

Just Below The Surface: Cornerstone's Proprietary Approach to Analyzing Bank Risks

March 2023

Executive Summary

- We believe traditional valuation work on banks based on GAAP earnings often miss what is hiding below the surface
- We believe credit risks and unrealized gains/losses on owned securities should be marked to market when valuing banks
- We believe standard SEC filings under GAAP standards are insufficient to fully understand a bank's risks
- Cornerstone has been utilizing bank-specific Federal Reserve filings to adjust banks in its Fair Value Model since the firm was founded to ensure our valuation work assesses earnings power conservatively for balance sheet risks that have not yet flowed through to the income statement
- Silicon Valley Bank's (SIVB) underlying issues were visible with the right information, which flashed warning signals several quarters ago

Cornerstone's Proprietary Approach To Analyzing Bank Risks

If you didn't know what Held-to-Maturity and Available-for-Sale securities were before this weekend, you probably do now. Like many, we have been following the failure of Silicon Valley Bank very closely. We have learned from prior bank crises that headline earnings are only the starting point when understanding a financial institution. Since our firm was founded, we have adjusted our proprietary Fair Value Model to mark-to-market both credit risk and securities values when evaluating banks. Through this process, the impact of rising rates on these banks' balance sheets has been visible for a few quarters already, and raised red flags on some banks.

There are two aspects of our adjustment for banks:

- Credit Risk
- Investment Book Risk

As SEC filings are limited by GAAP accounting standards, we believe they provide an incomplete assessment of a bank's investment book risk and credit risk. We utilize a quarterly filing that bank holding companies (BHCs) must file with the Federal Reserve called the "Consolidated Financial Statements for BHCs (FR Y-9C)" to supplement and adjust our Fair Value Model for these types of banks. While the Y-9C filing is readily available, using it requires knowing (A) that it exists and (B) where to get it.

Credit Risk

Since credit risk was a leading cause of the GFC, it has been of primary concern for Wall Street until SIVB brought investment book risk back to the forefront of the market. Credit risk is quantifying the fact that not every loan will be paid back in full. Banks assess the expected future risk in a liability on the balance sheet item called the "Allowance for Loan Losses." Management teams employ significant judgment in creating this allowance and have incentives at different times to under- or over-reserve. At the start of the GFC, bank management teams were caught flat-footed. Provisions for accounting allowances are often used to manage earnings (say, under-reserving to make sure a company hits Wall Street consensus estimates during a weaker quarter, or over-reserving to take advantage of a strong quarter and smooth out those future costs), and banks did not reserve nearly enough allowances to start to offset the impact of a weaker economy.

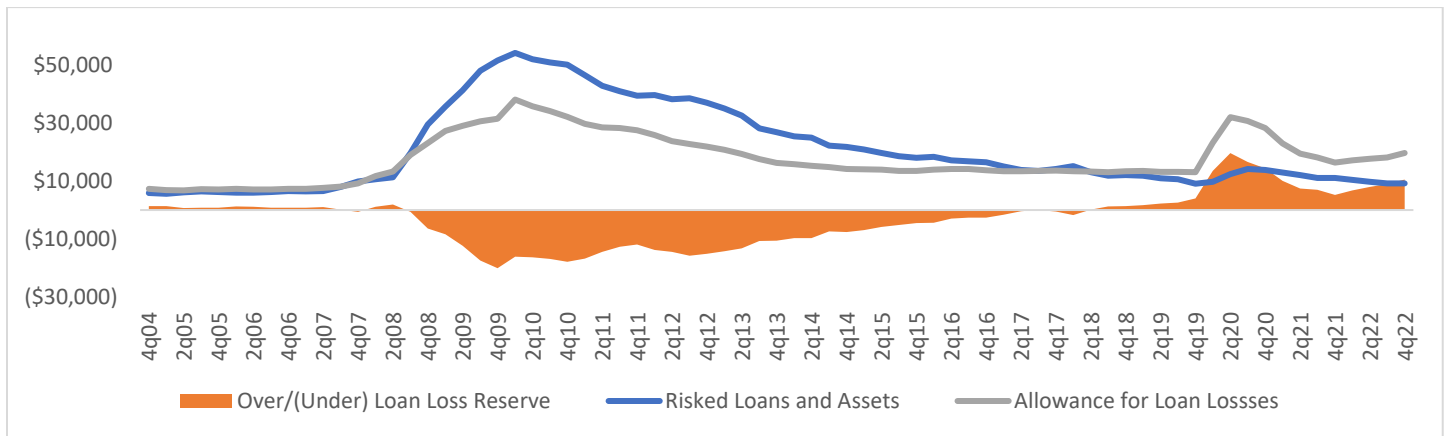
We want to protect capital, so we avoid that judgement by being conservative and eliminating the judgement of bank management teams. We mark each bank's questionable assets to zero and compare the potential loss versus the loan loss allowance. The asset pools we evaluate are:

- Delinquent loans (Loans that are overdue by more than 90 days)
- Loans that are already not being paid back (Loans that are in non-accrual status)
- Real estate properties that have been foreclosed on by the bank and taken as collateral (Other Real Estate Owned)

Our goal is to look at a normalized, apples-to-apples earnings profile. If these assets are larger than the loan loss allowance, then we diminish the normalized earnings power of the bank, because the bank is arguably under-reserved versus a conservative scenario and may have potential new charges to come in the future. If they have *over-reserved*, we then we give credit to normalized earnings for management's conservatism and the potential benefit they will have from releasing provisions in the future. What matters to our approach is not the absolute amount of risky loans or an increase in the provision for loan losses (banks that are growing their loan book will have to increase their provision naturally), but instead the relative relationship between risky loans and the allowance for loan losses. This both helps provide an apples-to-apples assessment across banks, who may have different strategies on how much pre-emptive reserves they want to take, and ensures that we are using a mark-to-market basis.

During the two most recent credit risk crises (the GFC and the COVID pandemic), we saw very different outcomes. Here is JPMorgan, the largest bank in the United States by assets, for example:

JPMorgan Risky Loans vs. Allowance for Loan Losses by Quarter (\$mm)

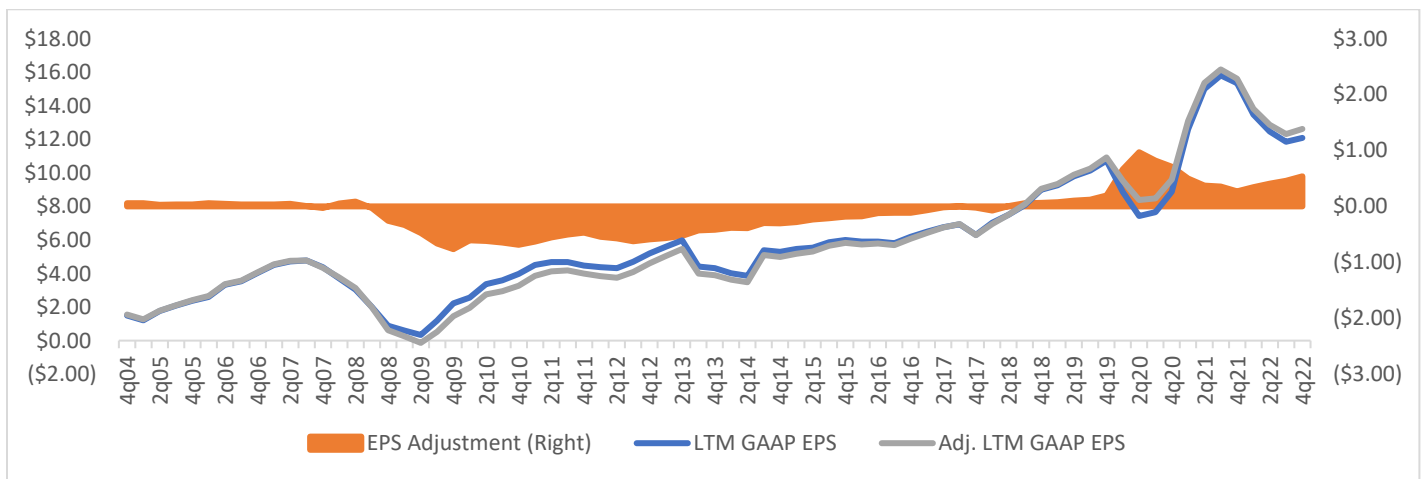


Source: Cornerstone Investment Partners, Federal Reserve FFIEC

As you can see, at the outset of the GFC, risky loans at JPM spiked in the second quarter of 2008 and continued to run until they peaked in early 2010. However, even with a focus by both investors and regulators, it took almost a decade for the allowance for loan losses to match the actual risky loans. Over that time period, as appropriate, we adjusted down earnings to reflect that potential exposure to bad debt.

The opposite occurred during the Pandemic as the new “Current Expected Credit Loss” (CECL) accounting standard (originally, GAAP accounting focused on incurred losses and managers had much more flexibility on how they calculated reserves, while CECL requires managers to assess potential losses over the life of the loan) pushed banks to reserve more aggressively up front for potential credit losses, and a materially more benign credit environment than expected (both due to government intervention and relatively better economic outcomes than could have occurred), generally led the banking sector to over-reserve for potential losses. Our analysis suggested they were under-earning a normalized level of earnings in this environment and we adjusted earnings positively to reflect potential reserve releases.

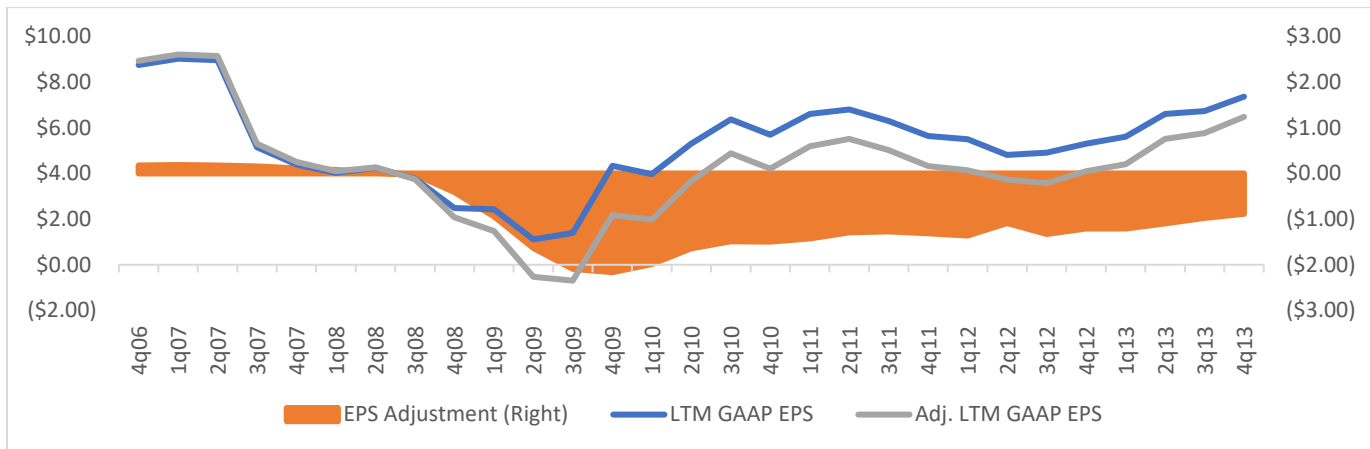
JPMorgan Adjustment for Credit vs. LTM EPS



Source: Cornerstone Investment Partners, Federal Reserve FFIEC, FactSet

Of course, JPMorgan was considered to be one of the highest-quality banks during the GFC. Compare their results to PNC, who had a much larger adjustment and would have had negative earnings in 2009 incorporating our credit adjustment.

PNC Adjustment for Credit vs. LTM EPS during the GFC



Source: Cornerstone Investment Partners, Federal Reserve FFIEC, FactSet

Particularly during periods of economic stress, it is important to assess the credit risk on bank loan books, as reserves do not always reflect the potential actual risk of the underlying loans.

Investment Book Risk

As Silicon Valley Bank's failure showed, it is important to understand the actual value of assets owned on bank balance sheets. Cornerstone has adjusted our Fair Value Model to mark-to-market these securities since the firm's inception. Accounting standards limit the insight regarding these assets as shown in traditional 10K and 10Q SEC filings, Fixed income valuations are inversely correlated to prevailing interest rates. When treasury rates rise, fixed income securities go down in value, and vice-versa. This is amplified by duration, which is driven by the length of time until the security matures. While banks do provide some sensitivities regarding their exposure to interest rate risk in their filings, it is theoretical and often driven by unrealistic and simplistic assumptions. For example, most interest rate sensitivities assume a parallel shift in the yield curve, which has not been the recent experience and rarely occurs perfectly.

There are two primary relevant types of debt securities on bank asset books:

- Available-for-Sale
- Held-to-Maturity

While the actual securities underlying them are the same, the way they are classified is important. Available-for-Sale securities are debt or equity securities purchased with the intent of selling before reaching maturity. These securities are reported at fair value, and unrealized gains or losses are included in accumulated other comprehensive income within the equity portion of the balance sheet. Held-to-Maturity securities are purchased to be held until they mature and are accounted for on an amortized book value basis, which can lead to a wide disparity between the market value and accounting value. In assessing Investment Book risk, we again are confronted by the reality that bank management teams have discretion in classifying assets as held-to-maturity or available-for-sale, which allows them to obfuscate actual losses under GAAP. **Because only one side of the equation is provided in standard balance sheets, the real answer is**

somewhat hidden. The opposite side of the data (i.e. Book Value for AFS and Fair Value for HTM assets) is however readily available in the Y-9C filing. So again, at Cornerstone, we perform additional work and analysis.

JPMorgan 12/31/22 Y-9C Filing Securities

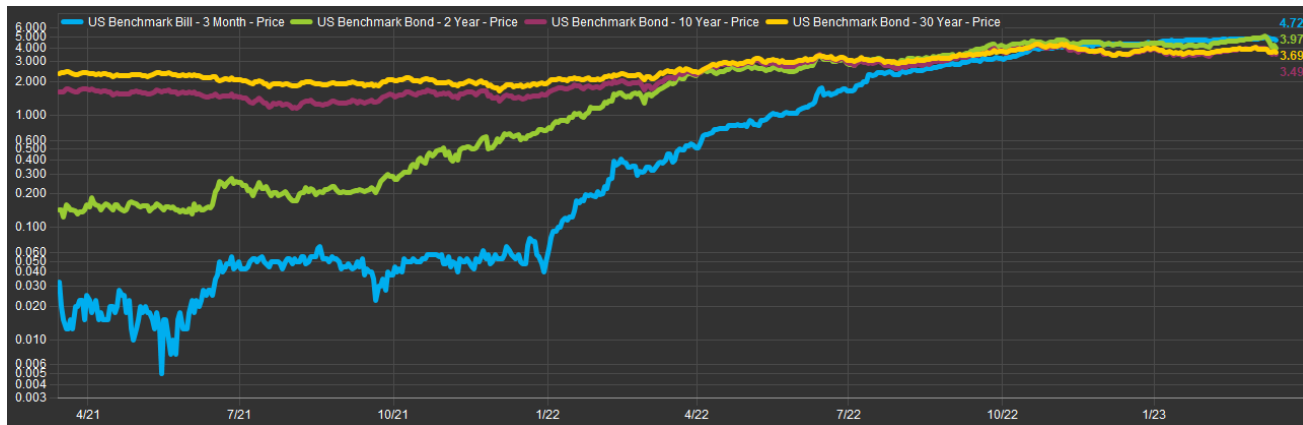
Schedule HC-B—Continued

Dollar Amounts in Thousands	Held-to-Maturity				Available-for-Sale				
	(Column A) Amortized Cost		(Column B) Fair Value		(Column C) Amortized Cost		(Column D) Fair Value		
	BHCK	Amount	BHCK	Amount	BHCK	Amount	BHCK	Amount	
5. Asset-backed securities and structured financial products:									
a. Asset-backed Securities (ABS)	C026	2325000	C988	2215000	C989	3152000	C027	3085000	5.a.
b. Structured financial products	HT58	61414000	HT59	59895000	HT60	5916000	HT61	5793000	5.b.
6. Other debt securities:									
a. Other domestic debt securities	1737	0	1738	0	1739	81000	1741	33000	6.a.
b. Other foreign debt securities	1742	0	1743	0	1744	20689000	1746	20019000	6.b.
7. Unallocated portfolio layer fair value hedge basis adjustments¹									
					MG95		BHCT		7.
8. Total (sum of items 1 through 7)²									
	1754	425372000	1771	388647000	1772	216216000	1773	205857000	8.

Source: Cornerstone Investment Partners, Federal Reserve FFIEC

Security valuation risk has not appeared to be particularly important relative to credit risk for the last decade, as we had been in a broad bull market for bonds since the GFC. The Federal Reserve’s efforts to fight 40-year high inflation by increasing interest rates rapidly exposed this risk.

US Treasury Yield Curve Yields Over The Last 2 Years



Source: Cornerstone Investment Partners, FactSet

In response, fixed income securities’ values sitting on bank balance sheets fell quickly.

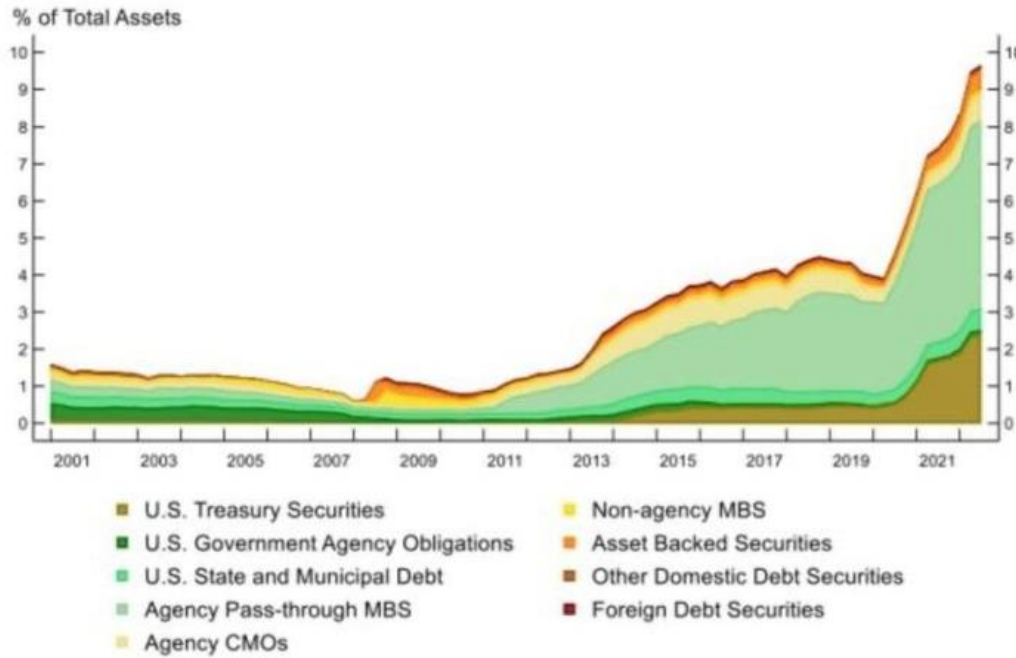
Unrealized Gains (Losses) on Investment Securities



Source: FDIC.
Note: Insured Call Report filers only.

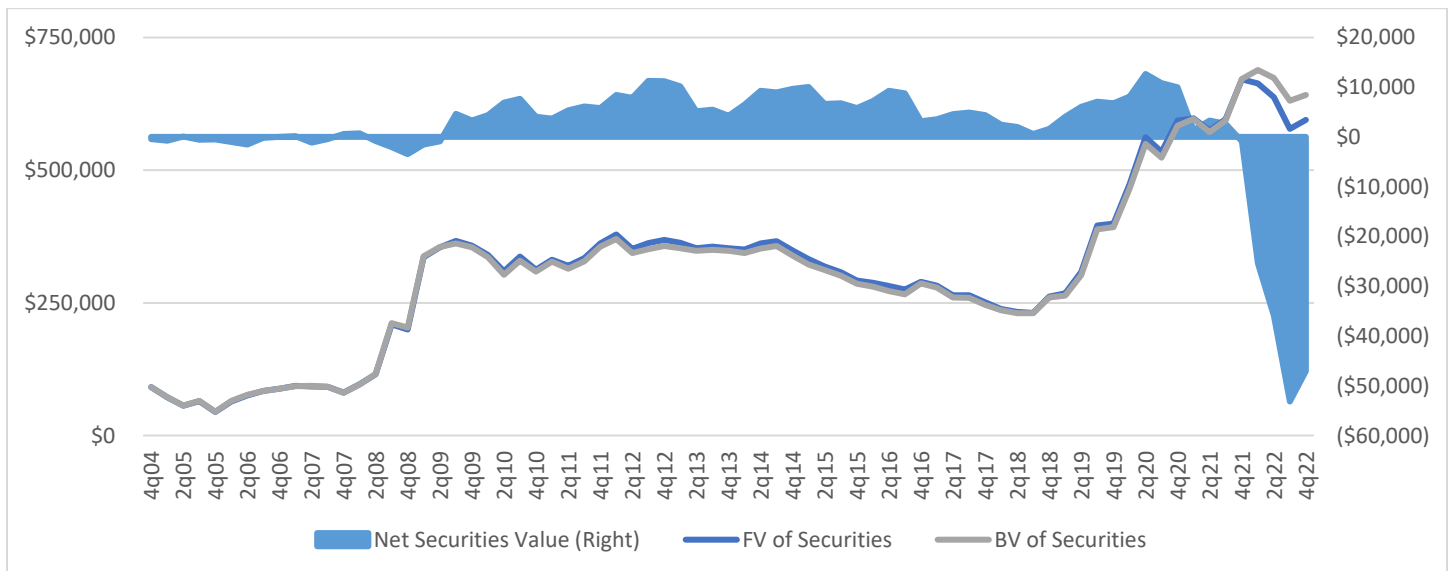
The amount of HTM securities on bank balance sheets has risen, and since they do not reflect their Fair Value in traditional financial reports, the risk of unrealized losses has become increasingly opaque.

Held-to-Maturity Securities



As an example, below is a chart showing JPMorgan’s security holdings on a book value and fair value basis. For most of the last two decades, that has been a positive adjustment, as it was carried at a gain. However, that changed rapidly a few quarters ago.

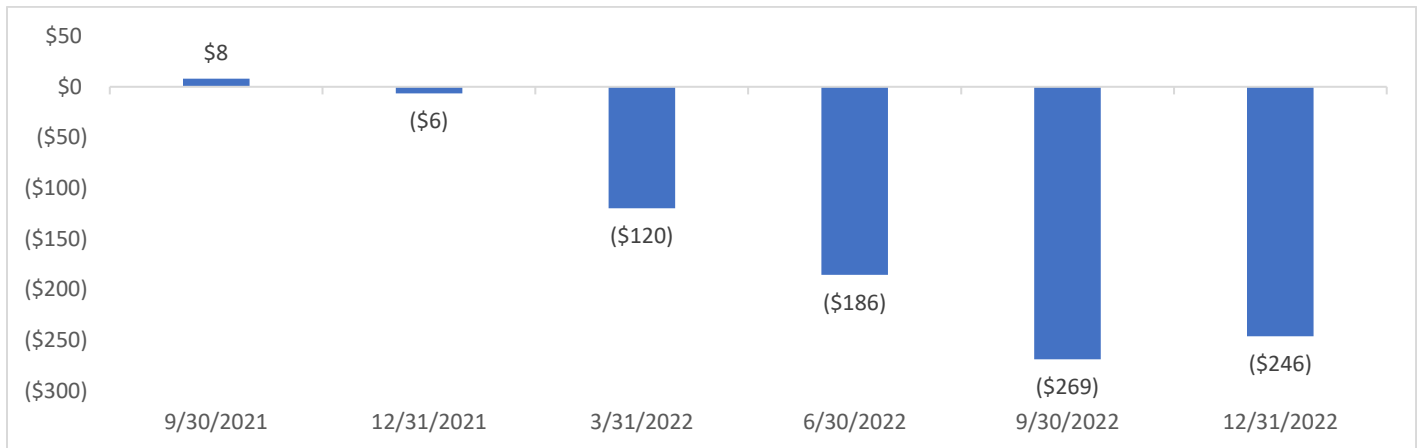
Mark-to-Market of JPMorgan HTM and AFS Securities



Source: Cornerstone Investment Partners, Federal Reserve FFIEC

In fact, among the top 5 banks, there are almost \$250bn of unrealized losses on their securities books.

Mark-to-Market of Top 5 Bank HTM and AFS Securities



Source: Cornerstone Investment Partners, Federal Reserve FFIEC. Top 5 banks include JPM, BAC, C, WFC, GS.

However, unlike Silicon Valley Bank, it appears to be an earnings issue for these banks, not a solvency issue, as they have both the equity base (\$1.1tn of book value / ~\$875bn of tangible book value) to wait it out.

Like during the GFC, financial items that appeared minor turned out to have significant influence both in terms of valuation and overall bank risk. However, it is necessary to understand what a bank owns to understand what equity investors own.

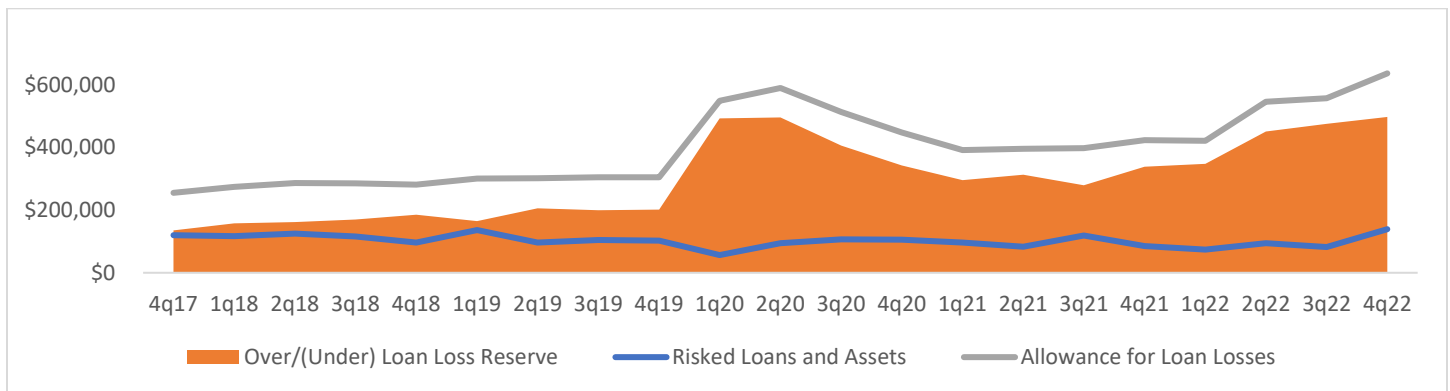
Example: Silicon Valley Bank

What does this mean for Silicon Valley Bank and were their issues possible to see?

We’re not going to rehash the reasons for its failure – many people, expert or not, have written on the topic in much more detail. Instead, we want to show what our analysis suggested about the bank’s valuation in advance.

Credit wasn’t an issue. Perhaps given the concentration and broad risk of its customer base, the company had quite reasonably *over-reserved* for its credit exposure. As such, we actually adjusted up its EPS by over \$1.25 a share for this as of 12/31/2022.

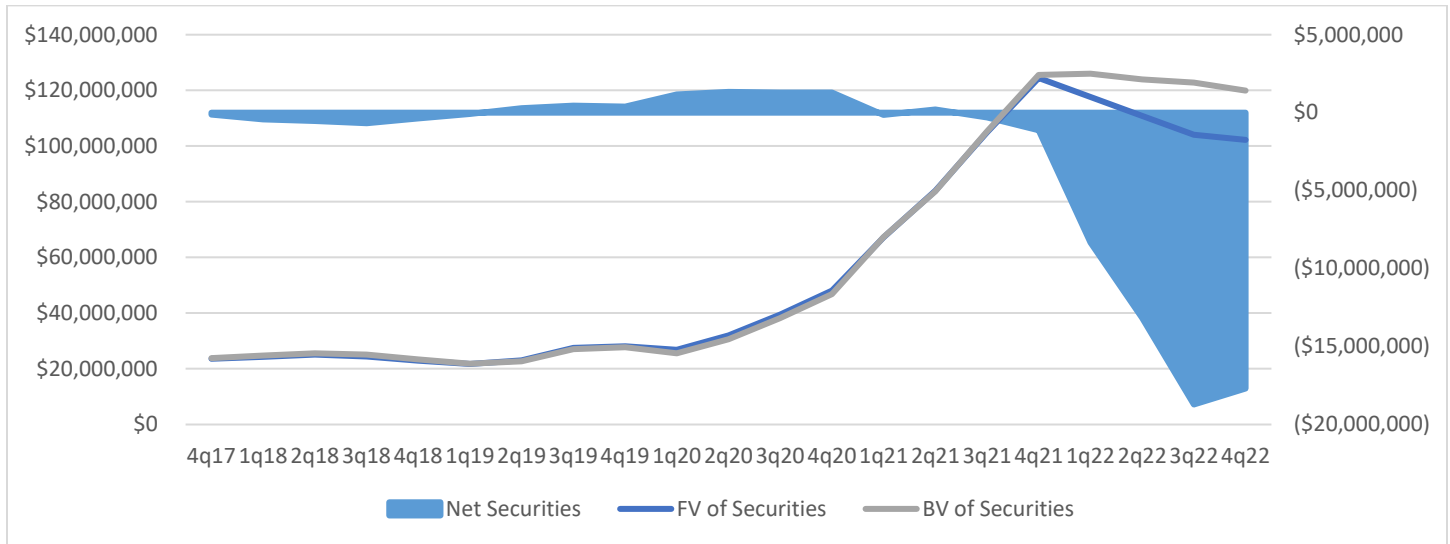
Silicon Valley Bank Risky Loans vs. Allowance for Loan Losses by Quarter (\$mm)



Source: Cornerstone Investment Partners, Federal Reserve FFIEC

But, as we are all now well aware of, the security book is a different story – it went up 5x in two years as SVB purchased an excessive amount of long-duration, low-yielding securities at the peak of the market. When rates rose, the value of these securities declined precipitously, which was not obvious on standard balance sheets.

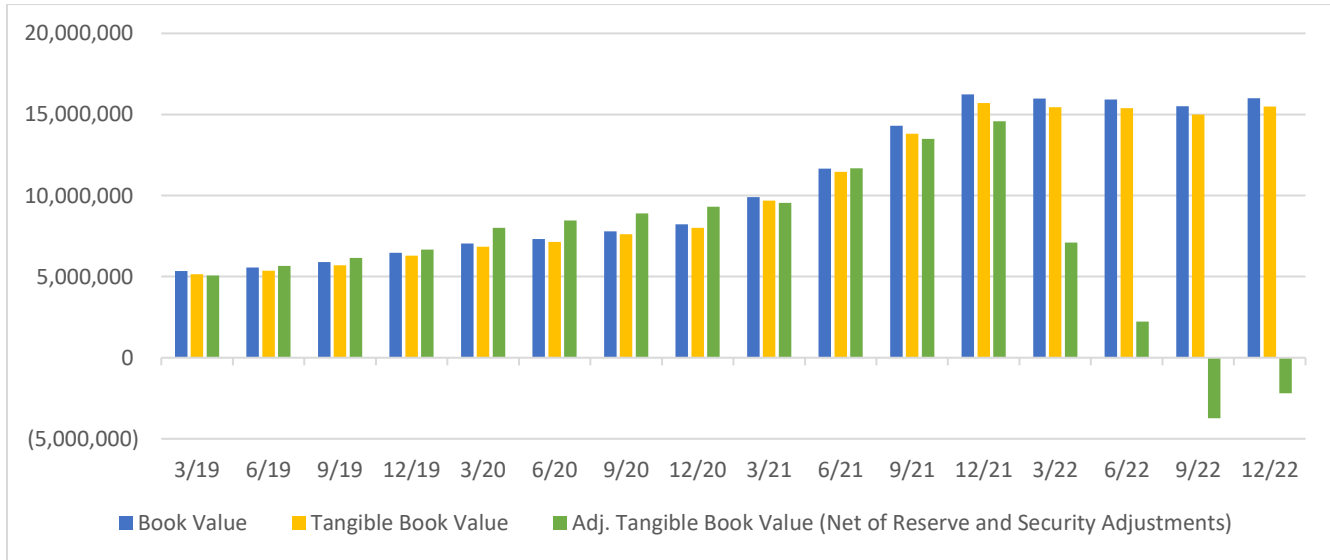
Silicon Valley Bank Unrealized Security Losses



Source: Cornerstone Investment Partners, Federal Reserve FFIEC

In fact, the nearly \$20bn of unrealized losses was more than SVB’s tangible equity of \$15bn, making the bank functionally insolvent without raising additional equity.

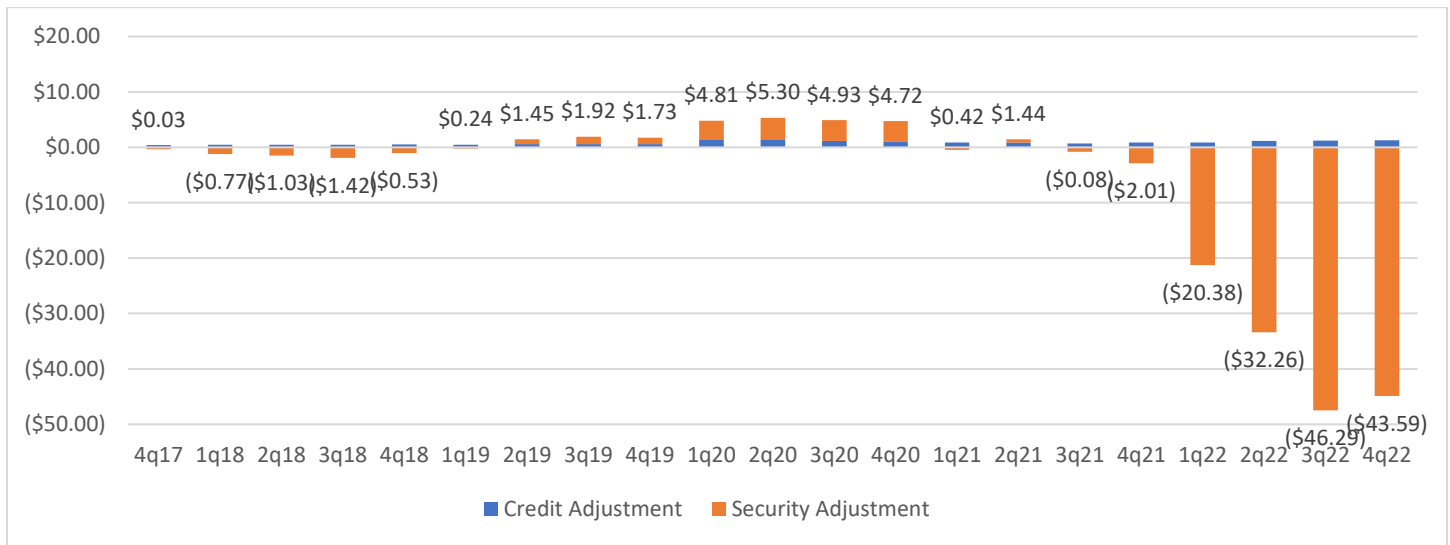
Silicon Valley Bank Net Tangible Book Value Adjusted for Unrealized Security Losses



Source: Cornerstone Investment Partners, Federal Reserve FFIEC

Our EPS adjustment reflects the dichotomy at the bank, which looked attractive on the surface, but had issues bubbling right below:

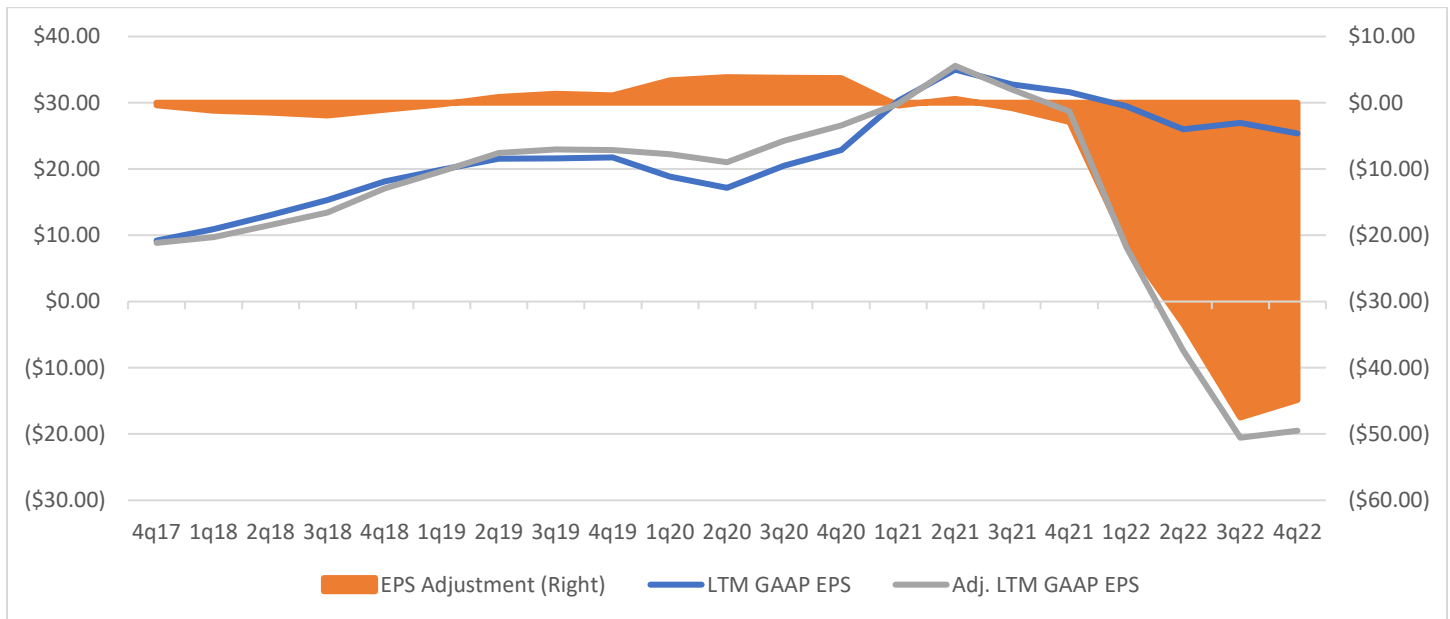
SIVB EPS Adjustment in Cornerstone Fair Value Model by Component



Source: Cornerstone Investment Partners, Federal Reserve FFIEC

In our Fair Value Model, when compared to the company's EPS, the company went from making over \$25 a share to losing \$20.

SIVB EPS Adjustment in Cornerstone Fair Value Model versus GAAP EPS



Source: Cornerstone Investment Partners, Federal Reserve FFIEC, FactSet

With a lack of interest rate hedges to balance out those interest rate risks, SIVB's significant bet created the environment that any major problems would be amplified. In theory, SIVB could have raised capital (which it tried to do) and made less money until its funding profile rolled over years down the road. But deposits can be flighty, as a high level of concentration among often closely-linked corporate accounts, many of whom had the same investor base) and a heavily underinsured deposit base (the FDIC officially only insures \$250,000 of deposits) set the stage for a run on the bank's deposits as soon as news started to come out. With social and traditional media fueling the news and the speed that digital banking offers, depositors were able to pull more money out faster than ever before, and its fate was sealed.

Conclusion

We are quite disappointed to see the failure of Silicon Valley and Signature Banks, but not surprised that there was a disconnect between how they looked at the surface versus what was going on behind the scenes. We recognize that banks are not the same as other companies. The regulatory, economic, and accounting environments are unique and require a unique approach to understand even some of their inherent, and often hidden-in-plain sight risks. While the latest issues are around banks' securities books, we should not forget the risk of credit headwinds in the future. Recent credit levels have been unexpectedly benign and delinquency rates are starting to show signs of normalization. The risk of a recession going forward is real, and so focusing on the credit side of the coin remains important. Cornerstone has done this type of additional work for decades to adjust its Fair Value Model to ensure that we are as aware as we can be of both credit and asset risks at major banks. This reinforces the importance of fundamental research and security selection, especially during periods of market stress.

Disclosure:

- 1. The Fair Value Model is Cornerstone's proprietary valuation methodology, which provides a weekly assessment of company valuations for our actively-managed 800-stock investable universe. The Data is provided for informational purposes only and should not be relied upon for financial decisions.***
- 2. Past performance does not indicate future results. As with all investments, the possibility for profit is accompanied by the risk of loss.***