Update on the State of US Banks from the Fallout of Silvergate Bank, Silicon Valley Bank, Signature Bank and its Implications

Business Research
14 March 2023

Summary of the latest development on the current fallout in the US banking system (as of 14 Mar)

	Silvergate Bank (SI) (8 Mar)	Silicon Valley Bank (SIVB) (10 Mar)	Signature Bank (SBNY) (12 Mar)
Who is…	• The leading bank for innovative businesses in fintech and cryptocurrency.	• The 16th largest bank in the US and a key lender to tech startups/VCs, centered in Santa Clara, California.	• One of the main banks to the crypto currency industry, the biggest one next to Silvergate.
What is the problem…?	• After FTX crypto exchange, a major Silvergate customer went bankrupt, the clients raced to massive withdrawal and forced the bank to sell off its assets at a significant loss. • Laying off 40% of its workforce to cover USD 8.1bn worth of customer withdrawals. The bank's main partners no longer used the service and flocked to withdraw money. Shares plummeted after announcing plans to liquidate.	• In 2021, SVB received a flood of money from startup/venture funds, and it invested a lot of money in treasury bonds and mortgage-backed securities. • SVB announced a sudden capital raise that triggered a sudden bank run panic and shares fell, forcing the bank to sell its invested assets at a loss.	• US regulators shut down the bank in a bid to prevent the spreading banking crisis. (Although more than 80% of its deposits were from law firms, accounting firms, health care companies, manufacturers and real estate management companies, but it is also accepted the deposits of crypto assets). The failure of the crypto banking rippled into the stablecoin (USDC) market over the weekend.
Measures so far…	• On 8 Mar 2023, it was finally announced that Silvergate Bank would wind down its operations and liquidate.	• The FDIC created the Deposit Insurance National Bank of Santa Clara (DINB) to allow depositors access to their insured deposits. (>90% of deposit uninsured by FDIC) • The Fed and Treasury created an emergency "Bank Term Funding Program (BTFP)" to backstop deposit.	• The Fed and Treasury created an emergency "Bank Term Funding Program (BTFP)" to backstop deposit.

To monitor next… First Republic Bank (FRC), Comerica (CMA)

***Silvergate and Signature** were the two main banks for crypto companies, while **Silicon Valley Bank** had a lot of crypto startups and VCs as customers.*

Summary of the latest development on the regulatory measures to deal with the crisis (as of 14 Mar)

Latest Development on measures and market implications

- **The Treasury, Federal Reserve, and Federal Deposit Insurance Corporation (FDIC) made two major policy announcements intended to stabilize the banking system** in response to recent bank failures and the risk of continued deposit outflows.
- **First, the FDIC has used the 'systemic risk exception' to protect uninsured depositors in two bank resolutions**, Silicon Valley Bank and Signature Bank. In both cases, the costs not covered by the banks' assets would be funded out of the FDIC's Deposit Insurance Fund (DIF), which had a $125bn balance as of 4Q2022.
- **The Fed and the Treasury also announced the Bank Term Funding Program (BTFP),** which would provide advances of up to one year to any federally insured bank that is eligible for discount window access, in return for eligible collateral (generally Treasuries and agency securities).
- **Both measures are likely to increase confidence among depositors and prevent further panic.**
- **Considering the stress in the US banking system, GS no longer expects the FOMC to deliver a rate hike at its next meeting on March 22** (vs. previous expectation of a 25-50 bps hike).

Implications from regulatory measures

- **First**, the FDIC will make all depositors whole in both SVB and SBNY, including uninsured depositors. **This will cover all deposits at the two banks rather than the standard $250,000.**
- **Second**, the Fed announced the Bank Term Funding Program (BTFP), which effectively allows banks to borrow from the Federal Reserve against a broad range of collateral (US sovereign and agency backed collateral used in open market operations) for a one-year term at overnight index swap rates + 10bps. **This means banks will be able to borrow at the par value of pledged securities.**
- **Banks which are experiencing liquidity outflows will be able to borrow from the BTFP at close to market rates to fund the deposit outflows without having to sell either AFS (Available for Sale) and HTM (Hold to Maturity) securities at a loss.**
- ***Going forward, US officials would likely weigh tougher capital requirements and liquidity rules, reversing at least some of the steps taken during the Trump administration to ease restrictions on smaller banks.***

Fed Funds Rate to peak rate at 5.25-5.5% (current 4.5%-4.75%), and Thai rate at 2.00% (current 1.5%)

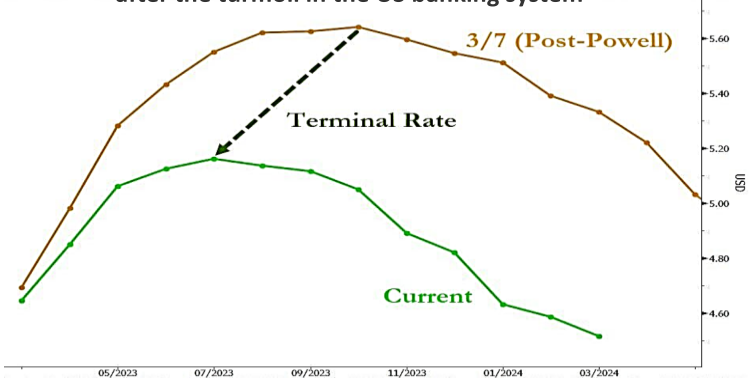
US Fed Funds Rate Expectation (as of 28 Feb 2023)

Fed Fund Rate (%eop)	Feb-23		Mar-23	
	2023	2024	2023	2024
BNP Paribas	5.25	3.25	5.25	3.25
Citigroup Global Mkts	5.50	3.50	5.50	3.50
Credit Suisse	5.00	4.00	5.25	4.25
DBS Bank	5.00	3.00	5.25	4.25
Fitch Ratings	5.00	4.00	5.00	4.00
Goldman Sachs	5.25	4.50	5.50	4.75
Handelsbanken	5.00	3.63	5.00	3.75
HSBC	5.00	4.50	5.00	4.50
Scotiabank	4.75	3.00	5.25	3.50

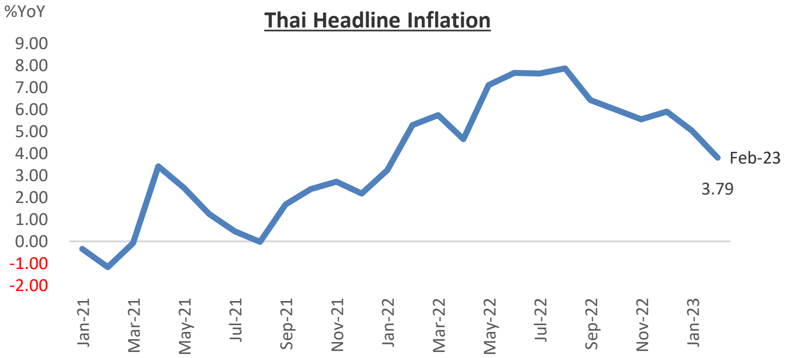
Thai Policy Rate Expectation (as of 28 Feb 2023)

BOT policy rate (%eop)	Feb-23		Mar-23	
	2023	2024	2023	2024
ANZ	2.25	2.25	2.25	2.25
Bank of Ayudhya PCL.	1.75	-	1.75	-
Citigroup Global Mkts	2.25	2.00	2.25	2.00
DBS Bank	2.00	2.00	2.25	2.25
Goldman Sachs	2.50	2.25	2.50	2.25
HSBC	2.50	2.50	2.50	2.50
Kasikorn Research	1.75	-	1.75	-
Maybank Investment Bank	1.50	1.50	2.00	2.00
Nomura	1.50	1.50	1.75	1.75
Phatra Securities	2.25	2.00	2.25	2.00
TISCO Securities	2.00	1.50	2.00	1.50
UBS	1.50	1.25	1.75	1.50

Market expecting much lower terminal fed funds rate after the turmoil in the US banking system

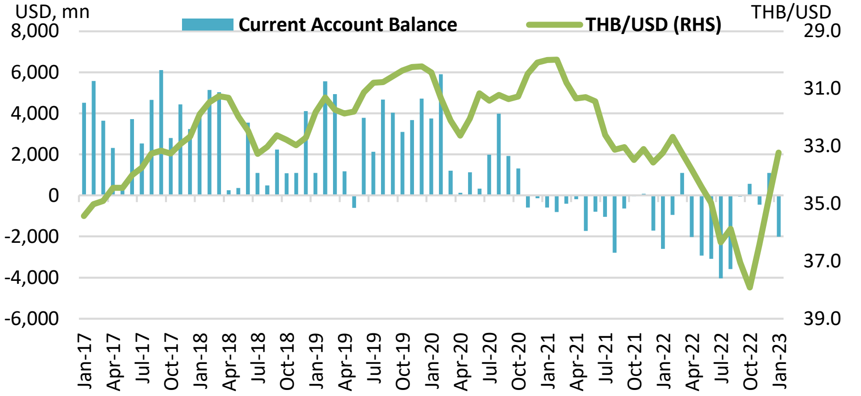


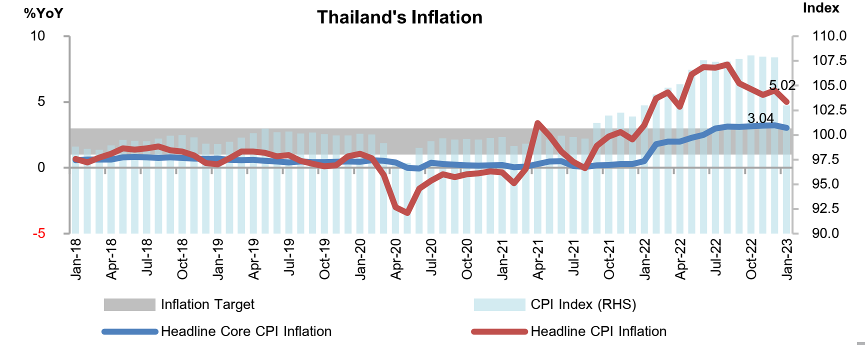
Thailand's headline inflation continues to decrease, putting less pressure for the BOT to aggressively hike more rates.



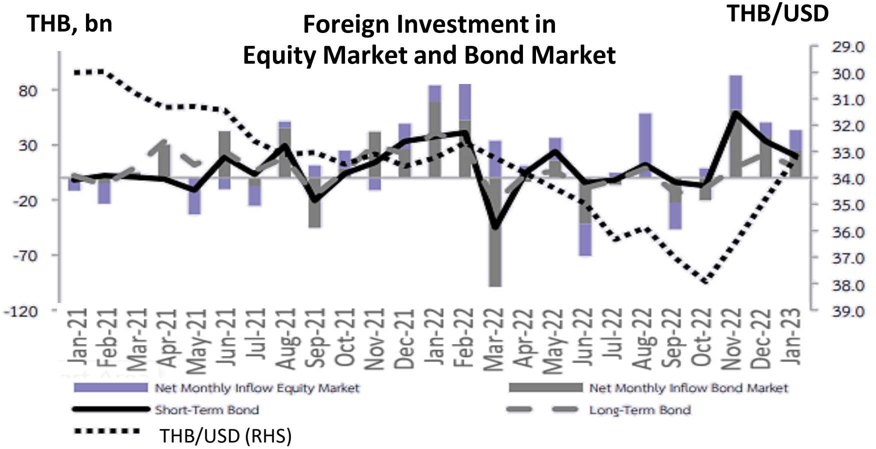
Thai baht is likely to depreciate in short-term due to continued Fed's rate hikes. However, the Baht is likely to appreciate towards the end of 2023 due to improving C/A from the tourism sector and strong external position (high reserves, relatively low inflation).

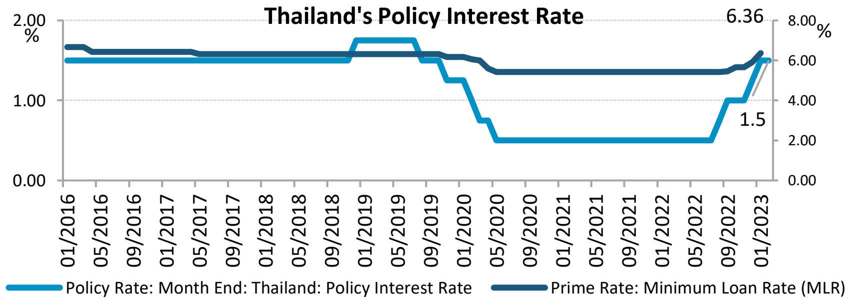
Current Account Balance, Thai Baht and Inflation





Net inflows in Equity Market, Bond Market and Rates

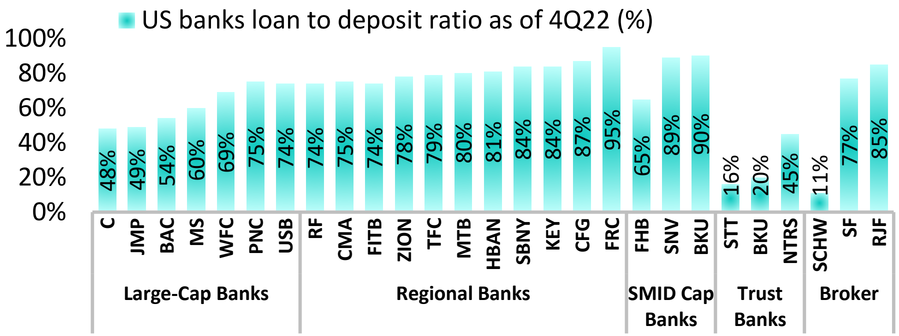


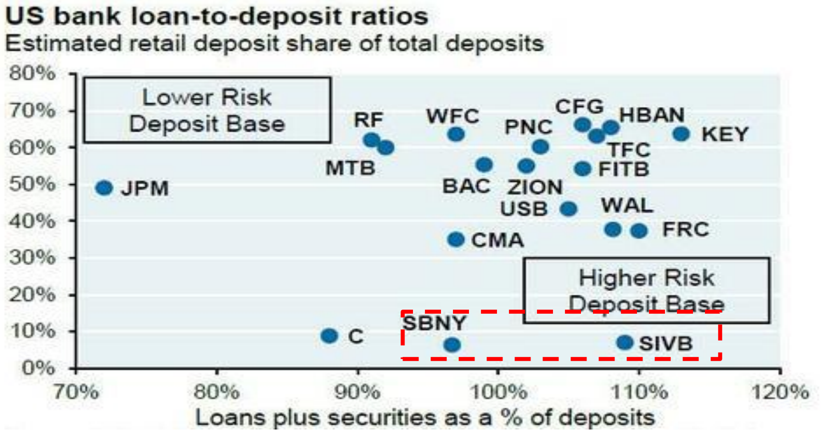


Source: LH Business Research analysis based on data from CEIC, Bank of Thailand, MoC, ThaiBMA, and SET

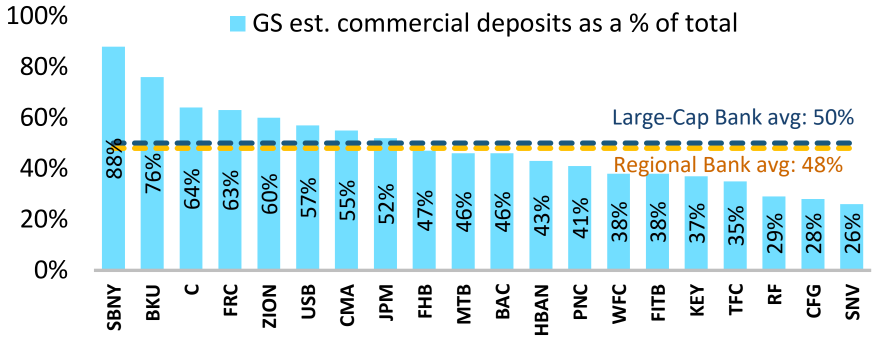
Post Silvergate Bank, Silicon Valley Bank and Signature Bank being taken into receivership by the FDIC, there are increasing questions regarding liquidity in the US banking system and some banks to worry.

- **Banks Loan to deposit ratio averaged 67% in 4Q22**



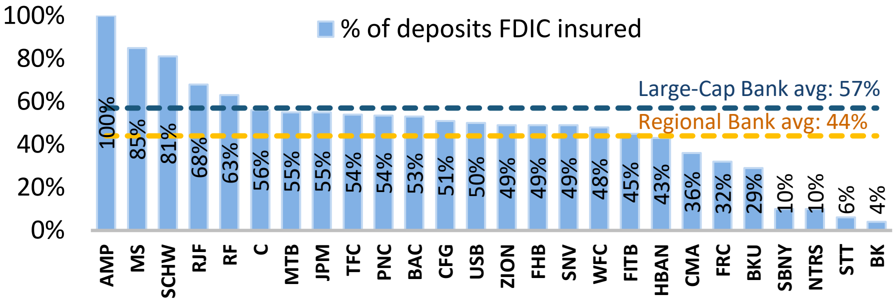


- **Commercial deposits were ~49% of total deposits in 4Q22**



Large-Cap Banks include JPM, BAC, C, WFC, PNC and USB

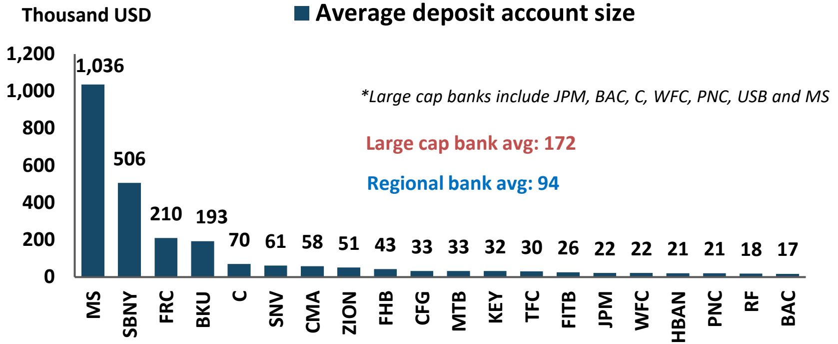
- **FDIC Insured as a % of deposits averaged 57% for the large cap bank and 44% for regionals in 4Q22**



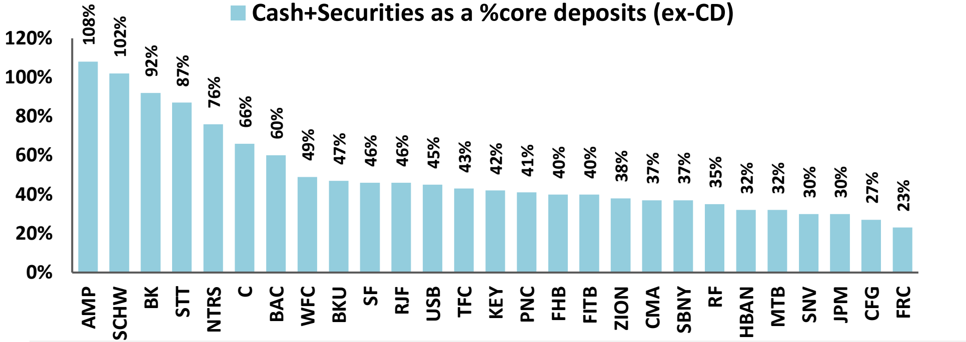
Large-Cap Banks include JPM, BAC, C, WFC, PNC and USB

Yet, judging from deposits and funding structure in the US banking system with the latest measures, US banks still have plenty of access to liquidity, and regulatory capital across industry remains

- **Total average deposit size was ~$125k with the large cap banks having a higher average deposit size**



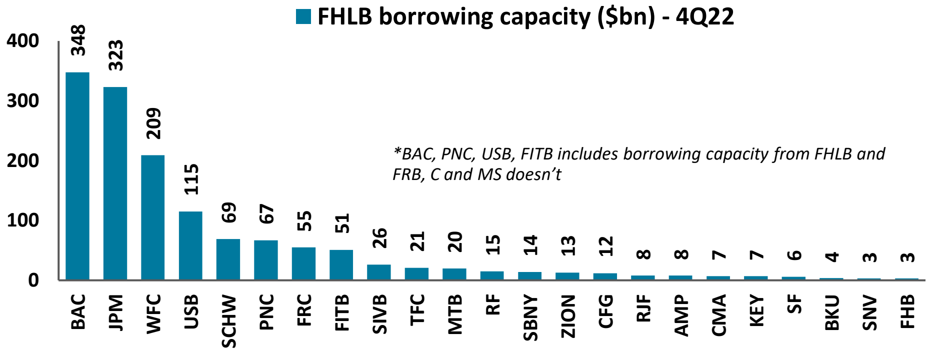
- **Cash and Securities as a % of core deposits average ~50% (or ~40% excl. the trust bank)**



- **While banks primary source of funding is deposits (core are ~93% of deposits), they have several other ways to generate liquidity.** In particular, they can 1) pledge collateral to the Federal Home Loan Bank (FHLB), 2) enter into repurchase agreements with their securities, 3) securitize their loans and access government funding facilities such as the discount window in a highly stressed scenarios.

- **US banks are still in solid liquidity and capital positions and fears across the industry do not reflect fundamental factors.**

- **Banks have access to secured funding through the Federal Home Loan Bank**



Source: LH Business Research analysis based on data from Goldman Sachs

According to GS research, adjusted for rate-driven losses on HTM books, for large cap banks, TCE/TA (tangible common equity to tangible assets) as the metric to assess the health of banks is at around 4.8%. None of the regional or large cap banks fall below 3% (note that SIVB was negative).

- **Regulatory capital across industry remains sound:** All the banks listed below are well in excess of their regulatory minimums with the G-SIB averaging 12.3% and regionals averaging 9.5% vs. minimums of 11.1% and 7%, respectively.

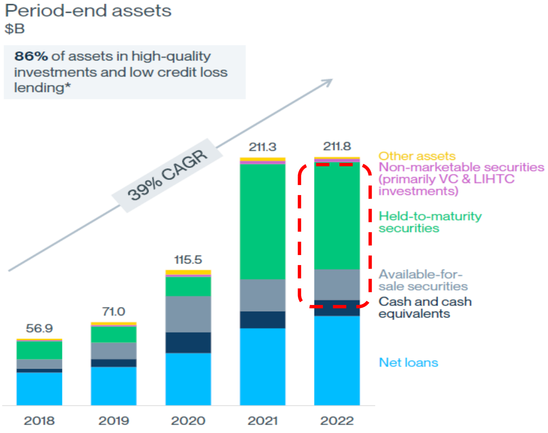
4Q22 ($bn/%)	JPM	BAC	WFC	C	MS	USB	PNC	Total / Avg.	Key
AFS	206	221	114	245	84	73	44	987	
HTM	425	633	297	269	76	89	95	1,884	
Total securities	**631**	**863**	**411**	**527**	**160**	**162**	**139**	**2892**	
AFS gross unrealized gains	0.9	0.1	0.1	0.7	0.1	0.0	0.2	2.1	
AFS gross unrealized losses	-11.2	-4.8	-8.2	-6.6	-5.6	-8.6	-4.6	-49.6	
AFS net unrealized losses	**-10.3**	**-4.7**	**-8.1**	**-5.9**	**-5.5**	**-8.5**	**-4.4**	**-47.5**	
HTM gross unrealized gains	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.4	
HTM gross unrealized losses	-36.8	-108.6	-41.6	-25.3	-10.6	-10.9	-5.0	-238.8	
HTM net unrealized losses	**-36.7**	**-108.6**	**-41.5**	**-25.2**	**-10.6**	**-10.9**	**-4.9**	**-238.4**	**A**
TBV	214.6	174.6	139.0	158.2	67.1	29.8	30.5	813.8	**B**
Tangible assets	3,615.4	2,979.4	1,855.7	2,388.6	1,156.0	655.3	546.0	13,196.3	**C**
TCE/TA	5.9%	5.9%	7.5%	6.6%	5.8%	4.5%	5.6%	6.2%	**D = B / C**
Tax rate	24%	12%	14%	19%	21%	21%	18%	19%	**E**
TCE adj. HTM unrealized losses	186.8	79.4	103.1	137.8	58.7	21.2	26.5	619.5	**F = B + A *(1-E)**
TA adj. HTM unrealized losses	3,587.6	2,884.2	1,819.8	2,368.3	1,147.5	646.7	541.9	12,996.1	**G = C + A *(1-E)**
TCE/TA adj. HTM unrealized losses	5.2%	2.8%	5.7%	5.8%	5.1%	3.3%	4.9%	4.8%	**H = F / G**

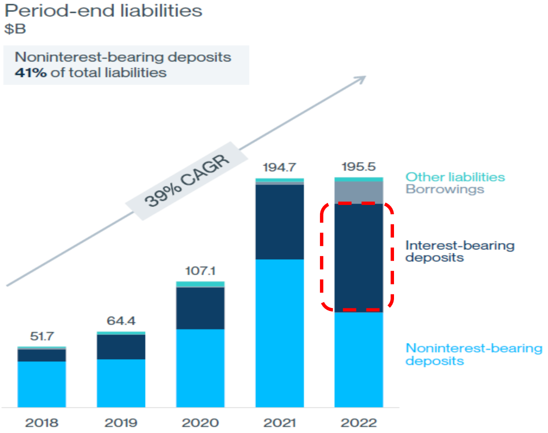
Lesson from SVB 1: Assets & Liabilities mismatch – high growth in invested assets but low in cash

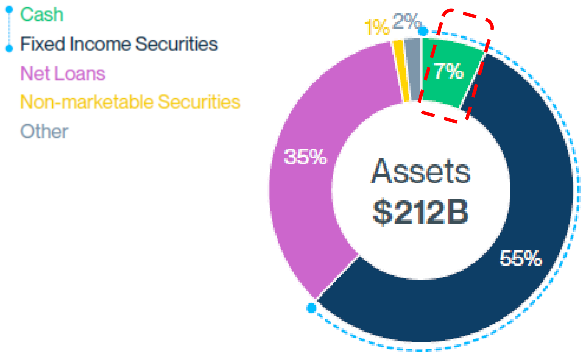
Fixed income investments ~+300% in 2 years

(Dollars in millions)	2022 Average Balance	2022 Interest Income/ Expense	2022 Yield/ Rate	2021 Average Balance	2021 Interest Income/ Expense	2021 Yield/ Rate	2020 Average Balance	2020 Interest Income/ Expense	2020 Yield/ Rate
	Year ended December 31,								
Interest-earning assets:									
Federal Reserve deposits, federal funds sold, securities purchased under agreements to resell and other short-term investment securities (1)	$ 14,742	$ 212	1.44 %	$ 20,800	$ 18	0.08 %	$ 12,252	$ 26	0.21 %
Investment Securities: (2)									
AFS securities:									
Taxable (3)	28,795	458	1.59	24,996	334	1.34	18,653	337	1.81
HTM securities:									
Taxable	88,403	1,655	1.87	52,937	865	1.63	10,728	298	2.78
Non-taxable (4)	6,991	177	2.54	5,093	134	2.63	2,385	77	3.24
Total loans, amortized cost (5) (6)	70,289	3,208	4.56	54,547	1,966	3.60	37,266	1,520	4.08
Total interest-earning assets	209,220	5,710	2.73	158,373	3,317	2.09	81,284	2,258	2.77
Cash and due from banks	2,367			2,241			1,021		
ACL: loans	(503)			(441)			(509)		
Other assets (3) (7)	5,019			5,838			3,996		
Total assets	$ 216,103			$ 166,011			$ 85,792		

USD124.2bn | USD83.0bn | USD31.8bn







Lesson from SVB 2: Asset Duration and MTM (Interest Rate Risk in Fast-Rising Rate Environment)

	Available-for-sale securities			Held-to-maturity securities		
	Three Months ended			Three Months ended		
(Dollars in millions)	December 31, 2022	September 30, 2022	December 31, 2021	December 31, 2022	September 30, 2022	December 31, 2021
Average balance (1)	$ 29,429	$ 28,855	$ 24,154	$ 92,111	$ 94,141	$ 87,579
Period-end balance	26,069	26,711	27,221	91,321	93,286	98,195
Weighted-average duration (in years)	3.6	3.7	3.5	6.2	6.3	4.1
Weighted-average duration including fair value swaps (in years) (2)	3.6	N/A	2.4	N/A	N/A	N/A

(1) Represents AFS securities at an average amortized cost basis.

(2) The total notional value of our pay-fixed, receive-floating interest rate swap fair value hedge contracts for AFS securities was $550 million as of December 31, 2022, zero as of September 30, 2022, and $10.7 billion as of December 31, 2021.

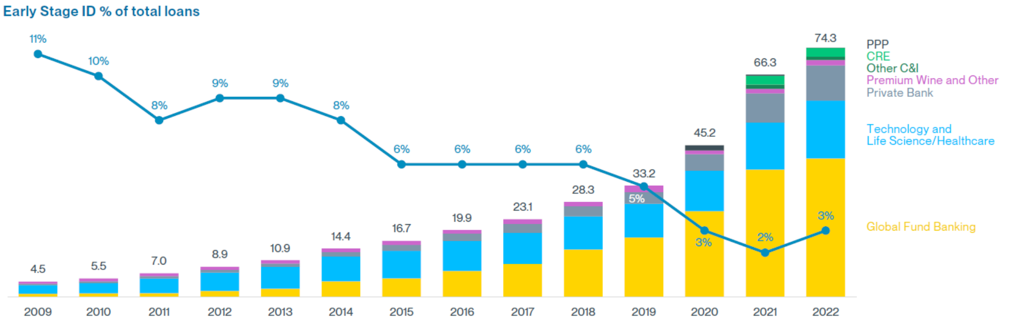
			Carrying Value	
(Dollars in millions)	Maturity	Principal value at December 31, 2022	December 31, 2022	December 31, 2021
Short-term borrowings:				
Securities sold under agreements to repurchase	(1)	$ 525	$ 525	$ 61
Other short-term borrowings	(2)	40	40	10
FHLB advances		13,000	13,000	—
Total short-term borrowings			$ 13,565	$ 71
Long-term debt:				
3.50% Senior Notes	January 29, 2025	350	349	$ 349
3.125% Senior Notes	June 5, 2030	500	496	496
1.800% Senior Notes	February 2, 2031	500	495	494
2.100% Senior Notes	May 15, 2028	500	497	496
1.800% Senior Notes	October 28, 2026	650	646	645
4.345% Senior Fixed Rate/Floating Rate Notes	April 29, 2028	350	348	—
4.570% Senior Fixed Rate/Floating Rate Notes	April 29, 2033	450	448	—
Junior subordinated debentures	Various	100	91	90
FHLB advances	Various	2,000	2,000	—
Total long-term debt			$ 5,370	$ 2,570

Lesson from SVB 3: Deposit & Loan Concentration in High Growth Industries (low CF, stressed when rate hikes)

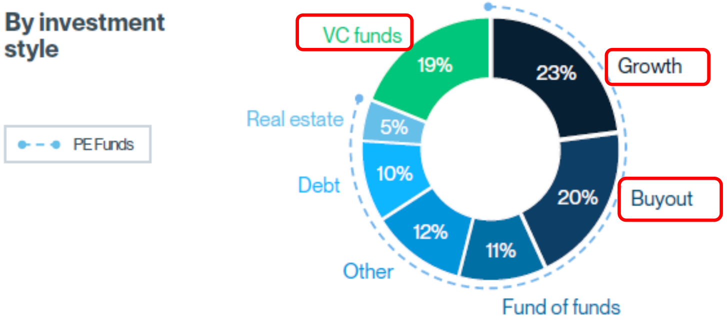
(Dollars in millions)	December 31, 2022 Amount		2022 Percentage	December 31, 2021 Amount		2021 Percentage
Global fund banking	$	41,269	55.6 %	$	37,958	57.3 %
Investor dependent:						
Early stage		1,950	2.6		1,593	2.4
Growth stage		4,763	6.4		3,951	5.9
Total investor dependent		6,713	9.0		5,544	8.3
Cash flow dependent - SLBO		1,966	2.6		1,798	2.7
Innovation C&I		8,609	11.6		6,673	10.1
Private bank		10,477	14.1		8,743	13.2
CRE		2,583	3.5		2,670	4.0
Premium wine		1,158	1.6		985	1.5
Other C&I		1,019	1.4		1,257	1.9
Other		433	0.6		317	0.5
PPP		23	—		331	0.5
Total loans	$	74,250	100.0 %	$	66,276	100.0 %

Period-end total loans
$B

Early Stage Investor Dependent ("ID") loans, **our highest risk loan portfolio**, now **only 3%** of total loans, **down from 11%** in 2009 and **30%** in 2000

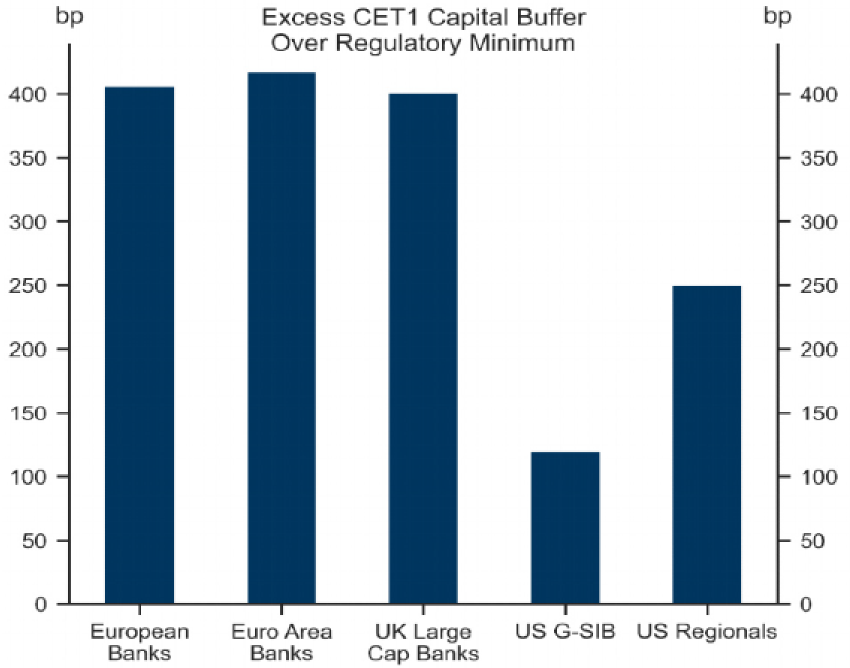


Global Fund Banking portfolio[2]



Potential Spillovers from US Banking to EU banking? The risk of direct banking sector contagion appears limited, as European banks' exposure to US deposits is low, and the Euro area and UK banking systems are well capitalized with ample liquidity. Still, the US financial stress could lead to European banks curtailing lending to the real economy and therefore tighten broader financial conditions.

Limited Direct Banking Contagion Risk



Metric		European Banks	Euro Area Banks	UK Large Cap Banks
Liquidity Coverage Ratio (100% required)	Mean	153%	158%	148%
	Min.	126%	134%	132%
Net Stable Funding Ratio (100% required)	Mean	128%	130%	138%
	Min.	109%	113%	130%
CET1 Capital Ratio (bp Above Regulatory Min.)	Mean	406bp	418bp	401bp
	Min.	140bp	276bp	263bp
Unrealized Losses on HTM Securities (Headwind to CET1 Capital Ratio)	Mean	29bp	19bp	64bp
	Max.	143bp	143bp	121bp

End of Presentation