Interest Rate Risk and Depositor Runs

Discussion

By Elena Loutskina
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Dynamic Deposits: The Role of Inflows on Future Outflows

Michael Gelman (*University of Delaware*); Andrew MacKinlay (*Virginia Tech*)

Banks' Motivations for Designating Securities as Held to Maturity

Sehwa Kim (*Columbia University*); Seil Kim (*Baruch College*); Stephen Ryan (*New York University*)

Social Media as a Bank Run Catalyst

Anthony Cookson (*University of Colorado at Boulder*); Corbin Fox (*James Madison University*); Javier Gil-Bazo (*Universitat Pompeu Fabra*); Juan Filipe Imbet (*Université Paris Dauphine*); Christoph Schiller (*Arizona State*)

THE WALL STREET JOURNAL.

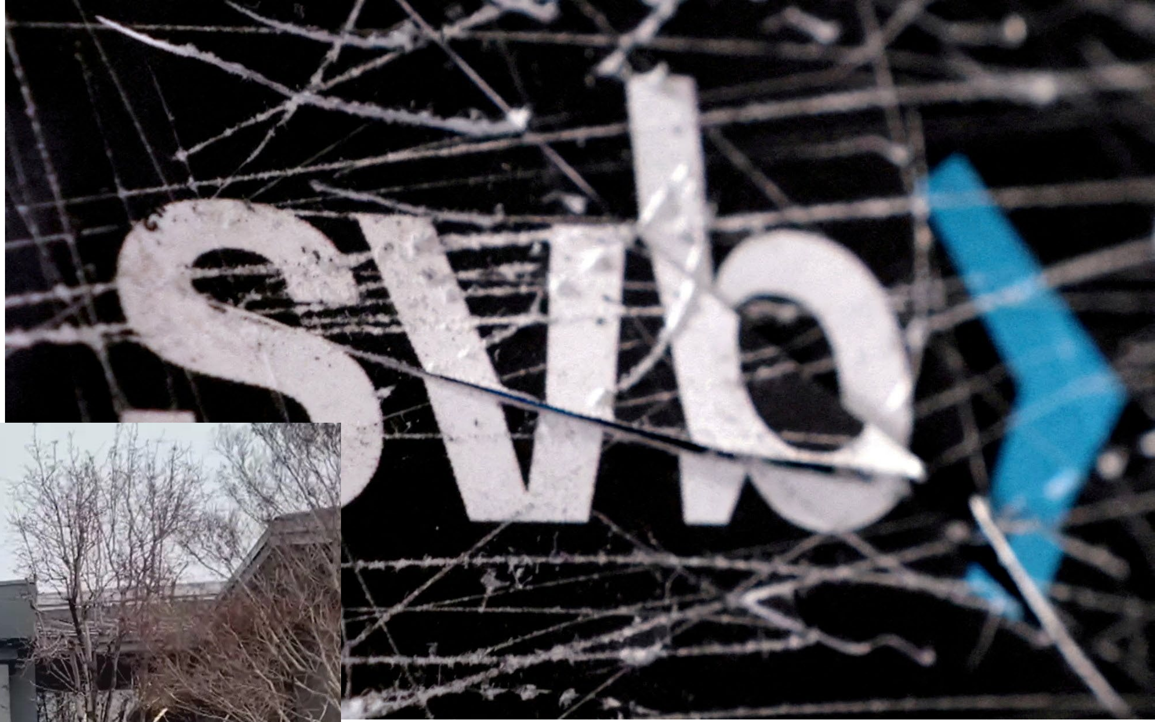
Who Killed Silicon Valley Bank?

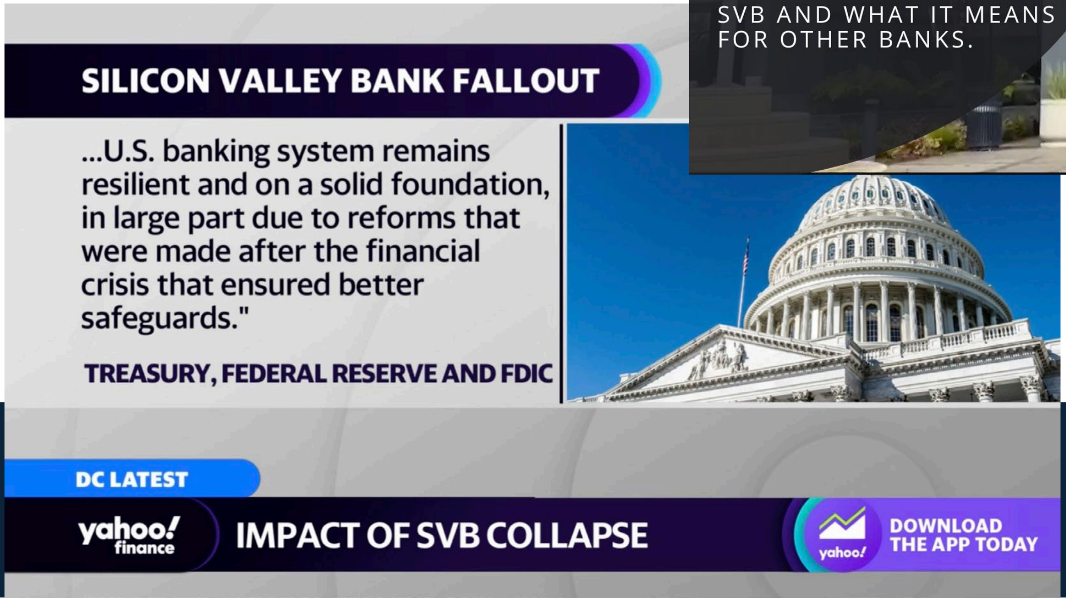
Apparently no one at the firm perceived any risk from the Fed raising interest rates.

By Andy Kessler Follow

March 12, 2023 3:04 pm ET

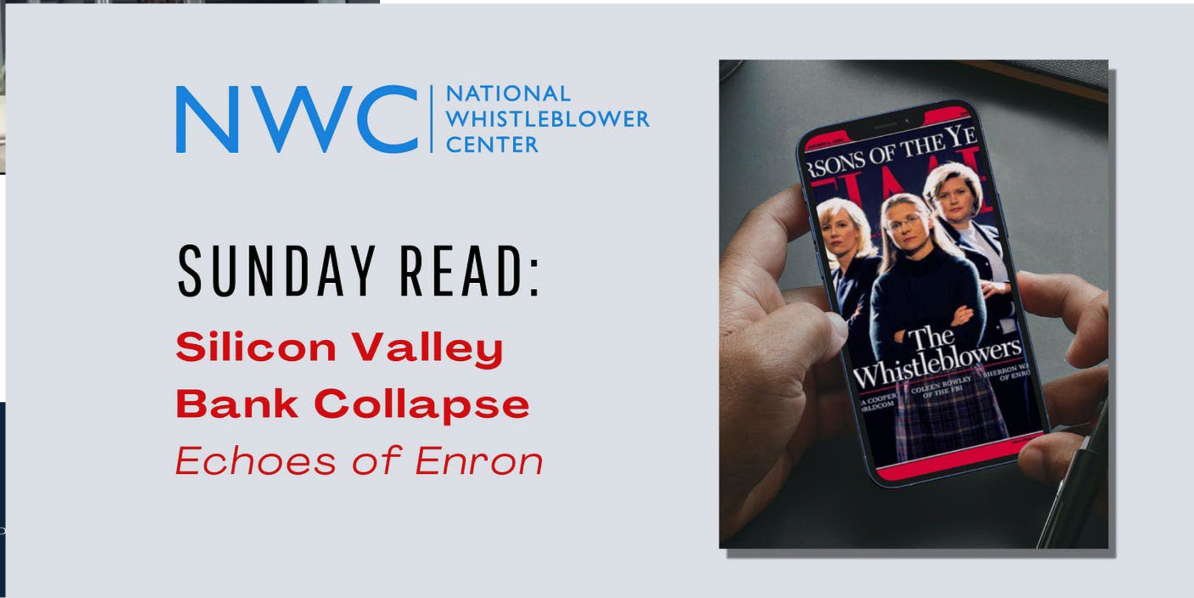
Was there regulatory failure? Perhaps. SVB was regulated like a bank but looked more like



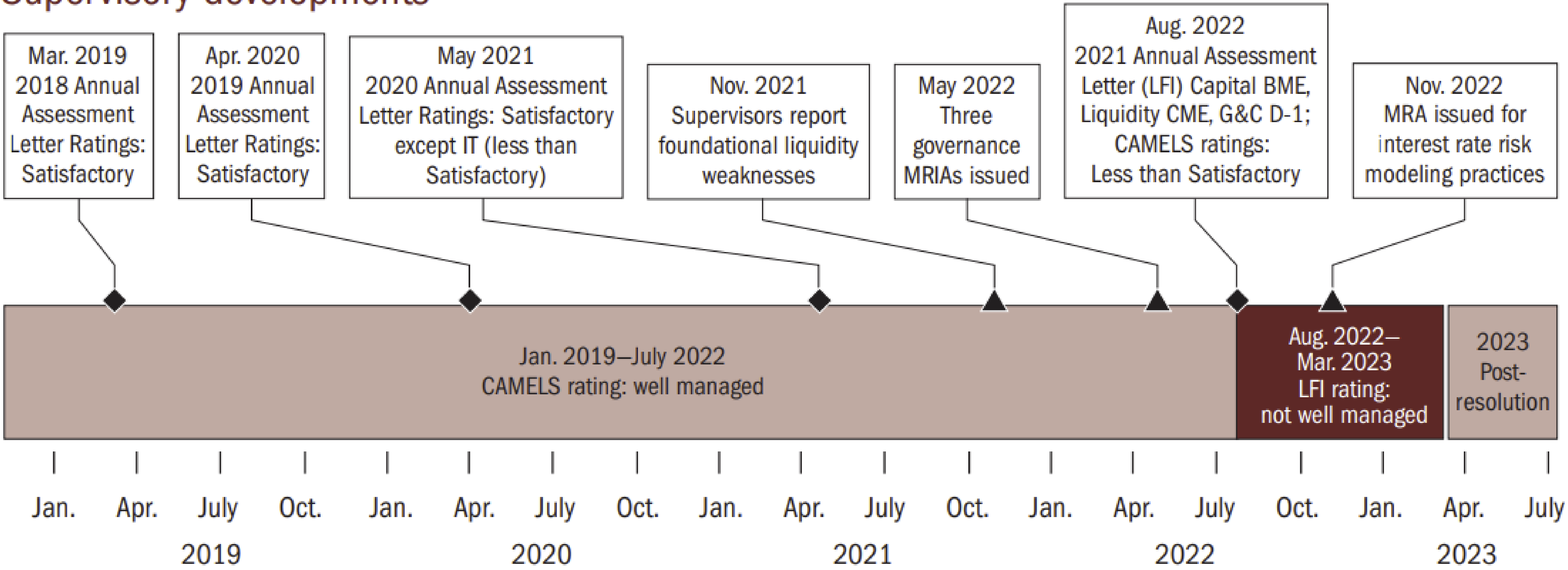


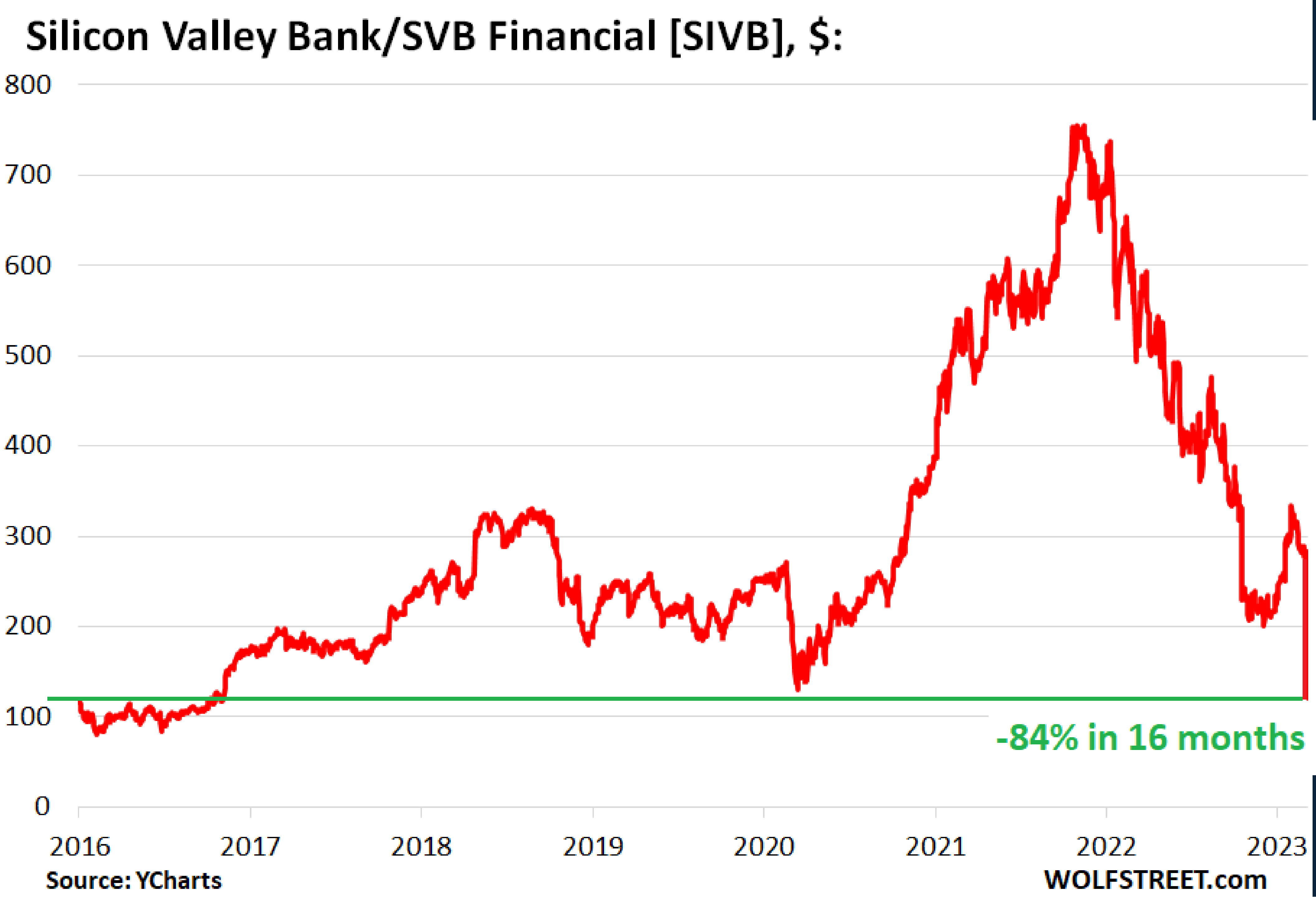
CSBS SINCE 1902

CONFERENCE OF STATE BANK SUPERVISO



Supervisory developments



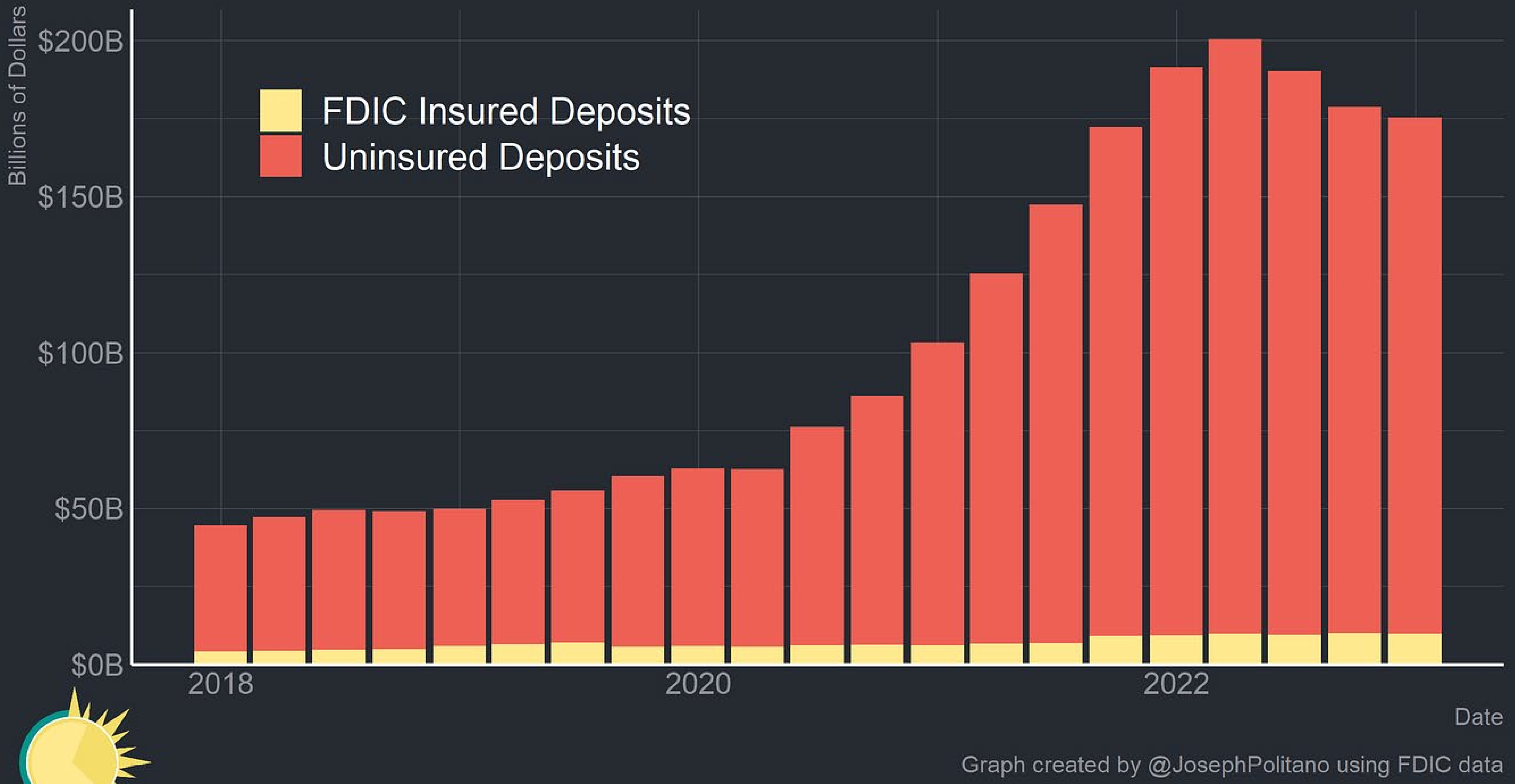

Silicon Valley Bank/SVB Financial [SIVB], $:
800
700
600
500
400
300
200
100
0
2016
2017
2018
2019
2020
2021
2022
2023
-84% in 16 months
Source: YCharts
WOLFSTREET.com

SVB collapsed in a perfect storm…

- Abnormal uninsured deposit growth in advance of March 2023
- Strategic reallocation of securities to Held-to-maturity accounts away from available for sale accounts
  - Significant investments in high yield long term RMBSs
- Absence of significant interest rate hedges
  - Sold in September 2023
- Social media induced bank run
- Technology enabled smooth fund transfer

Silicon Valley Bank, Before The Run

SVB Saw Massive Deposit Growth During the Pandemic—And Most of It Was Uninsured



SVB Financials

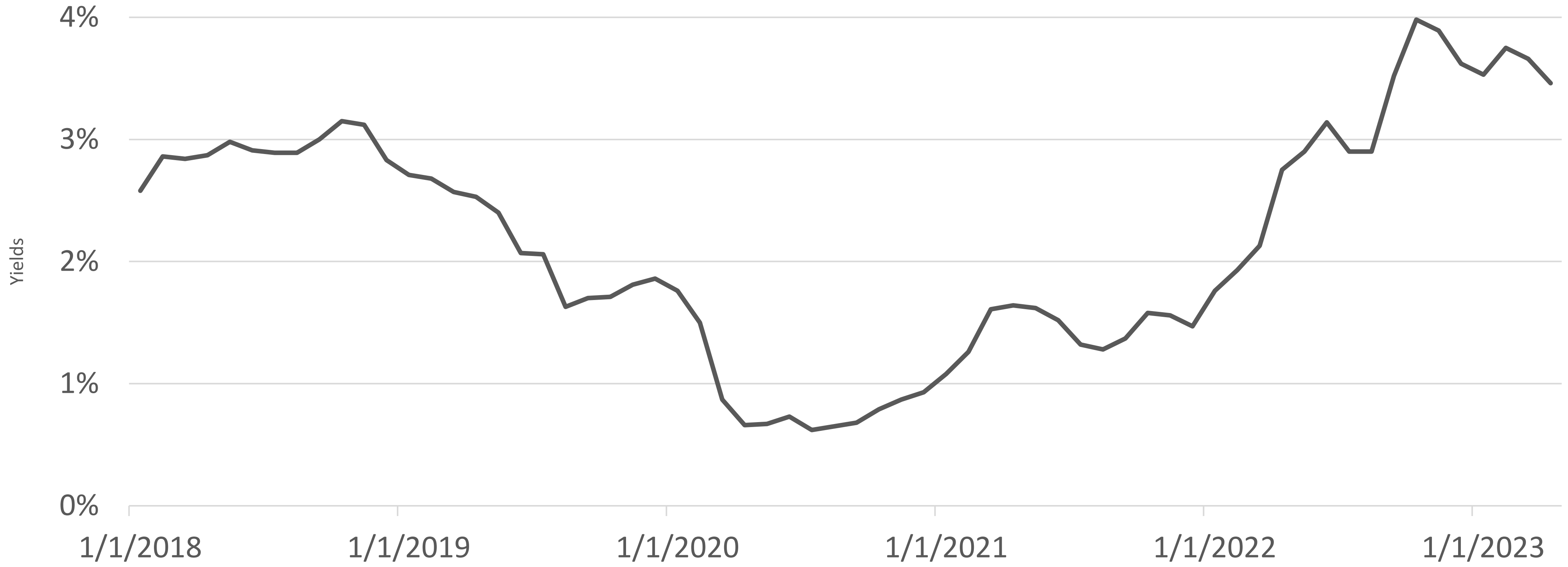
	2018	2019	2020	2021	2022
Total Assets* (billions)	$56.1	$69.9	$113.8	$208.6	$209.0
Profitability					
Return on Assets	1.9%	1.9%	1.4%	1.3%	0.8%
Return on Equity	21.1%	19.9%	17.2%	16.6%	9.8%
Assets					
Cash/Assets	6.1%	8.8%	14.9%	6.9%	6.52%
Held-to-maturity Securities/ Assets	12.7%	15.1%	14.4%	46.7%	43.12%
Available-for-sale Sec/Assets	21.3%	22.2%	26.76%	12.88%	12.31%
Net Loans/Total Deposits	56.9%	53.2%	43.9%	32.8%	42.5%
Asset Quality					
Nonperforming Loans (NPL)/Total Assets	0.17%	0.15%	0.09%	0.04%	0.06%
Tier 1 Capital Ratio	13.6%	13.4%	11.9%	16.1%	15.4%

SVB Loan Portfolio

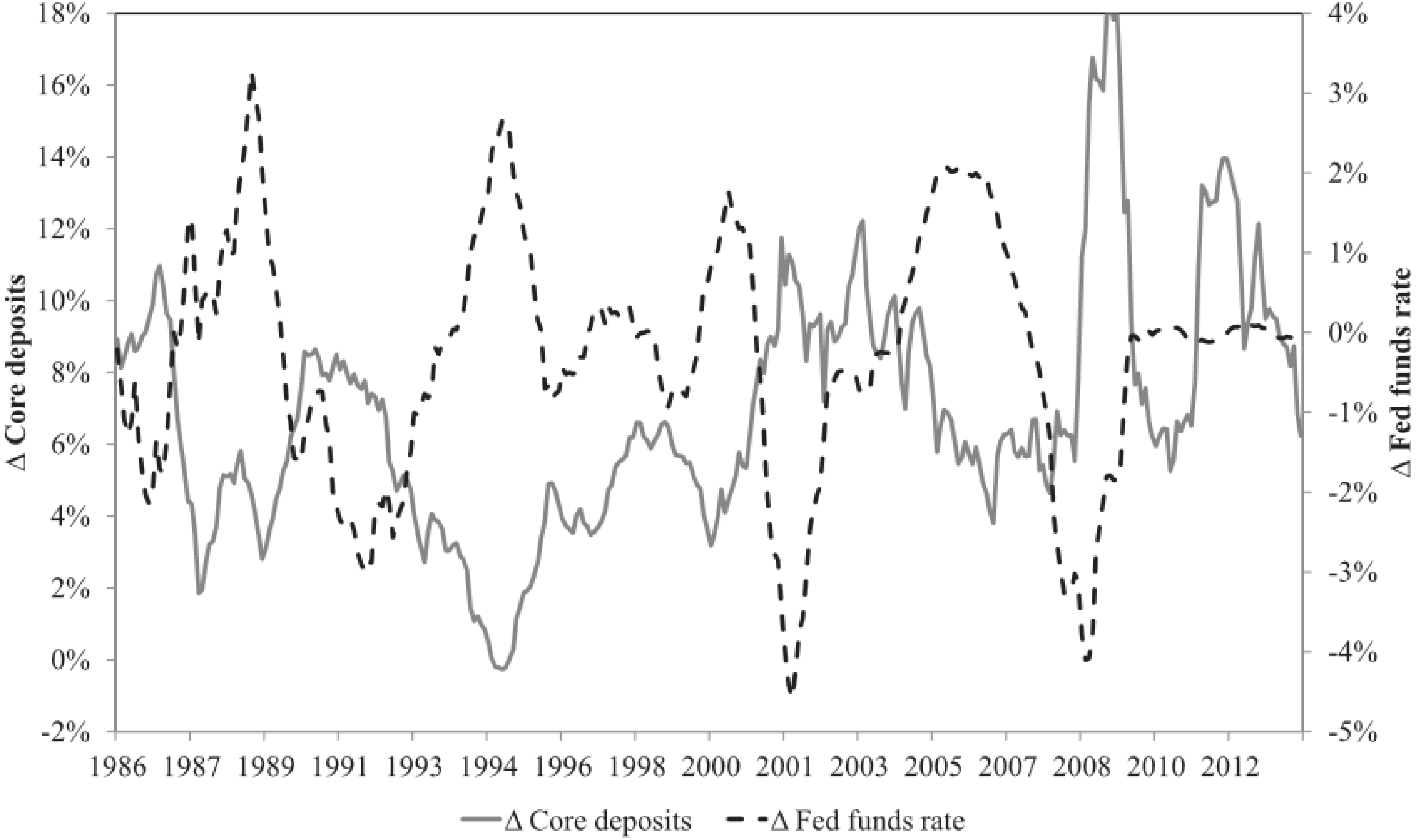
Credit Type	Percent of Total Loans
Primarily PE and VC capital call lines of credit secured by LP capital commitments.	56%
Primarily low loan-to-value (LTV) mortgages to innovation economy influencers and legacy Boston Private(a) high-net-worth clients.	14%
Cash flow or balance sheet dependent loans to later and corporate-stage innovation companies.	12%
Loans to mid- or late-stage innovation companies with revenues greater than $5 million.	6%
Loans to early-stage innovation companies with $0 to $5 million in revenues.	3%
Acquisition financing for commercial real estate (CRE) properties.	3%
Loans to facilitate PE sponsors' acquisition of businesses.	3%
Loans to wine producers and vineyard typically secure by high-quality real estate with low (loan-to-values) LTVs.	2%
Working capital revolving line of credit and term loans to non-innovation companies and non-profits.	1%

US Government 10-year Bond Yields

(Jan-1-2018 to Apr-1-2023)



Deposits and interest rates



SVB Financial Group Announces Proposed Offerings of Common Stock and Mandatory Convertible Preferred Stock

March 08, 2023

SANTA CLARA, Calif., March 8, 2023 /PRNewswire/ -- SVB Financial Group ("SVB") (NASDAQ: SIVB), announced today that it intends to offer $1.25 billion of its common stock and $500 million of depositary shares, consisting of 10 million depositary shares each representing a 1/20th interest in a share of its Series F Mandatory Convertible Preferred Stock ("Preferred Stock"), liquidation preference $1,000 per share (equivalent to a liquidation preference of $50 per depositary share), in separate underwritten registered public offerings. In addition, prior to commencing the offerings, SVB entered into a subscription agreement with General Atlantic, a leading global growth equity investor, to purchase $500 million of common stock at the public offering price in the offering of common stock in a separate private transaction. The subscription agreement with General Atlantic is contingent on the closing of the offering of common stock and is expected to close shortly thereafter. SVB also intends to grant (i) the underwriters in the common stock offering an option to purchase up to an additional $187.5 million of common stock and (ii) the underwriters in the Preferred Stock offering an over-allotment option to purchase up to an additional $75 million, or 1.5 million depositary shares in the Preferred Stock offering. SVB intends to use the net proceeds from the offerings for general corporate purposes. The consummation of each offering is not contingent upon the consummation of the other offering.

svb Silicon Valley Bank

A Division of First Citizens Bank

Additionally, earlier today, SVB completed the sale of substantially of its available for sale securities portfolio. SVB sold approximately $21 billion of securities, which will result in an after tax loss of approximately $1.8 billion in the first quarter of 2023.

Goldman Sachs & Co. LLC and SVB Securities will act as book-running managers for each offering.

What followed…

- March 9th…
  - Social media picked it up
- March 10th…
  - $42 billion of deposit withdrawn in less than 4 hours

On Thursday night, Founders Fund, the venture capital fund co-founded by Peter Thiel (above), advised companies to pull money from Silicon Valley Bank

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I. *"Dynamic Deposits: The Role of Inflows on Future Outflows"*

- **Question:** What do banks do after *unexpected* inflows of deposits?
- **Answer:** They reach for yield and pursue riskier asset allocation strategies
    - Deposit inflows depresses equity capital ratios
    - Instead of raising equity banks prefer to generate ROA via higher yield investments

I. *Findings*

- Banks experiencing unexpected deposit inflows
  - Invest more in longer-term assets (maturity gap increases by 12%)
  - Experience 2.5 fold increase in risk weighted assets
  - Experience higher loan losses when interest rates rise
  - Increase riskiness of assets

- Thes effects are stronger for relatively undercapitalized banks

I. *Questions*

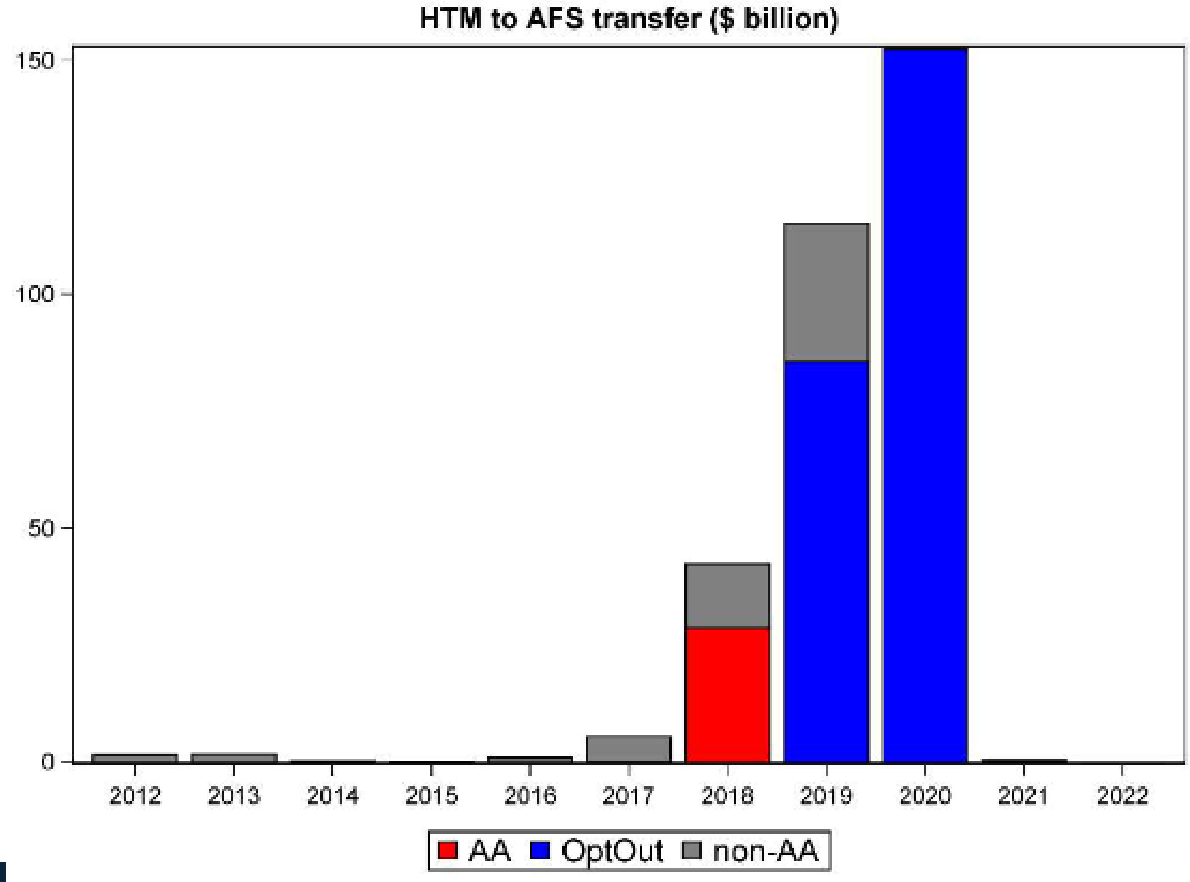
- Do unexpected deposit inflows really exist?
  - What drives such deposit inflows?
  - Can we explore the helicopter drops of deposits as a result of fracking booms?

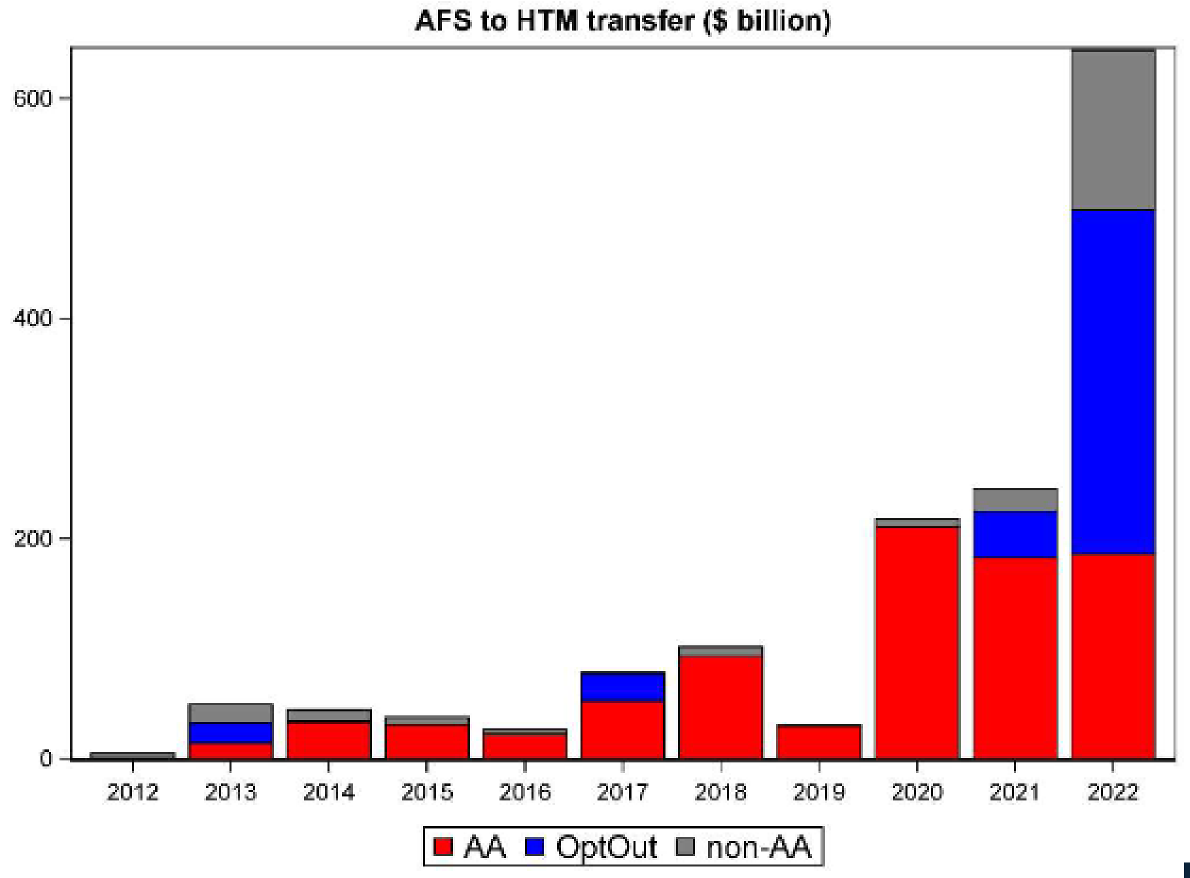
- What role does the business cycle play in this mechanism?
  - The paper treats it as almost exogenous, but is it?

II. *"Banks' Motivations for Designating Securities as Held to Maturity"*

- **Question:** Do banks strategically exploit the differences in accounting treatment of ASF and HTM securities?
- **Answer:** Absolutely
  - When accumulated other comprehensive income (AOCI) filter on AFS securities was "paused" banks
    - Transferred securities to AFS in the low interest rate environment
    - Transferred securities to HTM when interest rates started to rise

I. Findings


HTM to AFS transfer ($ billion)
150
100
50
0
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
AA
OptOut
non-AA


AFS to HTM transfer ($ billion)
600
400
200
0
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
AA
OptOut
non-AA

II. *Questions*

- What lessons can we learn from this findings?
  - Authors: “*findings provide support for recent calls to eliminate the HTM category and AOCI filter*”

  - What are the costs of constant marking to market AFS securities require?
  - Are there real effects of said costs? Is reallocation of securities accompanied by distortions in investment? Liquidity management?
  - Banks balance-sheet offer insights into unrealized losses from HTM. Why is it not enough for …
    - …regulators?
    - … investors?

III. “Social Media as a Bank Run Catalyst”

- **Question:** Can social media amplify bank runs?
- **Answer:** Social media amplifies investors and depositors’ reactions to banks balance-sheet weaknesses
  - Negative sentiment tweets “***in the run period”*** translate into immediate stock market losses, especially for banks with high risk factors
    - Higher expected losses from securities portfolio
    - Higher share of uninsured deposits
  - Somewhat similar effects pertaining deposit outflows

Raging Capital Ventures
@RagingVentures

Silicon Valley Bank $SIVB reports earnings tomorrow

Investors have rightfully been fixated on $SIVB's large exposure to the stressed venture world, with the stock down a lot.

However, dig just a little deeper, and you will find a much bigger set of problems at $SIVB... 1/10

2:38 PM · Jan 18, 2023 · **3.9M** Views

1,163 Retweets **954** Quotes **6,049** Likes **2,735** Bookmarks

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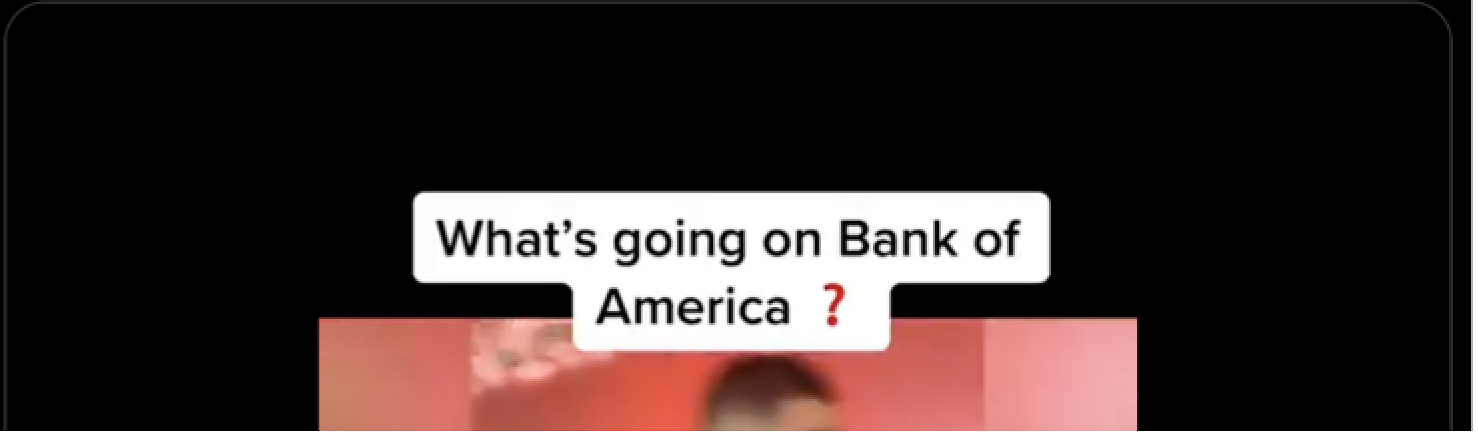
Lots of reports on Instagram, Tiktok, Reddit of problems at Bank of America. $BAC

Many customers are missing money and not getting answers.

🔊sound ...🧐 #bankofamerica



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III. *Questions*

- The title calls to explore bank runs, yet …
  - The core, most interesting results are about stock returns.
- **Dear Regulators,**

  why we still do not have consistent data on the amounts of deposits on banks balance-sheets at a reasonably high frequency (e.g., month)?

III. *Questions*

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- Why social media amplifies only outflows of uninsured deposits, but total deposits remain unaffected?
  - Reallocation of uninsured to insured?
  - Banks do reclassify insured accounts to uninsured to retain clients?
  - Something is off with the data?
- **Dear Regulators, …**

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- Do tweet carry any information content? Was investor reaction rational?

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To conclude

- SVB brought an important set of lessons
- These papers show that the events are not unique and we might have a déjà vu if we are not thoughtful in banks management and regulatory oversight
- Combined they offer an array of red flags regulators and managers should pay attention to

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Thank you