of its local and nearest competitor, UBS, as shown in Figure 2.

Figure 2. Share prices of Credit Suisse and UBS, in CHF, daily observations, past five years. Data source: Datastream via Refinitiv.



Up until the coronavirus pandemic in spring 2020, the share prices of UBS and Credit Suisse (CS) behaved very similarly. In 2021, this changed, as investors lost faith in Credit Suisse while UBS has been doing reasonably well.

We now know that customers withdrew their money from CS’s large wealth management arm, and depositors pulled out too. This intensified after the failure of SVB and the general turmoil this created. The Swiss authorities intervened, extended liquidity to CS, and so on, but in the end, the situation

became unsustainable. The Swiss authorities demanded that UBS take over Credit Suisse. UBS did not ask for this, meaning they had requirements that should sweeten the deal, one of them being that UBS did not want to take over CS's Additional Tier 1 (AT1) capital.

Banks use Additional Tier 1 capital to fulfill their capital requirements. An AT1 instrument is a debt instrument, but a particular one. Its maturity is indefinite in principle, but it can be paid back under certain conditions (approval by the FSA and so on). Also, it can be converted to equity if the bank faces losses, such that its capital ratio falls and passes below a certain threshold (typically 5.125% or 7%). If this happens, then you are no longer a lender to the bank but an owner, because these debt instruments are then converted to equity. Finally, and this is the crucial thing here, AT1 instruments can be written down.

The usual priority of claims under insolvency procedures is that equity is written down first, and if there is still not enough money left, then debtors take a hit. In the CS case, the authorities decided to write down CS's AT1 instruments to zero, even though equity owners in CS got something (not a lot, but something). This is, of course, very controversial because, again, the usual ordering is that debt holders pay after the equity is gone. Here, debt holders paid even when CS shareholders were paid something for their shares. It was a wake-up call to investors, and prices on AT1 instruments crashed. This means that the Swiss authorities' decision had ramifications throughout the global banking sector, making it more expensive for banks to issue this type of bond, and thus, ultimately,

making it more expensive for banks to fund their operations. If banks pass on this higher funding cost to customers, it becomes more expensive to be a bank customer. We can discuss the size of the effect (some claim that the capital structure of banks is irrelevant) but given that this Swiss decision had implications beyond the Swiss banking sector, it was a controversial decision.

The Swiss authorities were within their full right to write down CS's AT1; holders of CS's AT1 instruments, in principle, knew this could happen. It would, however, not be possible under EU regulation. In the EU, the priority of claims is such that equity is reduced first, and only when there is no more equity left can AT1 holders be written down ([link](#)). For this reason, EU regulators felt compelled to send out statements explaining that this (AT1 holders being wiped out before equity holders) would not happen in the euro area ([link](#)).

So, controversial it was. Was it a good idea? Difficult to say. True, it was stated in the loan documents, so investors should have known it could happen, and clearly UBS did not want to take over this AT1 debt, i.e., the elimination of CS's AT1 was a prerequisite for the takeover, and the authorities wanted the takeover to happen to preserve financial stability.

The decision to spare the equity owners but write down the AT1 bond holders raises questions about regulators motives and creates unnecessary uncertainty. The authorities had already decided that Credit Suisse could not continue as a standalone entity, yet they chose to spare the equity owners while making the bond holders take a hit. It would have been a cleaner and less controversial decision if the equity owners

had also been wiped out, as it would have been more consistent with the standard procedure.

Conclusion

The past few weeks have brought echoes of autumn 2008, with banks being closed down, taken over, and saved, while authorities launched a wide array of tools aimed at stabilizing the financial system.

While the desire to stabilize the system is understandable and applaudable, some of the decisions appear controversial. However, this is what characterizes crises: developments are dramatic and sudden, time is limited, and many stakeholders must find compromises. Unavoidably, mistakes are made.