

Revenge of the S&Ls: How Banks Lost a Half Trillion Dollars During 2022

Lawrence J. White
Stern School of Business
New York University
Lwhite@stern.nyu.edu

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Rebel A. Cole
Florida Atlantic University

Brian Silverstein
University of South Carolina

Jon R. Taylor
Michigan State University

Susan M. Wachter
University of Pennsylvania

Lawrence J. White
New York University

Overview

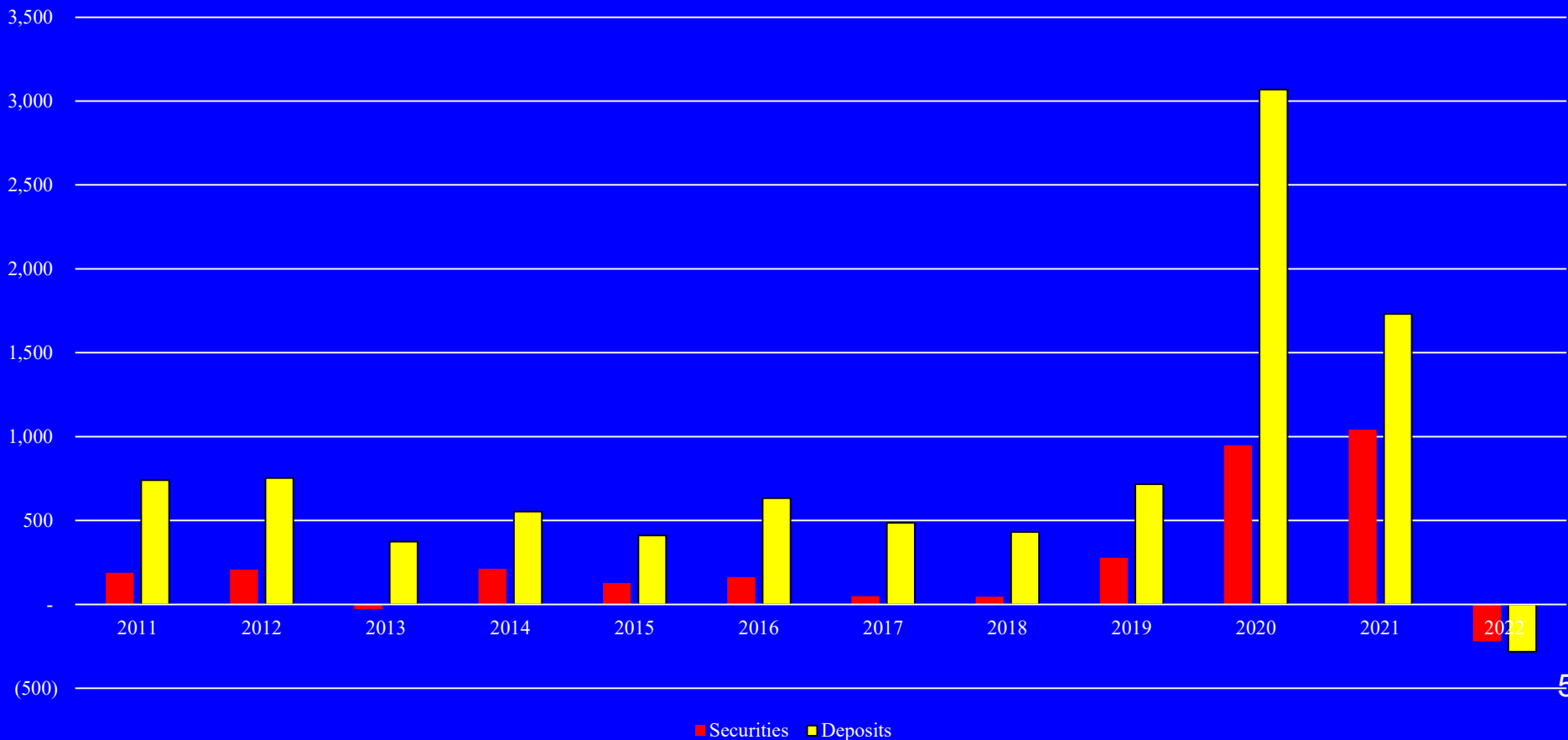
- Background/context on 2020-2023
- Our questions
 - What kinds of assets were responsible for the banks' losses?
 - To what kind of information did the stock market react?
- What we do
- What we find
- Conclusion: The path forward

Background on 2020-2023

- The Pandemic threatened a major economic downturn
- Major fiscal and monetary expansions in response
- One consequence for banks: large deposit inflows
- Many banks expanded their securities holdings
 - They chose long-term securities: “Reaching for yield”
 - Banks don’t hedge their interest-rate risk
- In response to non-transitory inflation, the Fed announced interest rate increases in March 2022
 - The long-dated securities fell in value
 - So did long-dated loans generally...

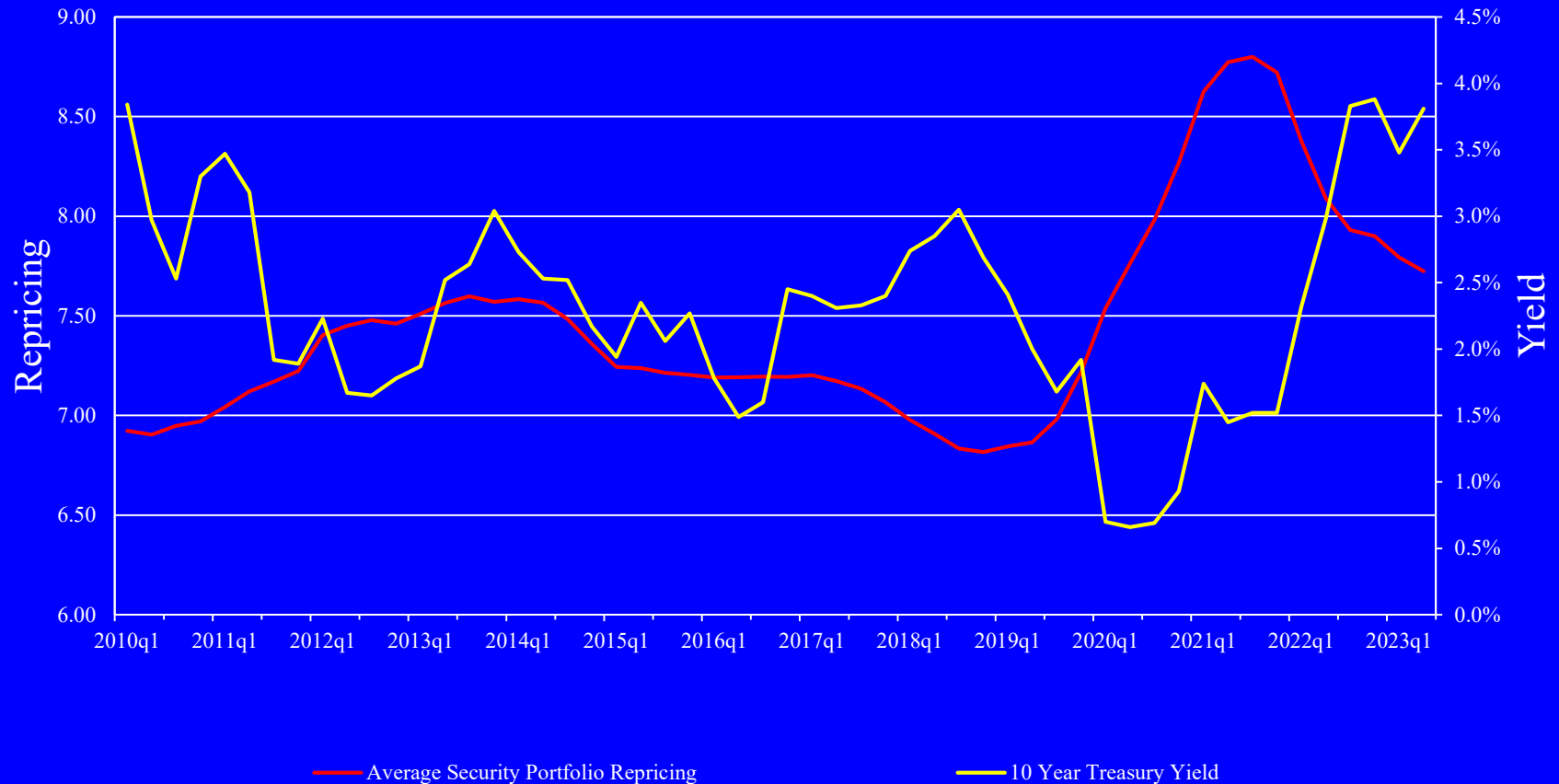
Deposit inflows; securities expansions

Change in Deposits and Investment Securities 2011 - 2022



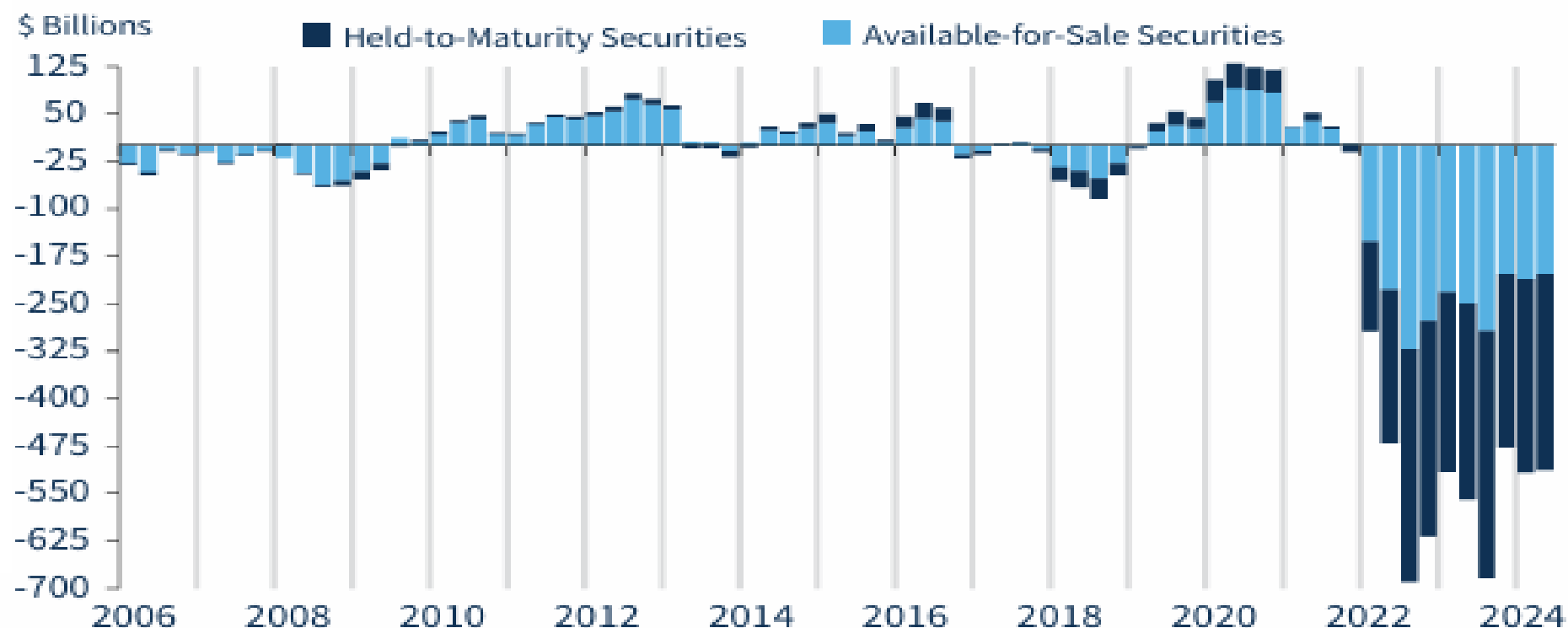
Longer maturities of bank security portfolios

Repricing **Maturity** of Bank Security Portfolios



Banks' unrealized securities losses

Unrealized Gains (Losses) on Investment Securities



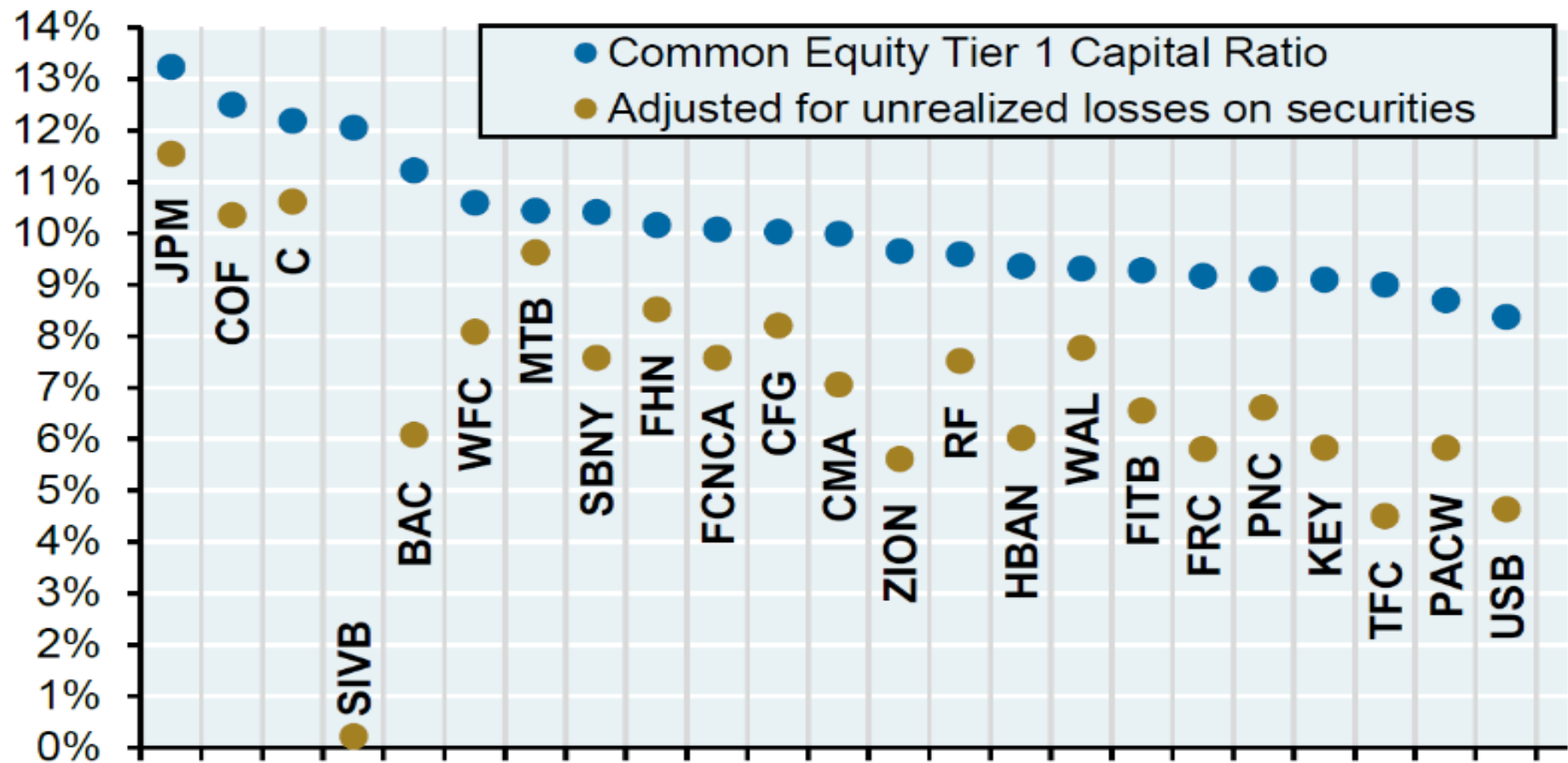
Source: FDIC.

Note: Insured Call Report filers only. Unrealized losses on securities solely reflect the difference between the market value and book value of non-equity securities as of quarter end.

Some large banks' losses

Impact of unrealized securities losses on capital ratios

Percent



Source: JPMAM, Q4 2022. See page 3 for methodology

Silicon Valley Bank

- SVB had expanded rapidly in 2020 and 2021
 - SVB invested much of its expanded deposits in long-dated securities
 - 90% of SVB's deposits were uninsured!
- By Q3 2022 SVB's securities had declined sufficiently so that its capital had been wiped out
 - But GAAP accounting allowed SVB to portray itself as solvent (even though the losses could be readily seen)
- Silicon Valley Bank was closed by the FDIC on March 10, 2023
 - Massive depositor runs began after SVB reported a loss on March 8

SVB: Q3, 2022 (10-Q, Nov 7, 2023)

ITEM 1. INTERIM CONSOLIDATED FINANCIAL STATEMENTS

SVB FINANCIAL GROUP AND SUBSIDIARIES INTERIM CONSOLIDATED BALANCE SHEETS (UNAUDITED)

(Dollars in millions, except par value and share data)

| | September 30, 2022 | December 31, 2021 |
|--|--------------------|-------------------|
| Assets: | | |
| Cash and cash equivalents | \$ 13,968 | \$ 14,586 |
| Available-for-sale securities, at fair value (cost of \$29,502 and \$27,370, respectively) | 26,711 | 27,221 |
| Held-to-maturity securities, at amortized cost and net of allowance for credit losses of \$6 and \$7 (fair value of \$77,370 and \$97,227, respectively) | 93,286 | 98,195 |
| Non-marketable and other equity securities | 2,595 | 2,543 |
| Total investment securities | 122,592 | 127,959 |
| Loans, amortized cost | 72,129 | 66,276 |
| Allowance for credit losses: loans | (557) | (422) |
| Net loans | 71,572 | 65,854 |
| Premises and equipment, net of accumulated depreciation and amortization | 346 | 270 |
| Goodwill | 375 | 375 |
| Other intangible assets, net | 142 | 160 |
| Lease right-of-use assets | 349 | 313 |
| Accrued interest receivable and other assets | 3,523 | 1,791 |
| Total assets | \$ 212,867 | \$ 211,308 |
| Liabilities and total equity: | | |
| Liabilities: | | |
| Noninterest-bearing demand deposits | \$ 93,988 | \$ 125,851 |
| Interest-bearing deposits | 82,831 | 63,352 |
| Total deposits | 176,819 | 189,203 |
| Short-term borrowings | 13,552 | 71 |
| Lease liabilities | 429 | 388 |
| Other liabilities | 2,889 | 2,467 |
| Long-term debt | 3,368 | 2,570 |
| Total liabilities | 197,057 | 194,699 |
| Commitments and contingencies (Note 11 and Note 14) | | |
| SVBFG stockholders' equity: | | |
| Preferred stock, \$0.001 par value, 20,000,000 shares authorized; 383,500 and 383,500 shares issued and outstanding, respectively | 3,646 | 3,646 |
| Common stock, \$0.001 par value, 150,000,000 shares authorized; 59,104,124 and 58,748,469 shares issued and outstanding, respectively | — | — |
| Additional paid-in capital | 5,272 | 5,157 |
| Retained earnings | 8,676 | 7,442 |
| Accumulated other comprehensive income (loss) | (2,085) | (9) |
| Total SVBFG stockholders' equity | 15,509 | 16,236 |
| Noncontrolling interests | 301 | 373 |
| Total equity | 15,810 | 16,609 |
| Total liabilities and total equity | \$ 212,867 | \$ 211,308 |

See accompanying notes to interim consolidated financial statements (unaudited).

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SVB on March 9, 2023



Get 'em while they last!



Brand: Generic

SVB Risk Management Dept Hat, SVB Hat, SVB Risk Management Cap (Embroidered Trucker Cap)

5.0 ★★★★★ 1 rating | [Search this page](#)

Price: **\$23.95**

[FREE Returns](#) ▼



Buying multiple items? [Build a basket](#)

Size: One Size

Color: Navy



\$23.95



\$23.95



\$23.95



\$23.95



\$23.95



\$23.95

One Size is your recommended size based on millions of customer orders and reviews.

[Size Chart](#) ▼

Product details

| | |
|-------------------|---------------------------|
| Fabric type | 60% Cotton, 40% Polyester |
| Care instructions | Hand Wash Only |
| Fit type | Fitted |

Our questions

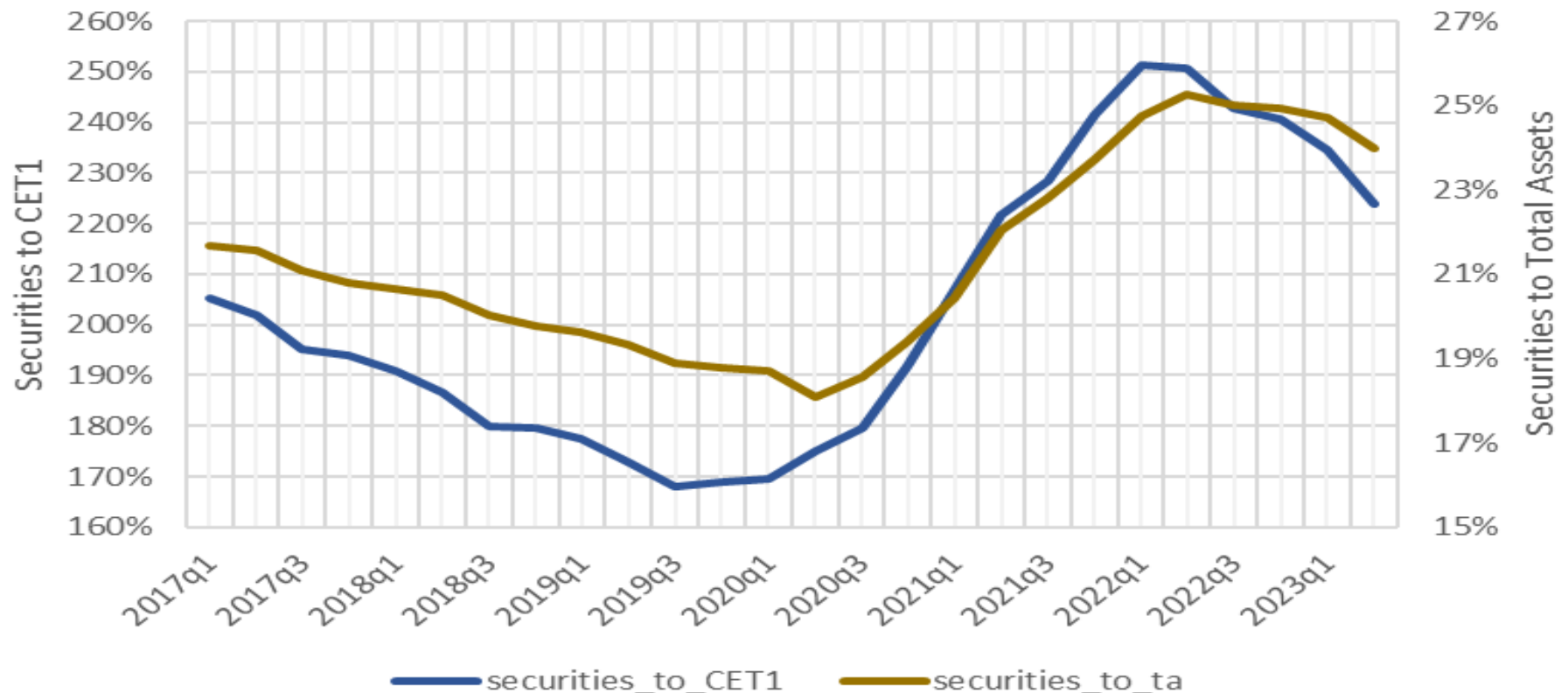
- What were the kinds of securities (or other assets) that were most important in generating the banks' unrealized securities losses?
 - Treasuries? Munis? RMBS? CMBS? ResMortgs? CREMortgs?
- When the stock market did realize that there were bank-related problems, to what information was the market reacting?
 - Embedded interest-rate risk? Uninsured depositors (and the potential for runs)? Unrealized securities losses?

What we do: Unrealized securities losses and bank asset categories

- We collect unrealized securities loss data for all commercial banks (4,697) as of Q2 2023
- We collect balance sheet asset data for these banks as of Q4 2021 (just before the March 2022 interest rate increases)
 - We focus on the banks' securities and mortgages
- We run straightforward OLS one-on-one and multivariate regressions to explain SecLoss/A:
$$\text{SecLoss/A} = f(\text{Treas/A; Muni/A; etc.})$$

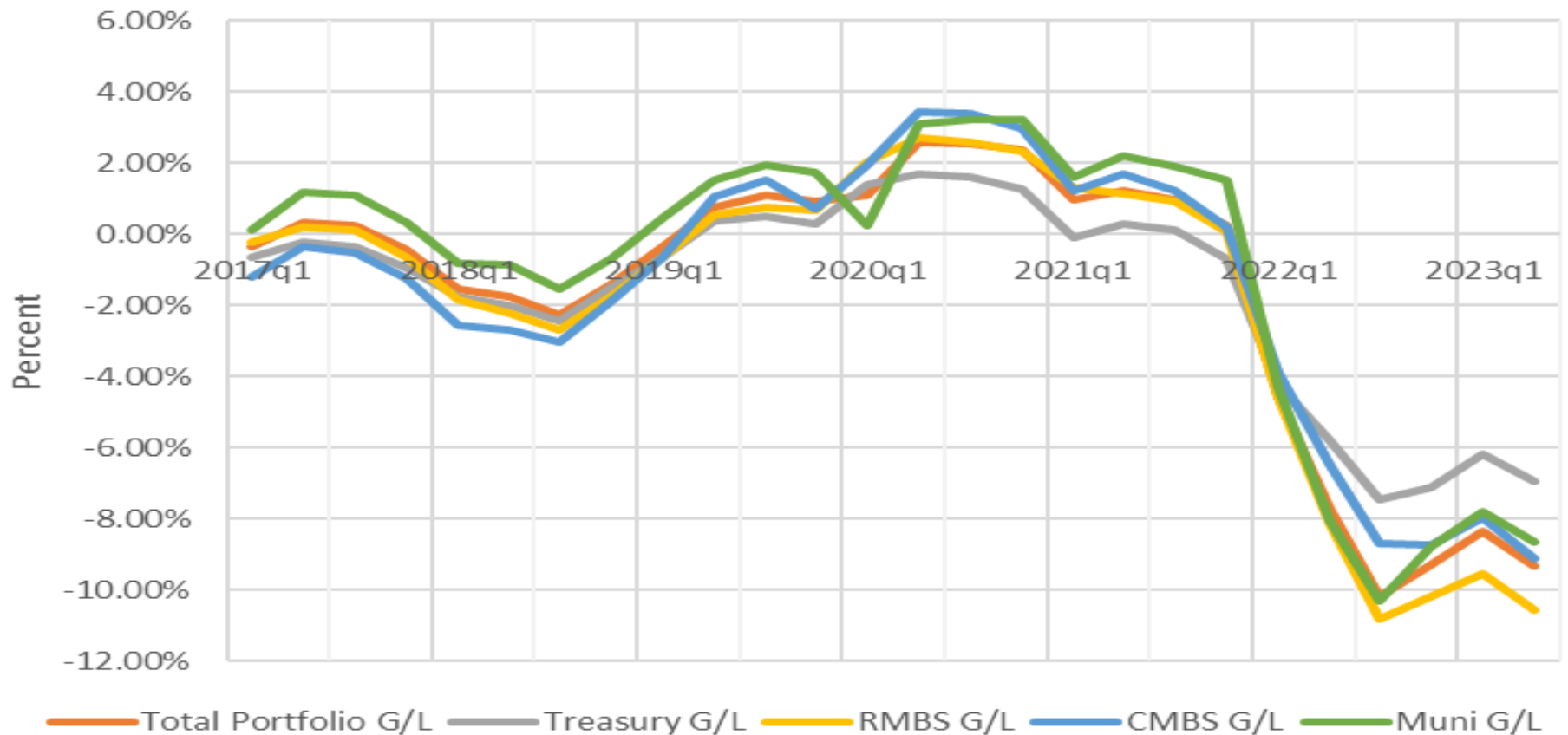
Securities portfolio as % of CET1 and of assets (small banks)

Banks with under \$10B in Assets
Security Portfolio Size to CET1 and Total Assets
by Quarter (2017 - 2023Q2)



Securities categories gains/losses (small banks)

Banks with under \$10B in Assets
Security Portfolio G/L by Quarter (2017 - 2023Q2)



What we find: Unrealized securities losses and bank asset categories

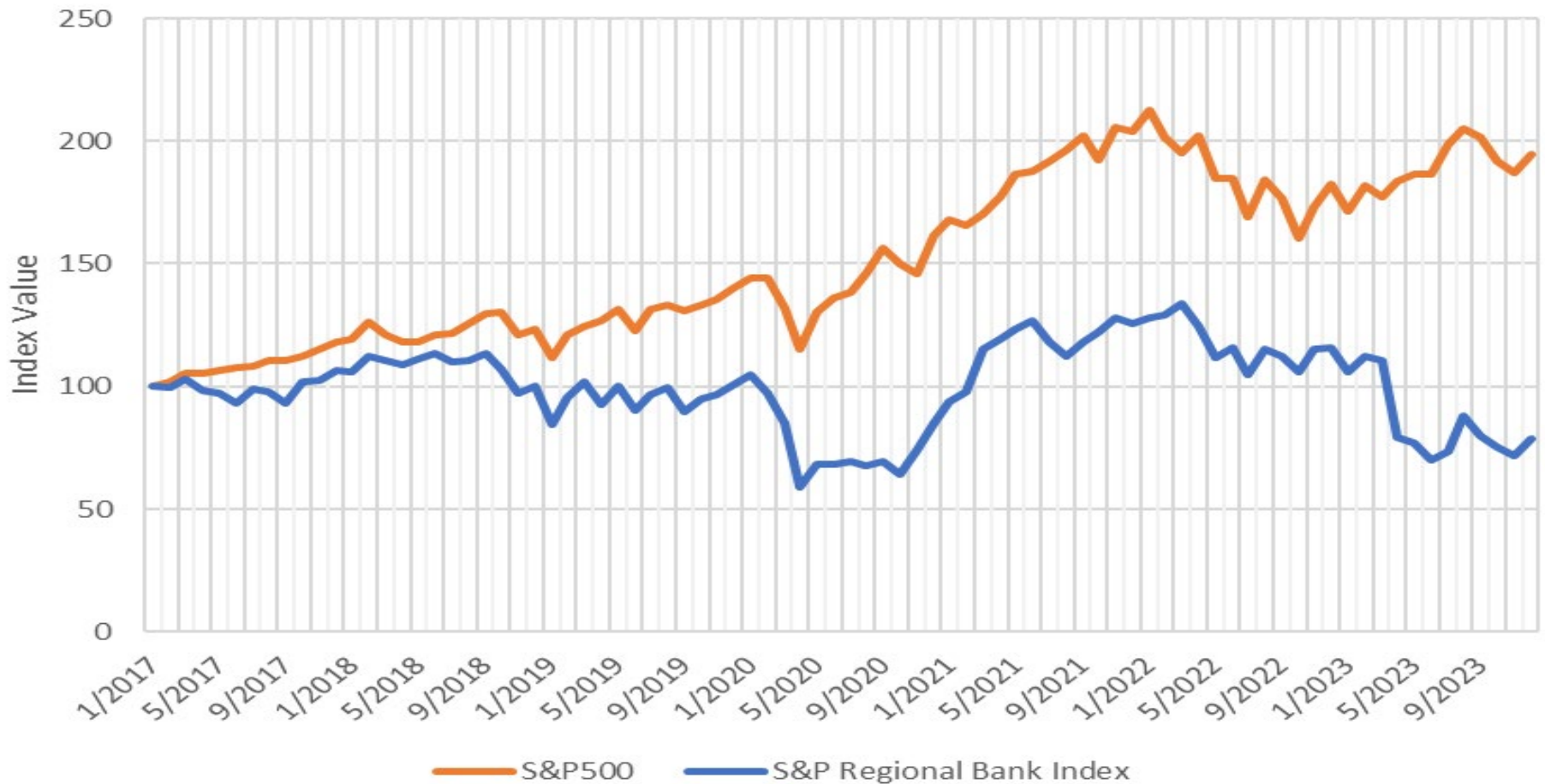
| | Bank Averages | | | Regr. Coeffs | |
|-----------------|---------------|-------------|-------------|--------------|--------|
| | All | Low Loss | High Loss | 1-on-1 | MV |
| | | | | | |
| SecLoss/A | 2.5% | 0.9% | 4.2% | | |
| <i>(CET1/A)</i> | <i>12.7</i> | <i>13.7</i> | <i>11.7</i> | | |
| Treas/A | 8.2 | 6.1 | 10.3 | 0.064 | 0.082 |
| Munis/A | 7.6 | 3.1 | 12.1 | 0.135 | 0.121 |
| RMBS/A | 7.4 | 3.0 | 11.8 | 0.143 | 0.132 |
| CMBS/A | 1.0 | 0.4 | 1.6 | 0.209 | 0.103 |
| ResM/A | 17.2 | 19.2 | 15.2 | -0.030 | 0.003 |
| CREM/A | 15.9 | 18.4 | 13.5 | -0.054 | -0.002 |

What we do: Stock market reactions to categories of bank information

- Event study that focuses on the SVB event (March 9 = Day 0)
 - 281 publicly traded banks with assets < \$250B
 - Focus on the top and bottom quartiles
 - Interest-rate risk; liquidity risk (as of Q4 2022)
 - Compute daily abnormal returns
 - CAPM 1-factor; Fama-French 3-factor
 - Regress daily abnormal returns against dichotomized bank risk characteristics (above and below the Q4 2022 median) and pre- and post-March 9 dummy variable
 - Diff-in-diff

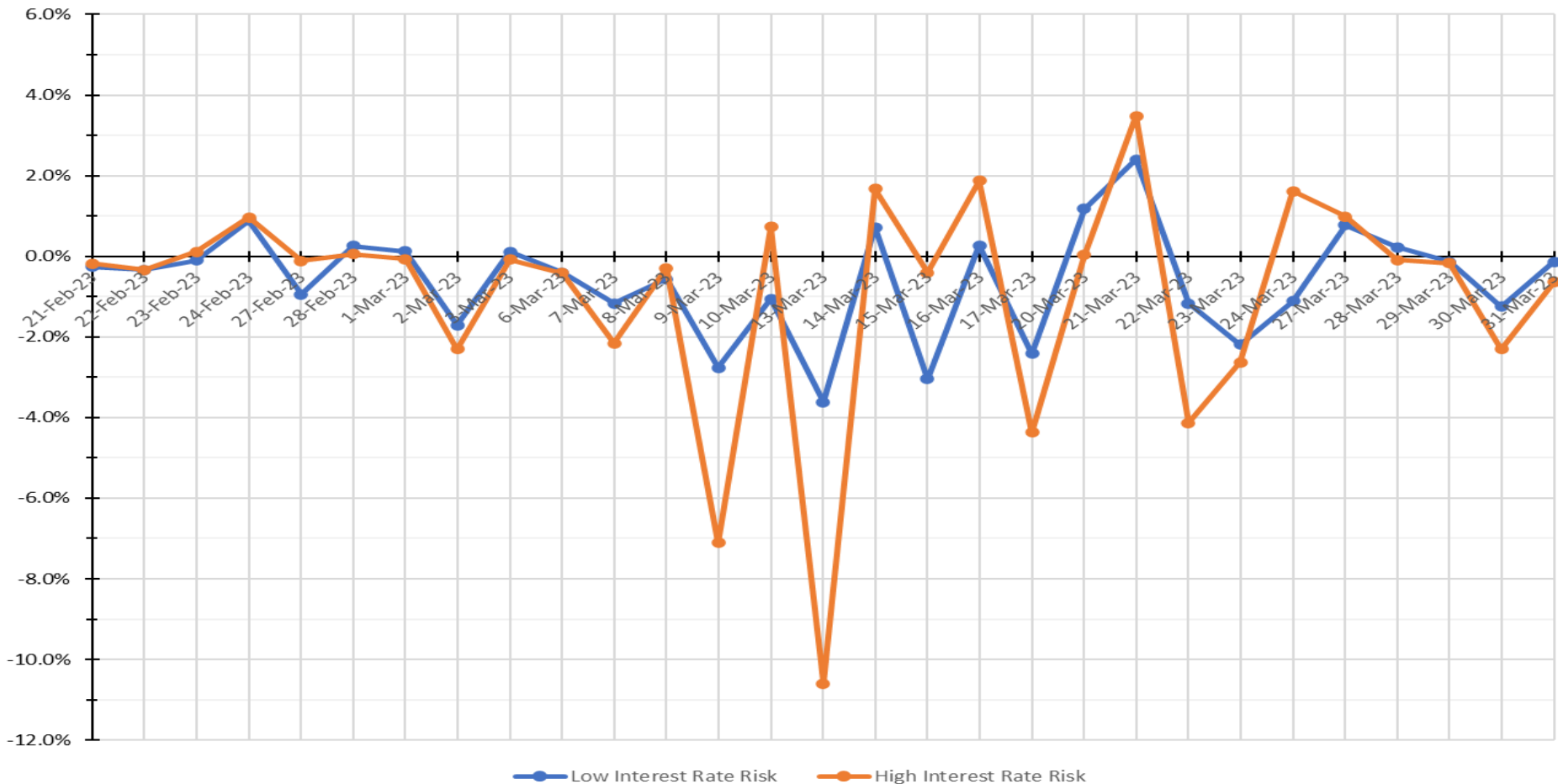
Trend in bank stock performance

Relative Performance of the S&P Regional Bank Index versus S&P 500 Index (2017 through 11/2023)



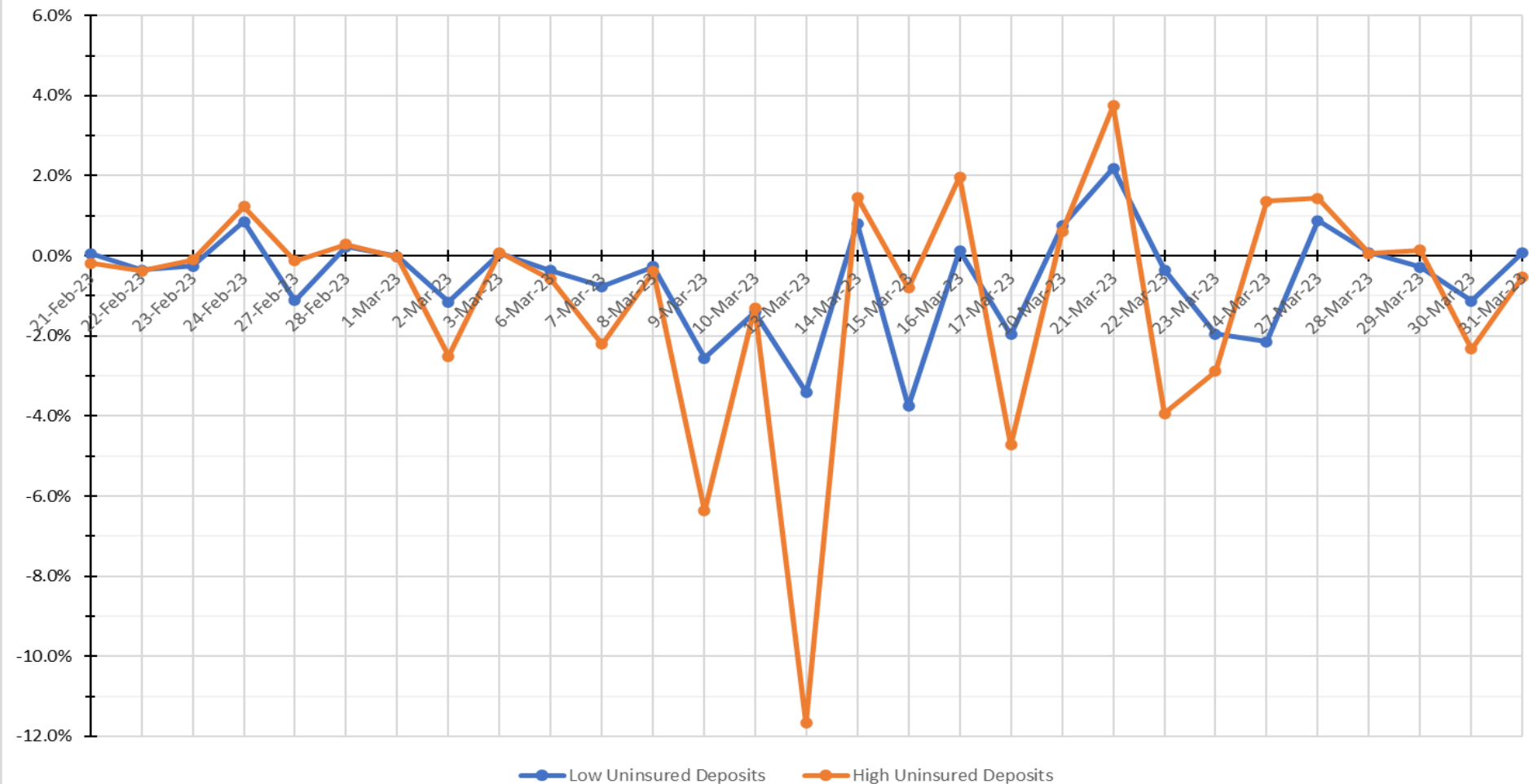
Daily abnormal returns for banks: High/low interest-rate risk

High/Low Interest Rate Risk: Trend Analysis MM Abnormal Returns for Banks under 250B



Daily abnormal returns for banks: High/low liquidity risk

High/Low Uninsured Deposits: Trend Analysis MM Abnormal Returns for Banks under 250B



What we find: Stock market reactions to categories of bank information

- The stock market overall reacted negatively to the SVB event
- There was a significant negative post-SVB reaction for high liquidity-risk banks
 - The stock market cared about the % of uninsured deposits in individual banks
- There was a negative (but insignificant) post-SVB reaction for high interest-rate risk banks
- There was little post-SVB reaction for high unrealized-loss banks

Conclusion: The path forward(1)

- U.S. banks clearly were “reaching for yield” during 2020-2021
 - They weren’t hedging
- Treasuries, Munis, and RMBS were the assets of choice
 - Residential mortgages and CRE mortgages were not
- There were consequences
 - A half trillion \$\$\$ ↓
- The stock market cared primarily about the possibility of depositor runs

Conclusion: The path forward (2)

- Why?
 - Why did banks invest in those securities?
 - Munis and RMBS: opportunities for higher yields
 - Why doesn't the stock market care about interest-rate risk or about banks' embedded unrealized securities losses?
- What about the interest-rate risk that is embedded (and unrecognized and unmeasured) in C&I loans, residential mortgages, CRE mortgages, etc.?
- What about the *credit risk* in the current overhang of CRE mortgages and the declining CRE sector?

Conclusion: The path forward (3)

- What about better policy?
 - Better capital requirements?
 - Better liquidity requirements?
 - Better on-the-ground supervision?
 - Better deposit insurance?
 - What to do about uninsured depositors: currently 40% of total
 - Better financial reporting?
 - Market value accounting?
 - More frequent and more timely financial reporting to regulators and to the public?

Some important Q2 2024 bank data

| | All banks | Community banks |
|-----------------------------|-----------|-----------------|
| # of banks | 4,539 | 4,104 |
| Total assets (\$B) | \$23,887 | \$2,710 |
| Total deposits (\$B) | \$18,808 | \$2,255 |
| Uninsured deposits (\$B) | \$7,187 | n.a. |
| Equity (\$B) | \$2,358 | \$269 |
| CRE loans (mortgages) (\$B) | \$1.833 | \$577 |
| Unrealized SecLosses (\$B) | \$513 | \$55 |