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Systemic Risk From Banking System

Presentation to the FRAC

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Economics

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Summary of Regional Bank Stresses

- Since March 10 three banks failed and were taken over by the FDIC—Silicon Valley Bank (SVB), Signature Bank (SB), and First Republic Bank (FR). In total these banks had assets of $532 billion representing 2¼% of US bank market.

- At end 2022, the FDIC Deposit Insurance Fund stood at $128.2 billion. Anticipated hit from SVB, SB, and FR is currently put at $28.8 billion. FDIC proposing a special assessment on banks over $10 billion (some 4,000 banks of the 4,706 banks covered by FDIC insurance are under this threshold).

- All deposits of the three banks were guaranteed with immediate access to funds. The Fed has loaned the FDIC $213 billion.

- Vice Chair for Supervision Barr issued a report on the failure of SVB in April 28.

- Stresses appear contained but still ongoing. The S&P Regional Bank ETF is down 35% since March 8.

Barr's Observations on SVB Fallout

- The combination of social media, a concentrated depositor base, and technology have sped up bank runs (SVB saw $40 bn of outflows on 3/9 and $100 bn expected on 3/10). SVB's distress had systemic consequences through contagion—does not require firm to be large or interconnected.
- Although it was a liquidity run, the fundamental issue was solvency (we would draw attention to the losses in the held-to-maturity bucket at SVB). Failure to manage interest-rate risk was central to SVB's problems.
- "Supervisors did not fully appreciate the extent of the bank's vulnerabilities, or take sufficient steps" to get SVB to address its risks.
- Supervisory standards for banks in the $100 billion-$250 billion in size may need to be firmed up. Focus on liquidity risks from uninsured deposits and unrealized gains/losses on AFS securities (but changes would not be effective for years).

Systemic or Idiosyncratic? Notes on SVB, SB, & FR

- As of 12/31/22, the held-to-maturity (HTM) portfolio was very large in relation to total assets (43.7%). Also SVB opted out of running unrealized losses on available-for-sale (AFS) securities against regulatory capital. Total unrealized losses of $17.1 billion would have wiped out Tier 1 capital if recognized.

- Extremely heavy reliance on a concentrated number of investors with large uninsured deposits. Some 97% of SVB's deposits exceeded the $250,000 FDIC cap. On 12/31/22, 37,466 depositors had an average deposit of $4.2 million.

- First Republic Bank clearly did not have enough liquidity on hand to meet a significant deposit outflow with cash assets and AFS securities at only 4.3% of deposits. Both Signature Bank and FR had high uninsured deposits.

- All FDIC insured banks had HTM losses of $340.9 billion (16.2% of Tier 1 capital) and losses on AFS of $279.5 billion (13.3% of Tier 1 capital) and 47.8% of deposits exceeded the FDIC insurance threshold.

Three Banks Compared to All Banks—Positions as of December 31, 2022

	Silicon Valley Bank	Signature Bank	First Republic Bank	All FDIC Insured Banks
Total Assets ($ billions)	209.0	110.4	212.6	23600.0
Held-to-Maturity Securities	91.3	7.8	28.3	2796.6
HTM Securities as Share of Assets	43.7%	7.1%	13.3%	11.9%
Deposits	161.5	88.6	176.4	19214.6
Percent of deposits above $250,000	97.0%	94.4%	79.6%	47.8%
Deposits to Total Assets	77.3%	80.3%	83.0%	81.4%
Cash plus Available for Sale Securities	38.5	24.5	7.6	5656.0
Cash plus AFS to Deposits	23.8%	27.7%	4.3%	29.4%
Tier 1 Capital	17.0	10.1	17.6	2099.1
Leverage Ratio	8.98	8.89	8.51	8.98
Unrealized Losses on HTM Securities	15.2	0.8	4.8	340.9
HTM Losses to Tier 1 Capital	89.4%	7.9%	27.3%	16.2%

Sources: FDIC, Author's Calculations

Signs of Stabilization

- *Limited contagion:* The banks that have been perceived as potentially the next dominoes are much smaller than even Signature Bank, have low securities losses and better liquidity coverage than First Republic (though are more reliant on uninsured deposits and have lower liquidity coverage than the industry average).

- *Policy tools:* Bank runs are easier to manage than capital market runs because the Fed and FDIC have tools and authority to act (lender of last resort, deposit insurance, ability to take over an insured institution) unlike the capital market run of 2008. Steps of March 12 were decisive (Bank Term Funding Program and coverage of all deposits). First Republic was very vulnerable to a deposit run despite actions to deposit $30 billion by a consortium of banks.

- *Funding flows:* Reliance on Fed has diminished following $160 billion surge in borrowing (discount window plus BTFP) in week of SVB borrowing. Loans has fallen by $74 billion. Deposits at smaller banks have shown signs of stabilizing.

Positions of Two Other Regional Banks as of December 31, 2022

	Pacific Western Bank	Western Alliance Bank
Total Assets ($ billions)	41.1	67.7
Held-to-Maturity Securities	2.3	1.3
HTM Securities as Share of Assets	5.6%	1.9%
Deposits	34.3	55.2
Percent of deposits above $250,000	57.4%	76.8%
Deposits to Total Assets	83.5%	81.5%
Cash plus Available for Sale Securities	7.0	8.1
Cash plus AFS to Deposits	20.4%	14.7%
Tier 1 Capital	3.4	5.7
Leverage Ratio	8.39	8.22
Unrealized Losses on HTM Securities	0.2	0.2
HTM Losses to Tier 1 Capital	5.9%	3.5%

Sources: FDIC, Author's Calculations

S&P Regional Bank ETF

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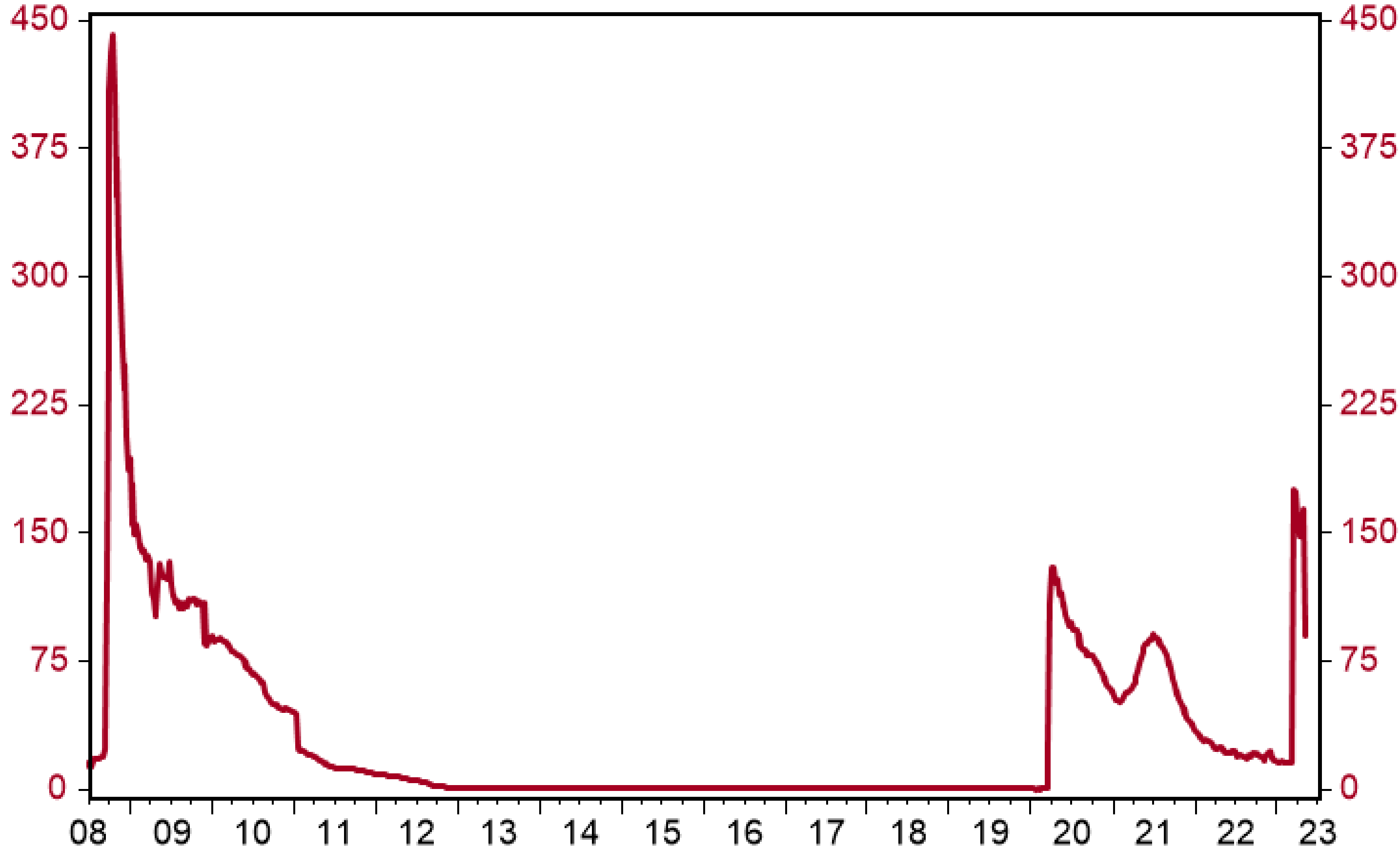
Fed Loans to Banks (Excluding FDIC)

$ billions



Source: Haver Analytics

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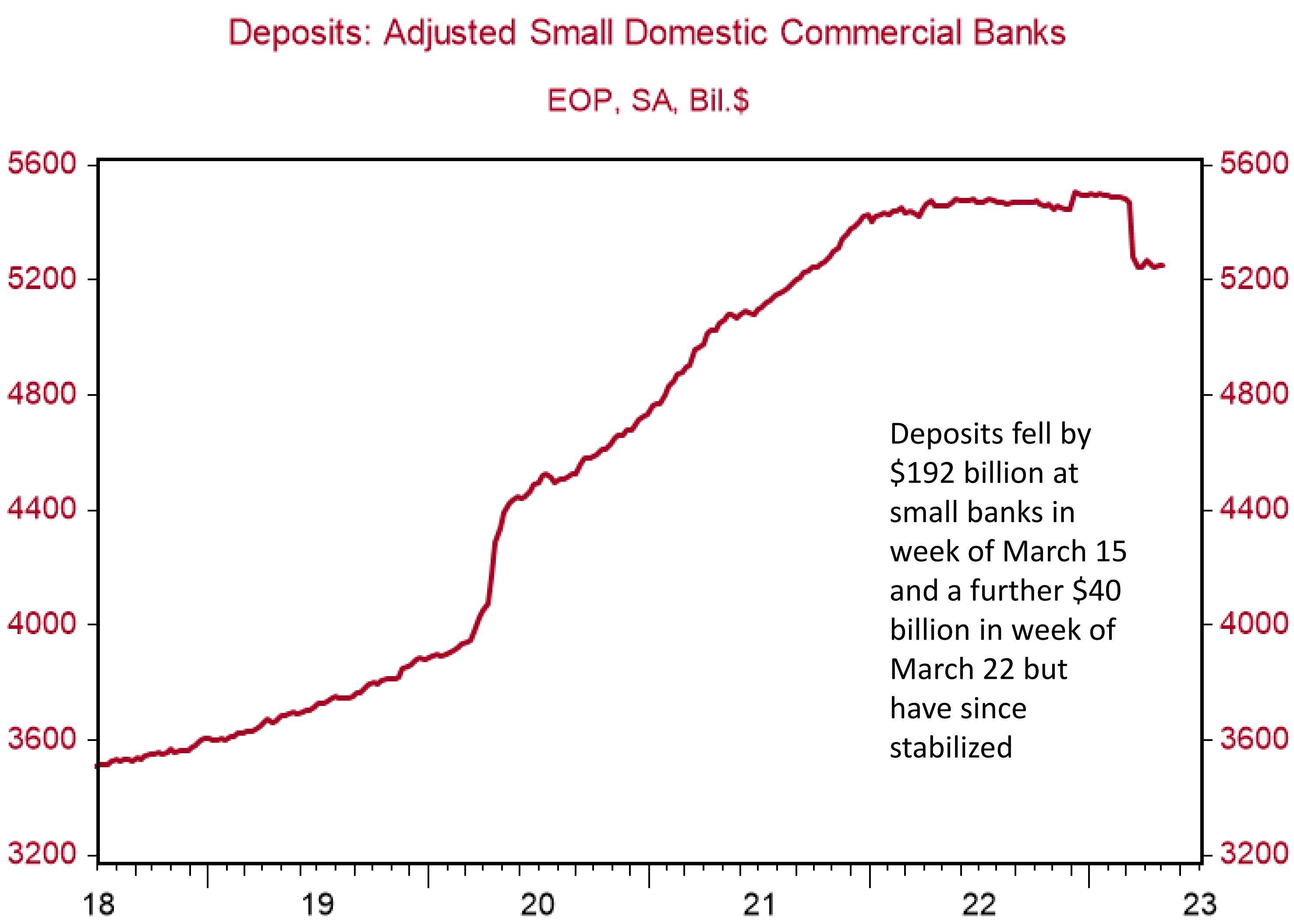


Source: Federal Reserve Board

Where were the early warnings from FDIC & Fed?

- FDIC Quarterly reported banks' net income was $263.0 billion in 2022 but banks incurred unrealized losses of $620.4 billion. Net income did not paint a useful picture of bank profits.

- FDIC said capital ratios were strong and reported only 11 banks with very inadequate capital levels. However, up to 30% of Tier 1 capital would have disappeared if unrealized losses had been marked to market. Unrealized losses were reported but not analyzed.

- There was no modeling of higher interest rate scenarios in Fed Stress Test assumptions for February 2023. In severely adverse scenario, 10-year yields fell to 0.8% by end 2023. Baseline forecasts had lower rates than December 2022 SEPs.

Revisiting November Presentation

- I argued that the use of unconventional policy tools of zero-interest rate (ZIRP), asset purchases (QE), and forward guidance had resulted in a buildup of leveraged bond positions that could challenge the Fed's ability to get policy sufficiently restrictive to return inflation to 2%.

- I argued that the use of these unconventional tools suppressed volatility, further encouraging a build up in leverage.

- What is the basis of forward guidance of a long-run interest rate target of 2½%? Does this guidance influence banks' investment behavior?

- As an aside, the Fed had unrealized losses of $1.08 trillion at the end of 2022 and now pays out more in interest on reserves than it receives in coupon income.

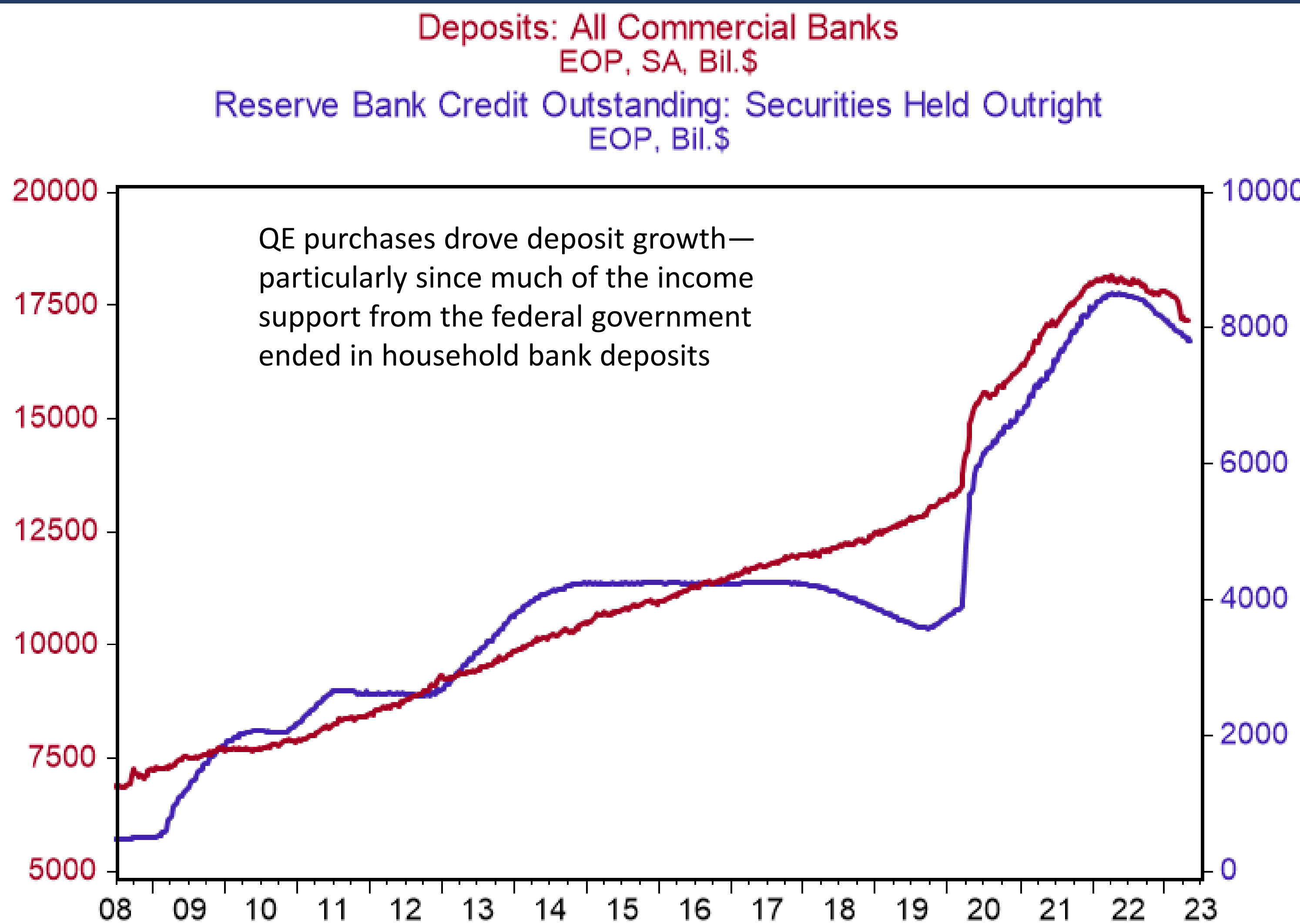
Monetary Policy Versus Financial Stability

(From November FRAC Presentation)

- The use of nonconventional monetary policy tools of forward guidance and large scale asset purchases has created the potential for an adverse policy feedback loop by encouraging the buildup of leveraged bond positions. I first explored the idea in *A Short Antifragile Critique of the Fed* (Ryding and DeQuadros 2012).

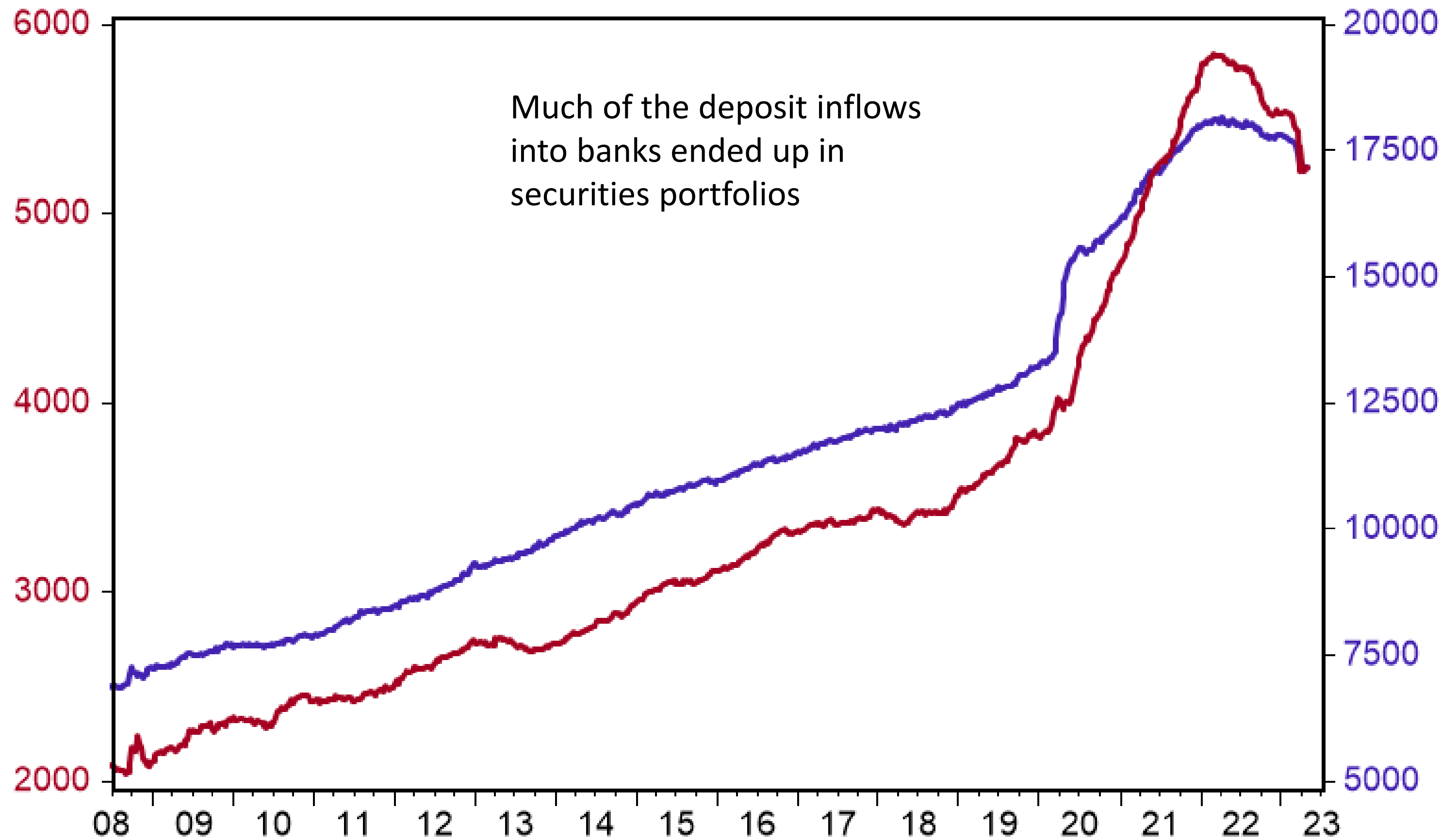
- The zero lower bound on interest rates & forward guidance to signal ZIRP was in place for a prolonged period combined with rising long-term bond prices resulting from asset purchases encouraged a build up in levered positions. These levered positions pose an obstacle to unwinding the Fed's portfolio & hiking interest rates.

- The Fed (and other central banks) may face a choice between attempting to stabilize financial markets or fighting inflation (as discussed, for example, in the New York Fed's *The Financial (In)Stability Real Interest Rate*, R** 2022). If $r^{**}<r^{*}$ financial instability risks may result in entrenched inflation risks. Missing from the NY Fed's paper is the role of monetary policy in lowering r^{**} over time and the buildup of leverage outside the banking system.

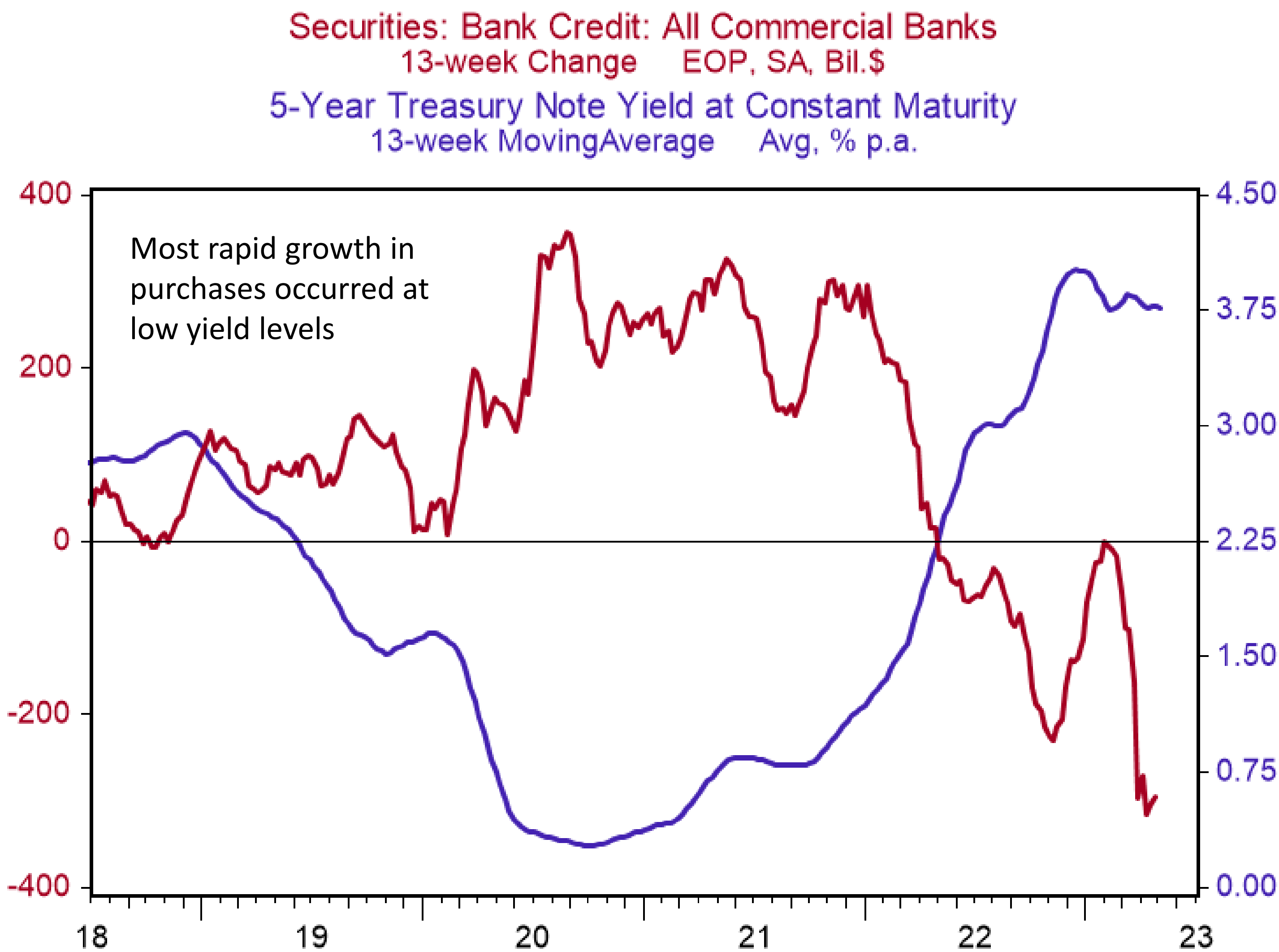


Source: Federal Reserve Board

Securities: Bank Credit: All Commercial Banks
EOP, SA, Bil.$
Deposits: All Commercial Banks
EOP, SA, Bil.$

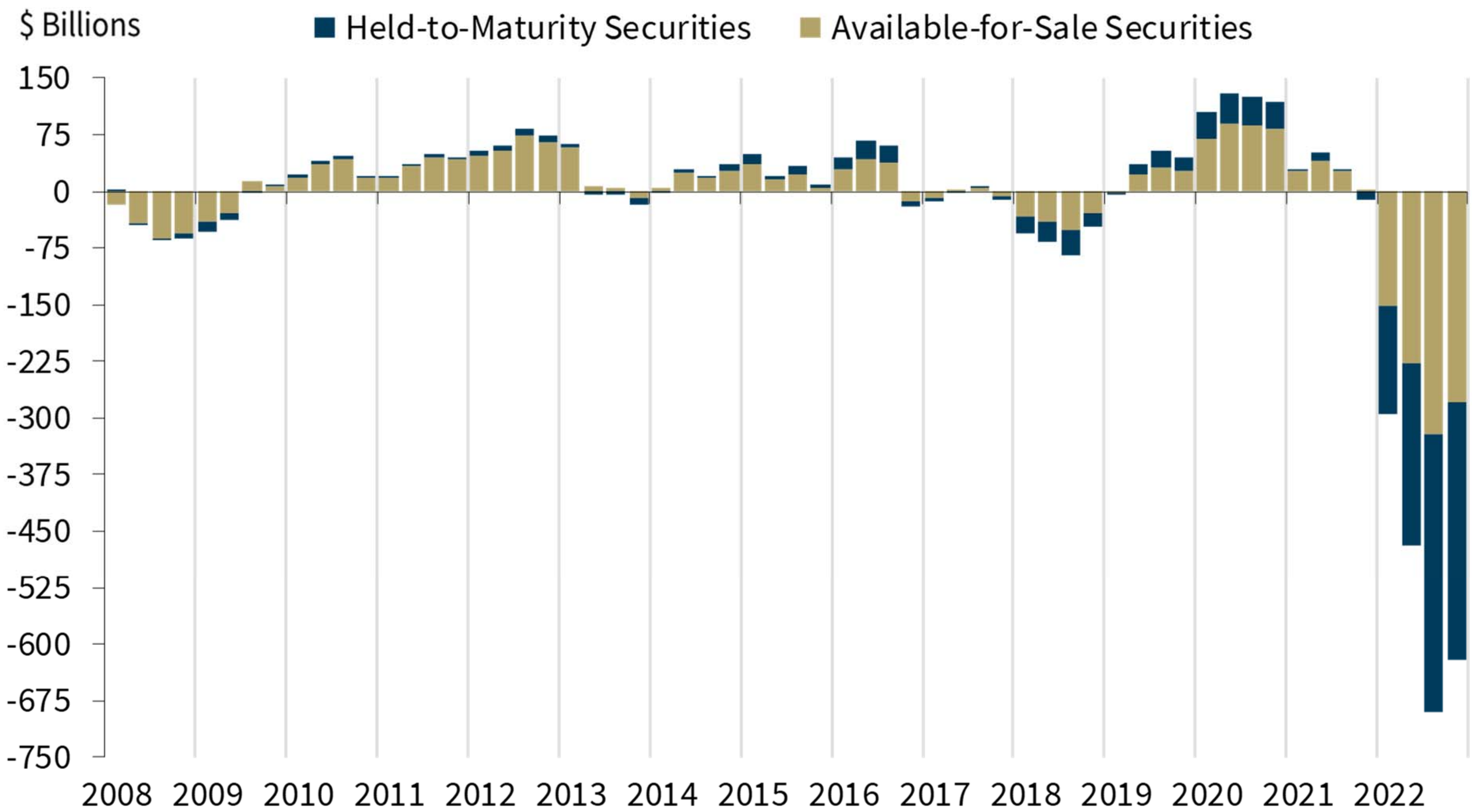


Source: Federal Reserve Board



Source: Federal Reserve Board

Unrealized Gains (Losses) on Investment Securities



Source: FDIC.

Note: Insured Call Report filers only.

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Discussion Topics: Regulation & Supervision

- Role of lighter capital and liquidity standards on banks below $250 billion in creating vulnerabilities in the regional banking system.

- Should all deposits be insured? Current practice of making all depositors whole simply provides unfunded insurance that when paid out tends to be recouped from larger banks. A 10-bp assessment on uninsured deposits would raise/cost about $10 billion per year.

- What is the appropriate valuation treatment of AFS and HTM securities. Should at a minimum AFS valuation changes impact regulatory capital. Should there be limits on size of HTM portfolios in relation to the balance sheet?

- Have speed of bank runs become permanently faster (strong argument against a CBDC)? Reconsider liquidity planning by banks—especially smaller banks.

- More focus on interest rate risks and inflation risks in stress tests.

Costs of Unconventional Monetary Tools

- Large Scale Asset Purchases (LSAPs) depress yields leading to asset mispricing and potential large future losses on balance sheets.

- Did interest rate guidance play a role in decisions taken over what securities to buy? Fed still says long-run neutral interest rate is 2½%.

- How much of a constraint is financial instability on monetary policy addressing inflation problems (in other words did Fed actions lower r** relative to r* and make the job of returning inflation back to 2% harder)?

Other Issues

- The regional banking stresses have resulted in another step towards greater concentration of risk in large banks and increased market share of these banks with JPMorgan's acquisition of First Republic Bank.

- Small and medium-sized banks have been disproportionately involved in commercial real estate (CRE) loans. Small banks account for 70% of bank CRE lending but only one-third of total bank assets. Top 25 banks have 6.4% of assets in CRE versus 29% for the rest. Is there another shoe to drop here?

- Deep and liquid capital markets provide an alternative channel for raising capital to support capital formation, housing, and economic growth. The Fed is locked into its MBS portfolio at current rate levels. Important to consider the potential impact on bank concentration of financial reforms (e.g. there were no settlement issues in the MBS market in the wake of SVB and involvement of non-bank dealers is helping with the disposition of mortgage assets at better-than-expected prices).

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