Quarterly update on US banks – Q2 2023

Financial Institutions Group

9 August 2023

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   Managing Director – Financial Institutions Group

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   Managing Director – Chief Economist – Moody's Analytics

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   Associate Managing Director – Financial Institutions Group

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   Senior Vice President – Financial Institutions Group

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   Senior Vice President – Financial Institutions Group

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   Warren Kornfeld

   Senior Vice President – Financial Institutions Group

1 Introduction

Moody’s presenters

Ana Arsov,
Managing Director

- Ana is a Global Managing Director in the FIG team and has been with Moody’s since 2013. She oversees the North American teams covering US-based global investment banks, regional banks, securities firms and finance companies.
- Prior to joining Moody’s, Ana was at Lehman Brothers and had extensive experience in analyzing financial institutions and managing credit professionals. She holds an M.B.A from Boston University, and a B.S. in Business from Pace University.

Jill Cetina,
Associate Managing Director

- Jill is an associate managing director for U.S. banks and government sponsored enterprises in North American FIG.
- Jill was a vice president at the Federal Reserve Bank of Dallas and led a team of 40 supervisors, financial analysts and researchers. She has spent about 20 years at various government agencies, including time as an associate director at the U.S. Treasury Department, a project leader at the Federal Reserve Board and an economist at the Office of the Comptroller of the Currency in Washington D.C.

Mark Zandi,
MD-Chief Economist

- Mark is chief economist of Moody’s Analytics, where he directs economic research. Dr. Zandi is a cofounder of the company Economy.com, which Moody’s purchased in 2005.
- Dr. Zandi’s broad research interests encompass macroeconomics, financial markets and public policy. His recent research has focused on mortgage finance reform and the determinants of mortgage foreclosure and personal bankruptcy. He has analyzed the economic impact of various tax and government spending policies and assessed the appropriate monetary policy response to bubbles in asset markets.

Allen Tischler,
Senior Vice President

- Allen is a senior member of Moody’s North American Banking Team covering a broad portfolio of US regional banks. He is also Moody’s lead analyst on the Federal Farm Credit Banks and a number of Federal Home Loan Banks. Allen joined the team in 1999 as an Associate Analyst.
- Prior to joining Moody’s, Allen completed a Management Associate program with the Dun & Bradstreet Corporation.

Warren Kornfeld,
Senior Vice President

- Warren is a Senior Vice President in Moody’s Financial Institutions Group covering mortgage, credit card, student loan banks and finance companies as well as Government Sponsored Enterprises (FHLBanks, Farm Credit, Fannie and Freddie).
- Prior to joining the Financial Institutions Group, he was a Managing Director for the Structured Finance Administration.

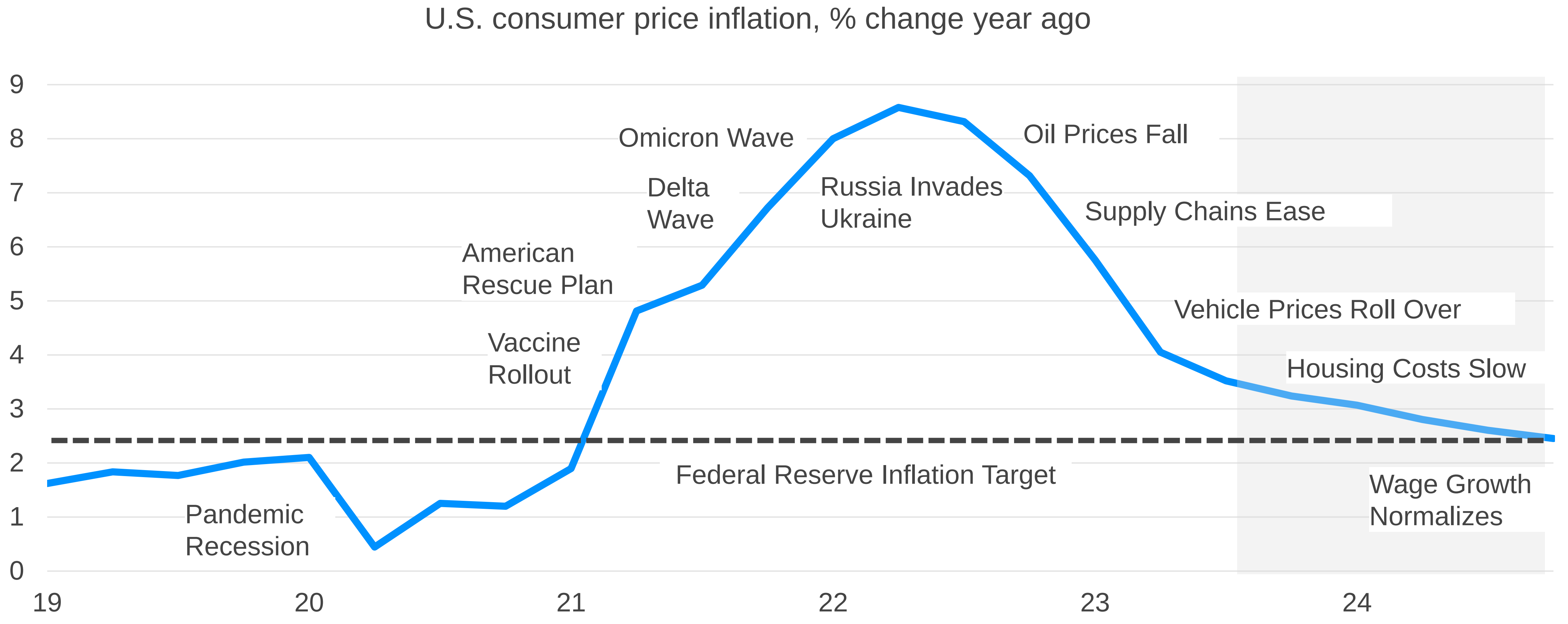
Peter Nerby,
Senior Vice President

- Peter is a Senior Vice President in Moody’s Financial Institutions Group covering a portfolio of investment banks, broker-dealers and exchanges within the U.S. securities industry. Peter is currently lead analyst covering Citigroup and JPMorgan Chase.
- Prior to joining Moody’s, he led a team at Deutsche Bank that was responsible for the bank’s U.S. brokerdealers exposure. He also spent 12 years at JPMorgan managing trading and derivatives counterparty risk with regulated financial institutions and hedge funds.

2

Business cycle’s moment of truth

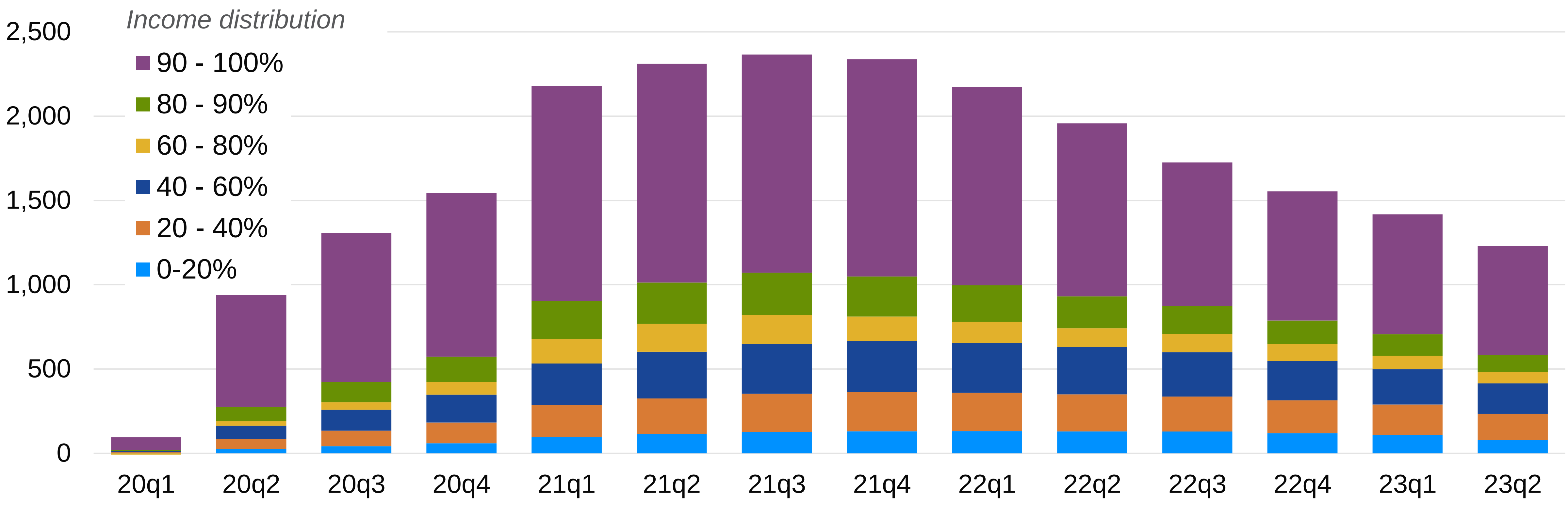
Inflation Heads Back To the Federal Reserve's Target…



Sources: Bureau of Labor Statistics, Moody's Analytics

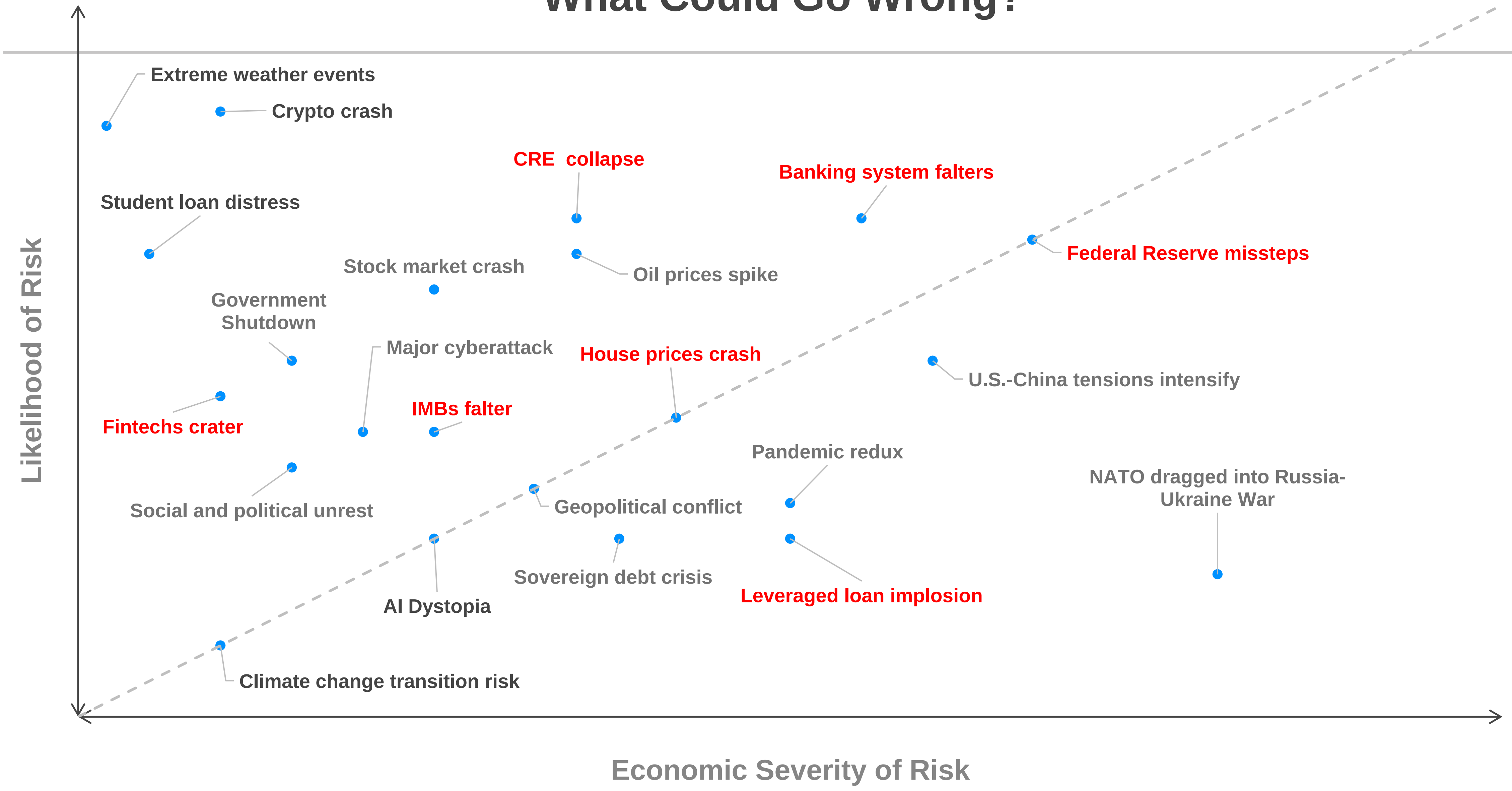
…and Consumers Remain a Sturdy Economic Firewall

Excess household saving by income group, $ tril, 2020



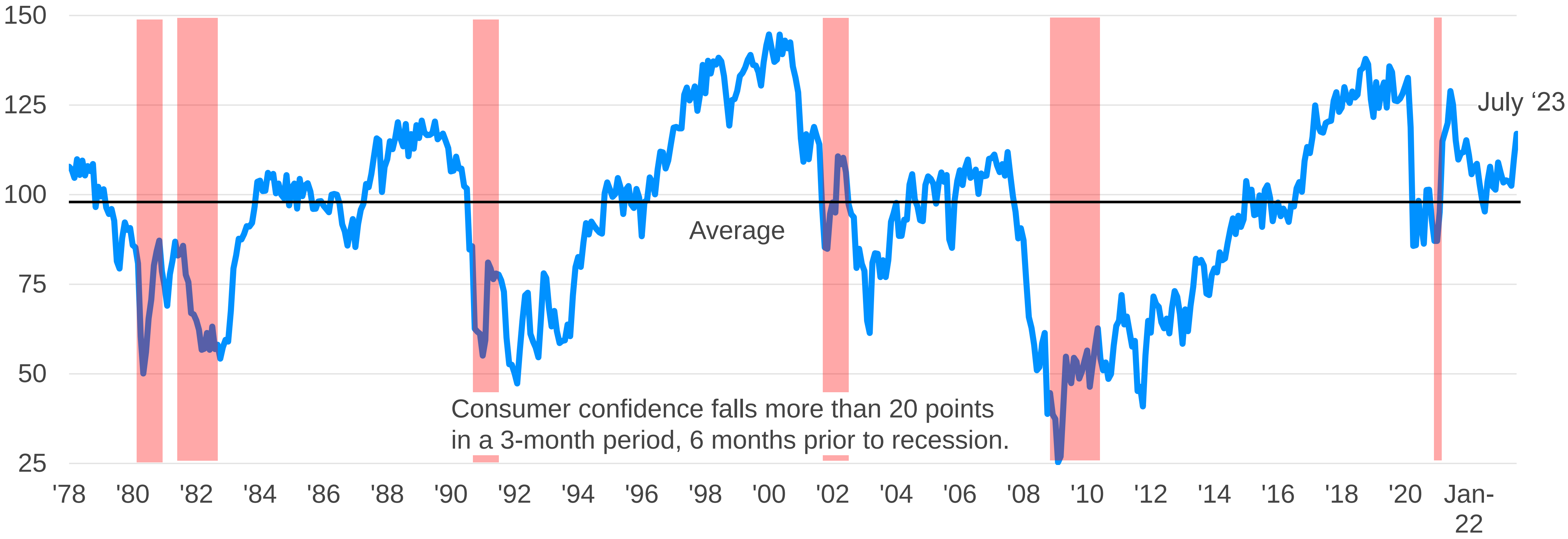
Sources: BEA, Moody's Analytics

What Could Go Wrong?



Consumers Are Anxious, But Haven’t Lost Faith

Conference Board consumer confidence index



Sources: Conference Board, Moody’s Analytics

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Funding risks, weaker profitability, capital challenges and turn in asset quality will test bank credit strength

Funding risks, weaker profitability, capital challenges and turn in asset quality will test bank credit strength

» There are several sources of strain on the US banking sector:
  – In Q2 rising funding costs and declining income metrics weakened profitability, which reduces banks' ability to generate internal capital
  – Most regional banks have comparatively low regulatory capital versus the largest US banks
  – Asset risk is rising, in particular for small and mid-size banks with large CRE exposures
» Recently proposed changes that would increase regulatory capital requirements for banks with assets above $100 billion are long-term credit positive
» For banks below this asset size threshold, we view weaker prudential requirements as credit negative for investors, which may lead to ratings differentiation

Source: Moody's Investors Service

Rating actions summary

US banks rating actions taken on 7 August 2023

	Baseline Credit Assessment Post-rating action	Outlook Post-rating action	Baseline Credit Assessment Pre-rating action	Outlook Pre-rating action
Downgrades				
Commerce Bancshares, Inc.	a2	STA	a1	STA
BOK Financial Corporation	a3	STA	a2	STA
M&T Bank Corporation	a3	STA	a2	STA
Old National Bancorp	a3	NEG	a2	NEG
Prosperity Bancshares, Inc.	a3	STA	a2	STA
Amarillo National Bancorp, Incorporated	baa1	STA	a3	STA
Webster Financial Corporation	baa1	STA	a3	NEG
Fulton Financial Corporation	baa1	NEG	a3	NEG
Pinnacle Financial Partners, Inc.	baa1	NEG	a3	STA
Associated Banc-Corp	baa2	STA	baa1	STA
Ratings under review				
Bank of New York Mellon Corporation (The)	a1	RUR DOWN	a1	STA
Northern Trust Corporation	a1	RUR DOWN	a1	STA
State Street Corporation	a1	RUR DOWN	a1	STA
Cullen/Frost Bankers, Inc.	a2	RUR DOWN	a2	STA
Truist Financial Corporation	a2	RUR DOWN	a2	STA
U.S. Bancorp	a2	RUR DOWN	a2	STA
Negative outlooks				
PNC Financial Services Group, Inc.	a2	NEG	a2	STA
Capital One Financial Corporation	a3	NEG	a3	STA
Citizens Financial Group, Inc.	a3	NEG	a3	STA
Fifth Third Bancorp	a3	NEG	a3	STA
Huntington Bancshares Incorporated	a3	NEG	a3	STA
Regions Financial Corporation	a3	NEG	a3	STA
Cadence Bank	baa1	NEG	baa1	STA
F.N.B. Corporation	baa1	NEG	baa1	STA
Simmons First National Corporation	baa1	NEG	baa1	STA
Ally Financial Inc.	baa2	NEG	baa2	STA
Bank OZK	baa2	NEG	baa2	STA

» On August 7th Moody's took action on 27 US banks

» Specifically, the actions resulted in:

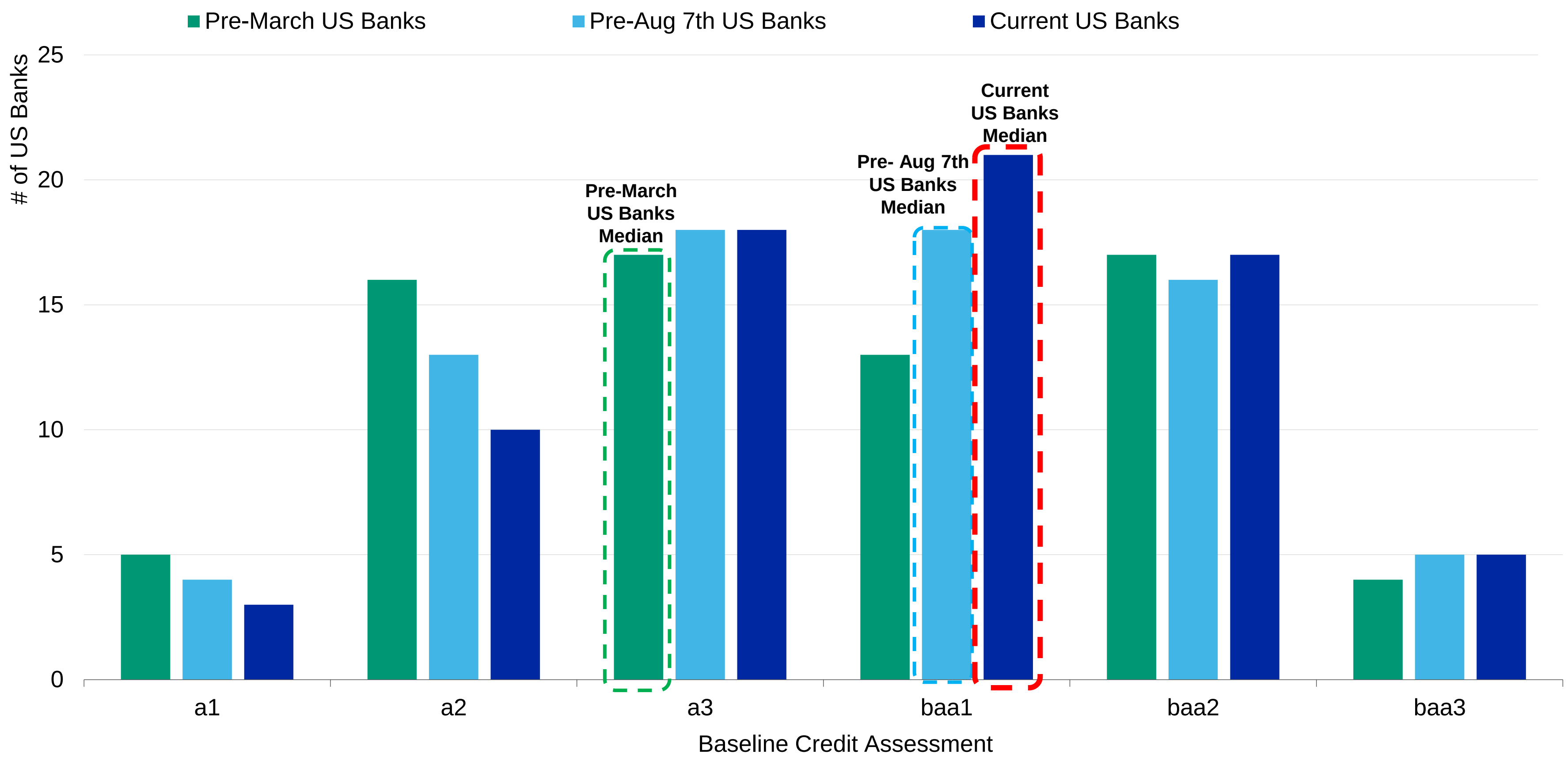
- 10 banks downgraded
- 6 banks' ratings placed on review for possible downgrade
- 11 banks' outlooks changed to negative from stable

1) The Baseline Credit Assessments shown in the above table refer to the operating lead banks. 2) The outlook is the outlook of senior unsecured/issuer rating of the lead banks.

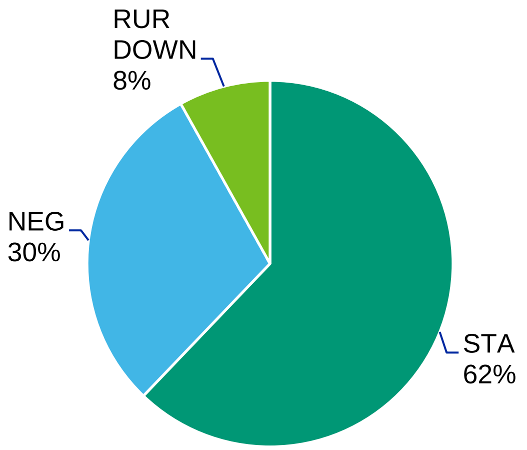
Source: Moody's Investors Service

The median BCA for US banks remains at baa1 following recent rating actions

Baseline Credit Assessments of US Banks



Current Debt Rating Outlooks of US Banks



1) The current BCAs and rating outlooks are as of 9 August 2023.
Source: Moody's Investors Service

Funding/ALM challenges, weaker capital and CRE exposures

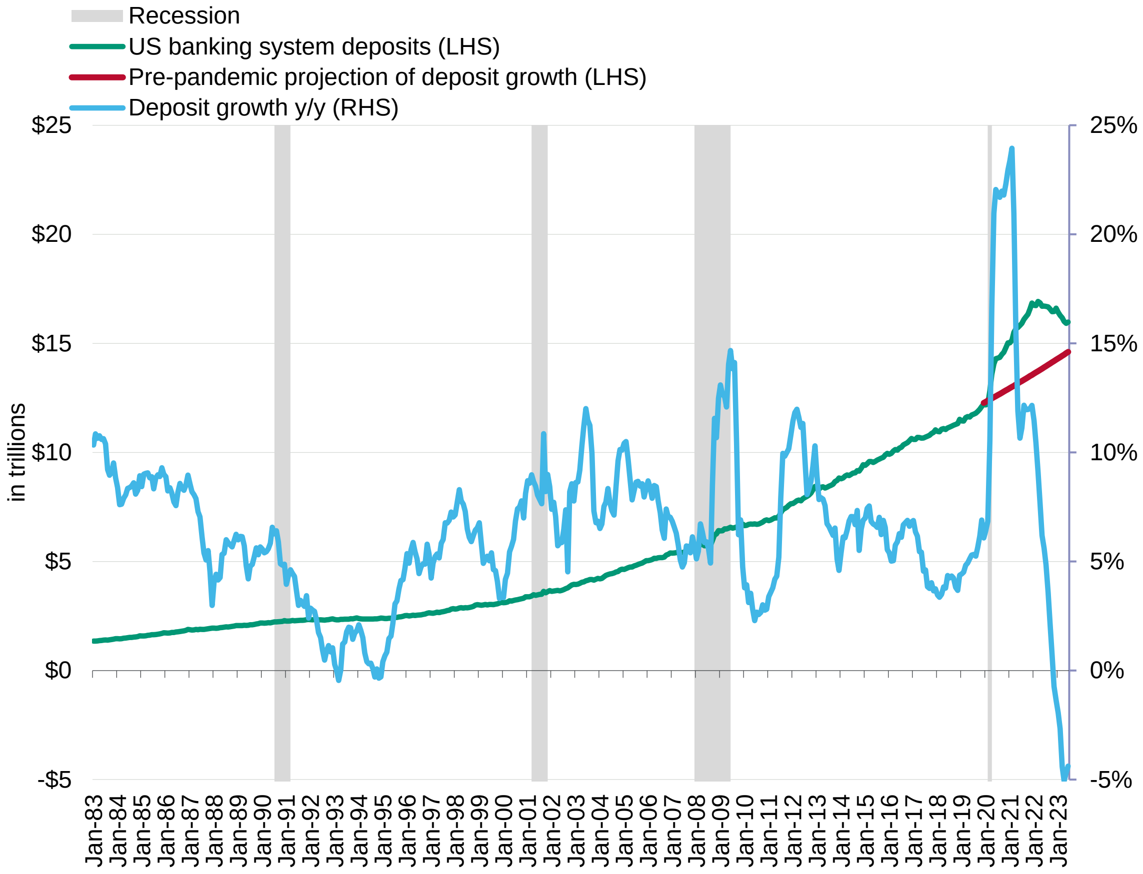
	TCE as % of RWA Q1 23	Unrealized AFS+HTM losses +15% residential mortgages as a % of TCE Q1 23	Estimated uninsured deposit share Q1 23	Deposit beta Q4 22 - Q1 23	Total CRE as a % of TCE Q1 23
Downgrades					
Commerce Bancshares, Inc.	14.4%	-51%	39%	40%	109%
BOK Financial Corporation	12.2%	-29%	57%	104%	146%
M&T Bank Corporation	9.9%	-33%	45%	90%	229%
Old National Bancorp	9.8%	-67%	43%	76%	287%
Prosperity Bancshares, Inc.	15.5%	-69%	41%	36%	194%
Amarillo National Bancorp, Incorporated	10.6%	-8%	46%	121%	110%
Webster Financial Corporation	10.3%	-48%	37%	99%	320%
Fulton Financial Corporation	9.6%	-61%	32%	77%	271%
Pinnacle Financial Partners, Inc.	9.8%	-27%	39%	118%	289%
Associated Banc-Corp	9.2%	-68%	49%	127%	242%
Ratings under review					
Bank of New York Mellon Corporation (The)	12.7%	-57%	99%	104%	25%
Northern Trust Corporation	13.2%	-32%	92%	115%	46%
State Street Corporation	14.7%	-43%	94%	102%	18%
Cullen/Frost Bankers, Inc.	13.0%	-42%	52%	43%	159%
Truist Financial Corporation	8.4%	-85%	42%	88%	97%
U.S. Bancorp	7.9%	-98%	52%	56%	111%
Negative outlooks					
PNC Financial Services Group, Inc.	9.1%	-48%	44%	87%	92%
Capital One Financial Corporation	11.2%	-22%	29%	110%	71%
Citizens Financial Group, Inc.	9.7%	-46%	45%	75%	156%
Fifth Third Bancorp	9.1%	-52%	50%	89%	66%
Huntington Bancshares Incorporated	9.2%	-65%	32%	93%	112%
Regions Financial Corporation	9.4%	-52%	36%	42%	86%
Cadence Bank	9.9%	-65%	45%	98%	249%
F.N.B. Corporation	9.8%	-53%	43%	68%	243%
Simmons First National Corporation	11.6%	-59%	26%	106%	346%
Ally Financial Inc.	8.8%	-57%	10%	128%	11%
Bank OZK	11.2%	-8%	33%	137%	385%

1) TCE = tangible common equity, RWA = risk-weighted assets, AFS = available-for-sale securities, HTM = held-to-maturity securities. 2) We present Q1 2023 data above but considered Q2 earning releases and other data as part of this rating action.

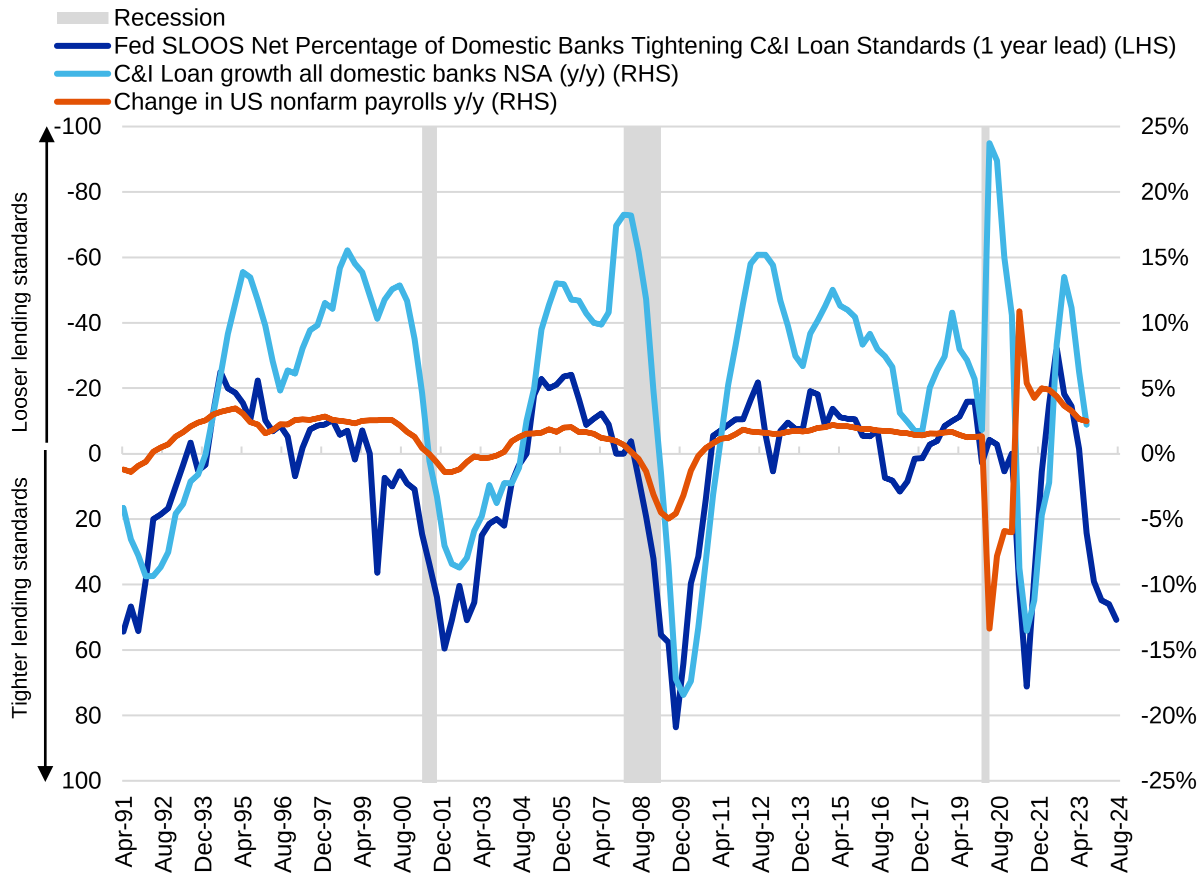
Source: Y-9C reports, Call reports, Moody's Investors Service

Funding strains may exacerbate already tight lending standards

Change in deposits since start of Fed tightening cycle



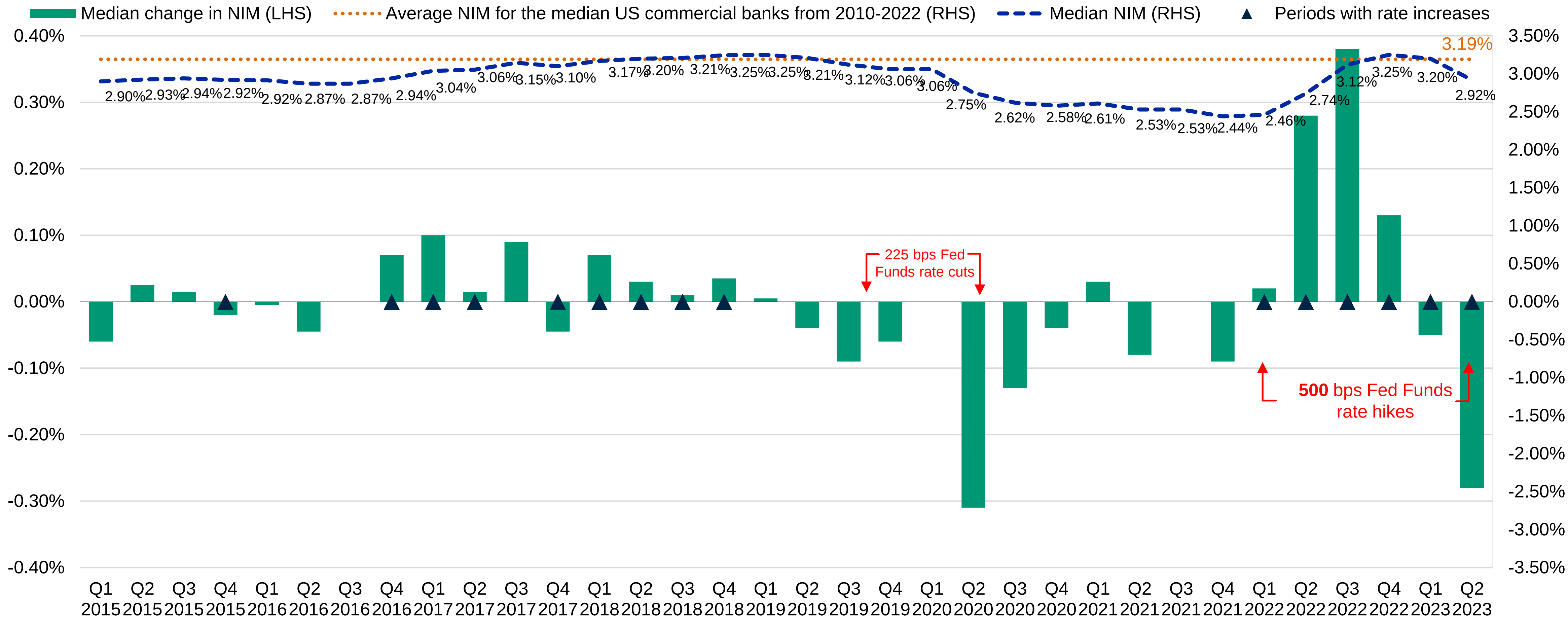
Tighter lending standards tend to negatively impact US employment with a lag and point towards recessionary levels of C&I lending in 2024



Source: Federal Reserve, BLS, Moody's Investors Service

Median US bank's net interest margin has peaked

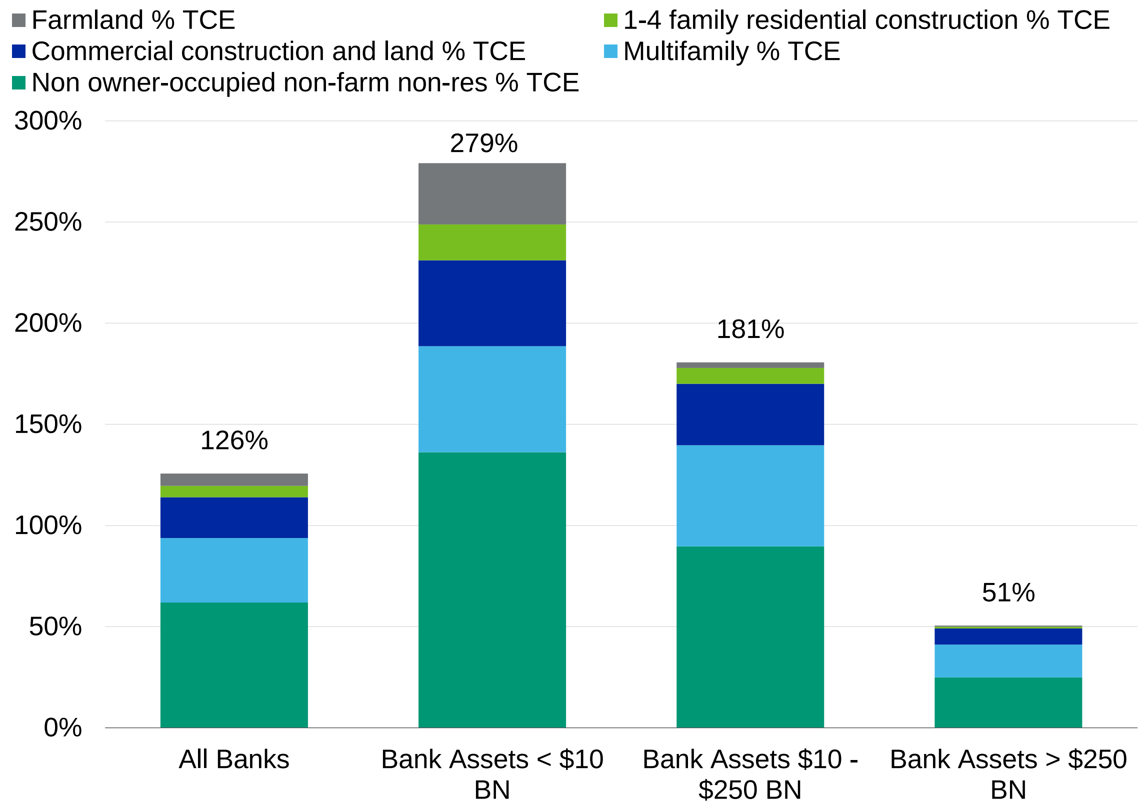
Quarterly change in banks' median net interest margin, Q1 2015 – Q2 2023



1) The blue dashed line represents the median net interest margin of the following banks: BAC, C, CMA, CFG, FITB, HBAN, JPM, KEY, MTB, PNC, TFC, USB, WFC, and ZION. From Q1 2015 – Q3 2019, the peer group included BBT and STI, but not TFC. 2) The orange dotted line represents the median net interest margin of aggregate US commercial banks from 2010 – 2022.
Source: Company reports, US Federal Reserve, Moody's Investors Service

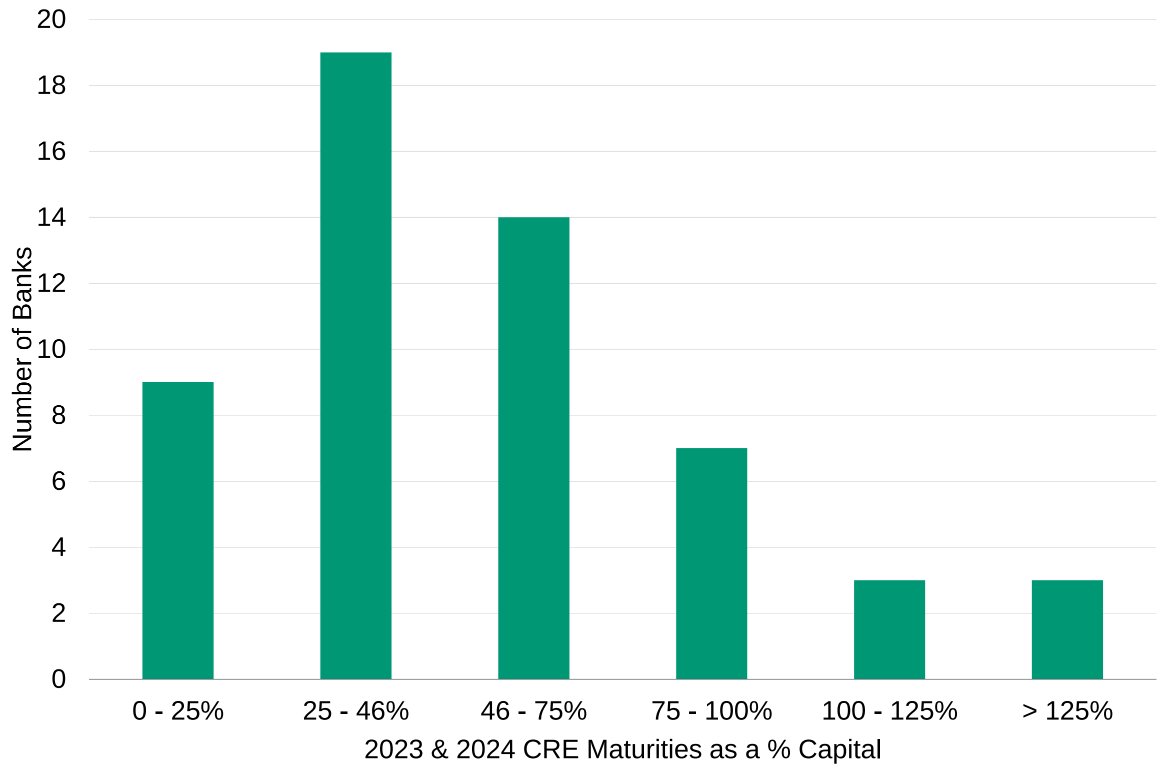
CRE risks are material for small and mid-size banks with high CRE concentrations

Smaller banks are more CRE-concentrated than large banks



1)The data in the chart above is as of 31 March 2023. 2)TCE: Tangible Common Equity
Source: FDIC, Moody's Investors Service

Some banks' CRE maturities through 2024 are material relative to capital



TCE: Tangible Common Equity
Source: Moody's July 2023 CRE survey of rated US banks, Moody's Investors Service

Proposed changes to large US bank regulatory capital

			Category I	Category II	Category III	Category IV	Category Null
			US G-SIBs	=> $700 billion in total assets or => $75 billion cross jurisdictional activity	=>$250 billion total assets or => $75 billion in nonbank assets, weighted short-term wholesale funding (wSTWF) or off-balance sheet exposure	Other firms with $100 billion to $250 billion in total assets	<$100 billion (lower regulatory expectations)
Capital	TLAC	TLAC/Long-term debt	✓				
Capital	Stress testing	Stress testing: Company run (DFAST)	✓ (Annual)	✓ (Annual)	✓ (Every two years)		
Capital	Stress testing	Stress testing: Supervisory	✓ (Annual)	✓ (Annual)	✓ (Annual)	✓ (Every two years)	
Capital	Stress testing	CCAR: Quantitative	✓	✓	✓	✓ (Every two years)	
Capital	Stress testing	CCAR: Qualitative	✓	✓	✓		
Capital	Risk-based capital	Annual capital plan submission	✓	✓	✓	✓	
Capital	Risk-based capital	G-SIB surcharge	✓				
Capital	Risk-based capital	Advanced approaches	✓	✓			
Capital	Risk-based capital	**Countercyclical capital buffer**	✓	✓	✓	✓	
Capital	Risk-based capital	**No opt-out of AOCI capital impact**	✓	✓	✓	✓	
Capital	Risk-based capital	**Expanded risk-based approach**	✓	✓	✓	✓	
Capital	Leverage capital	**Standard supplementary leverage ratio**		✓	✓	✓	
Capital	Leverage capital	Enhanced supplementary leverage ratio	✓				
Liquidity	Standardized	Full daily liquidity coverage ratio	✓	✓			
Liquidity	Standardized	Reduced liquidity coverage ratio			✓		
Liquidity	Standardized	Net stability funding ratio (proposed)	✓	✓	✓ (Reduced unless >$75 billion in wSTWF)		
Liquidity	Internal	Liquidity stress test	✓ (Monthly)	✓ (Monthly)	✓ (Monthly)	✓ (Quarterly)	
Liquidity	Internal	Liquidity risk management	✓	✓	✓	✓ (Tailored)	
Liquidity	Internal	Liquidity buffer	✓	✓	✓	✓	
Liquidity	Internal	FR 2052a reporting	✓ (Daily)	✓ (Daily)	✓ (Monthly; daily if >$75 billion in wSTWF)	✓ (Monthly)	
Other prudential standards		Risk committee	✓	✓	✓	✓	
Other prudential standards		Risk management	✓	✓	✓	✓	
Other prudential standards		Single-counterparty credit limit	✓ (G-SIB specific requirements)				

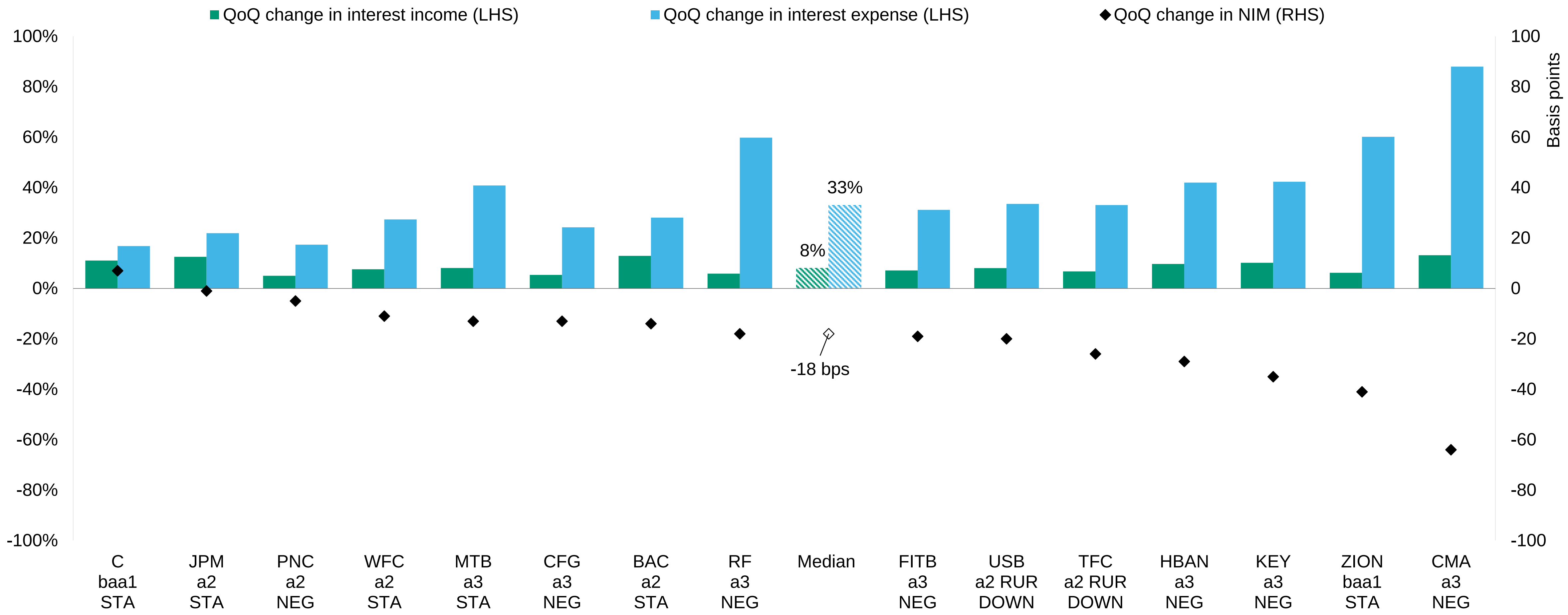
The expanded risk-based approach replaces the advanced approach for Category I and Category II banks.
Source: Federal Reserve, Moody's Investors Service

4

US Regional Banks

Interest expense up sharply during the quarter

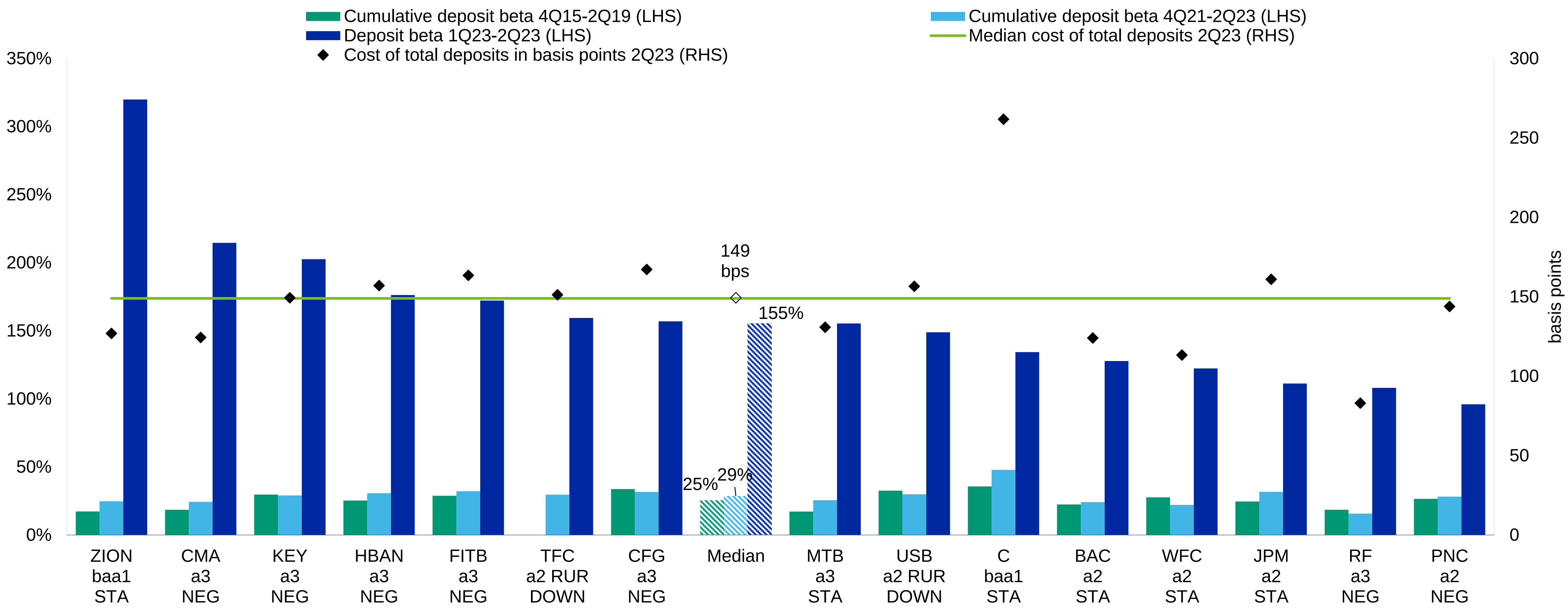
Change in components of net interest income and NIM, Q1 2023 vs. Q2 2023



The x-axis labels include the lead banks' standalone BCAs and outlooks.
Source: Company reports, Moody's Investors Service

Q2 deposit betas rose significantly, cumulative above prior cycle

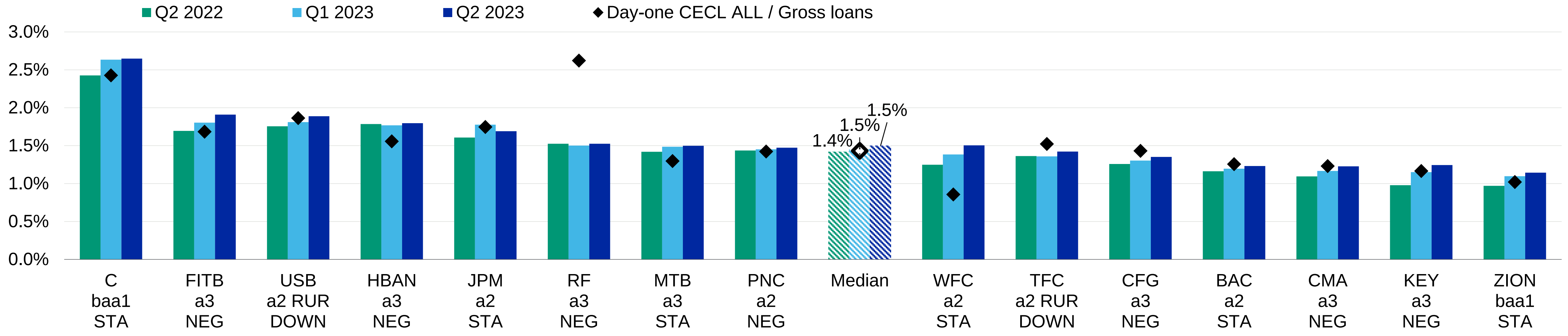
Change in deposit costs since start of Fed tightening cycle



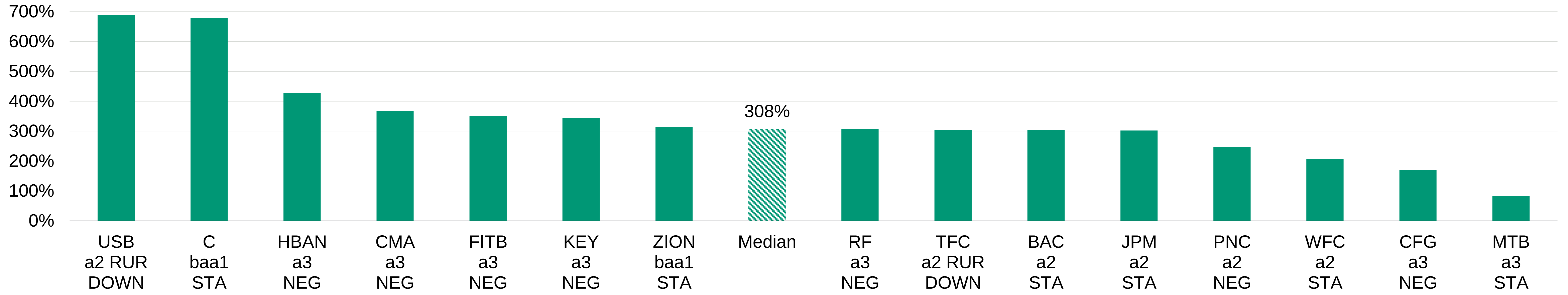
1) The x-axis labels include the lead banks' standalone BCAs and outlooks. 2) TFC's cumulative deposit beta data from 4Q15 to 2Q19 presents BB&T data prior to the merger of STI and BB&T.
Source: Company reports, Moody's Investors Service

Despite CRE office weakness, median reserve coverage was unchanged

Allowance for loan losses % gross loans



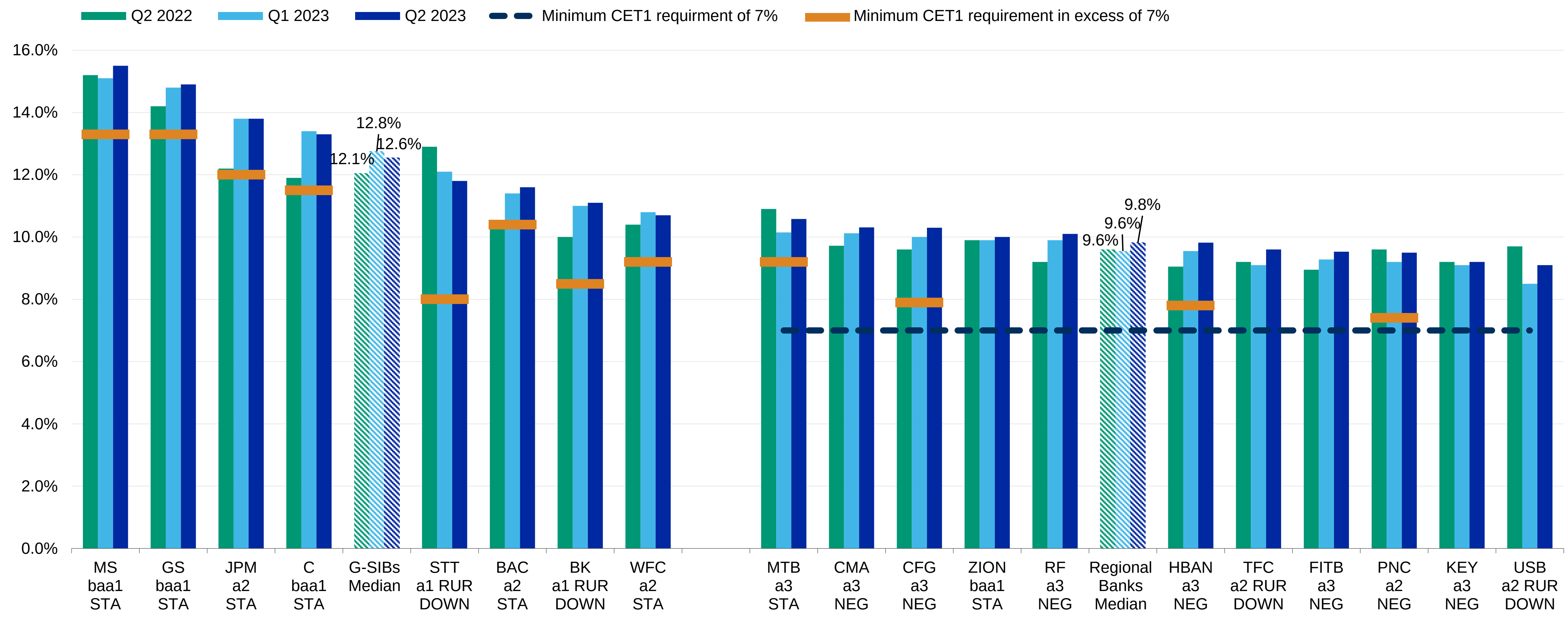
Allowance for loan losses % nonperforming loans, Q2 2023



1) The x-axis labels include the lead banks' standalone BCAs and outlooks. 2) Day-one CECL allowance for loan losses indicates the ALL on January 1, 2020, post adoption to CECL.
Source: Company reports, Moody's Investors Service

Q2 capital largely flat, but will rise following regulatory changes

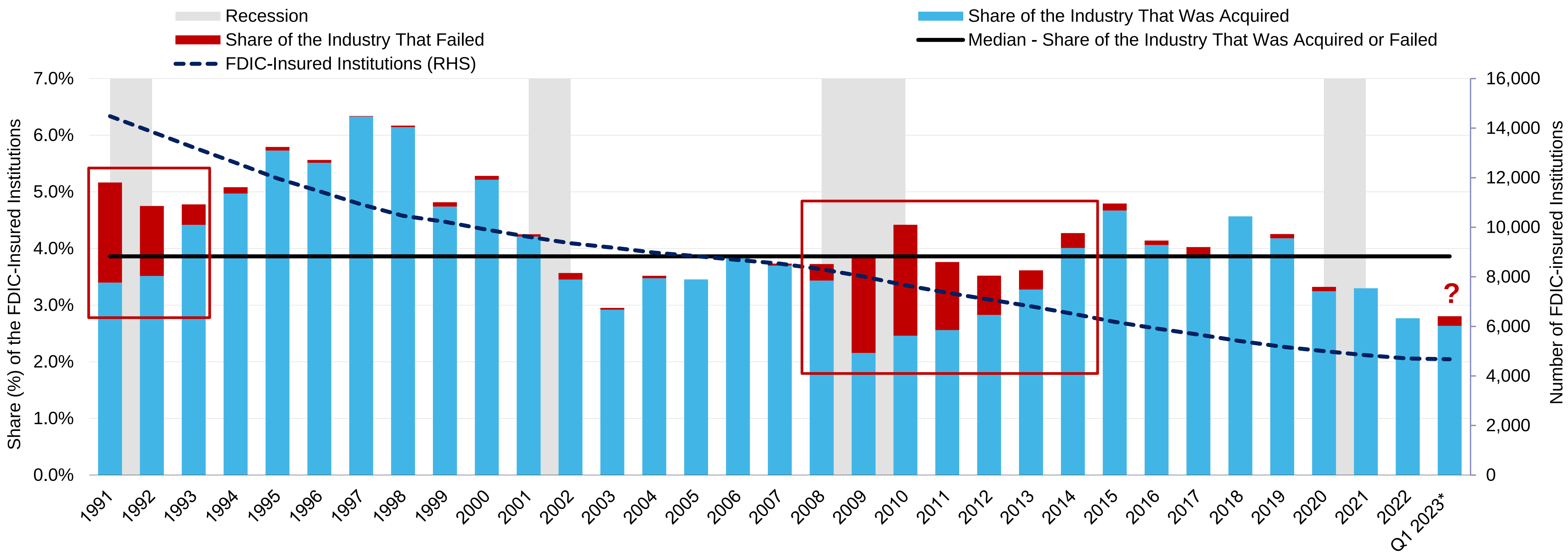
Common Equity Tier 1 capital ratio (standardized approach)



1) The x-axis labels include the lead banks' standalone BCAs and outlooks. 2) The CET1 ratios for all banks were derived using the U.S. Basel III standardized framework. 3) The CET1 capital requirements are based on the Federal Reserve Large Bank Capital Requirements as of 1 Oct 2022. The requirement is made up of several components, including a minimum CET1 capital ratio requirement of 4.5 percent, the stress capital buffer (SCB) requirement determined from the supervisory stress test results and if applicable, a capital surcharge for global systemically important banks (G-SIBs).
Source: Company reports, Moody's Investors Service

Median consolidation has been ~4% of US banks annually; failures cluster around recessions; M&A challenged by higher interest rates

Share of the FDIC-Insured Institutions that were acquired or failed, 1991-Q1 2023



1) The share of the industry data is based on the number of FDIC-insured institutions. 2) Chart excludes new industry entrants, though there have been few since the 2008/2009 financial crisis. 3) Data for 1Q 2023 is annualized.

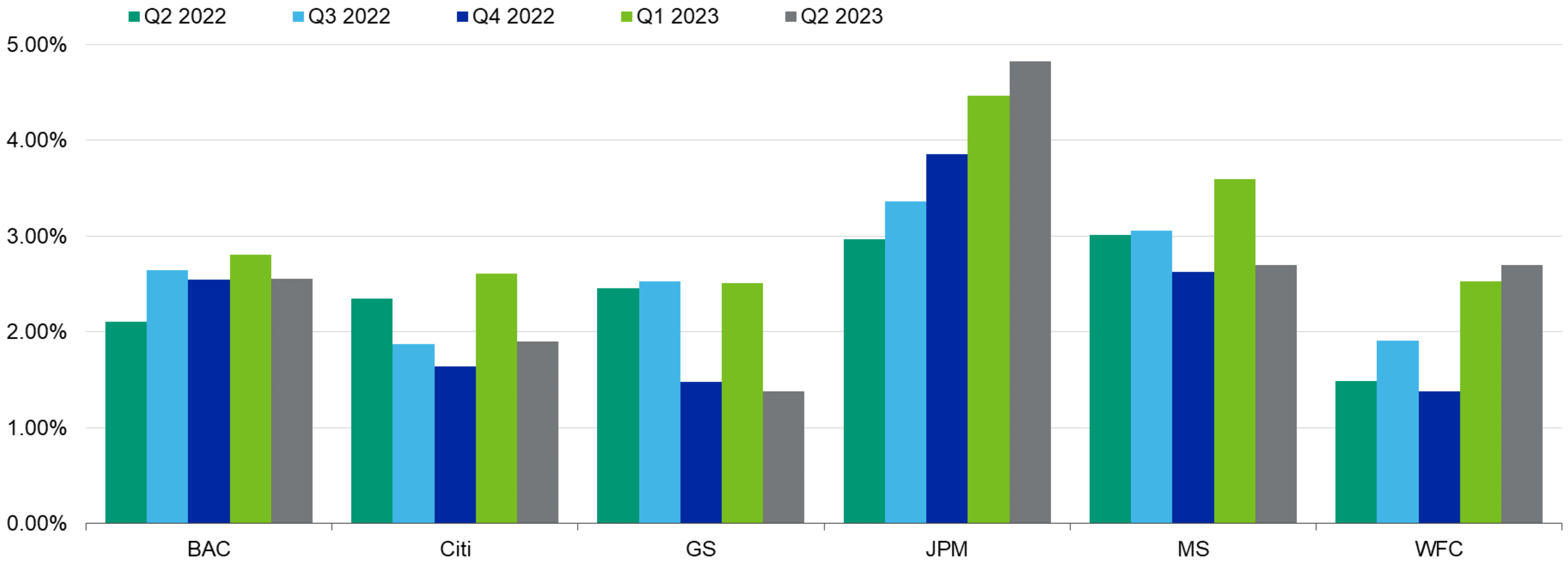
Source: FDIC, Moody's Investors Service

5

US Global Investment and Universal Banks

Returns varied by business mix

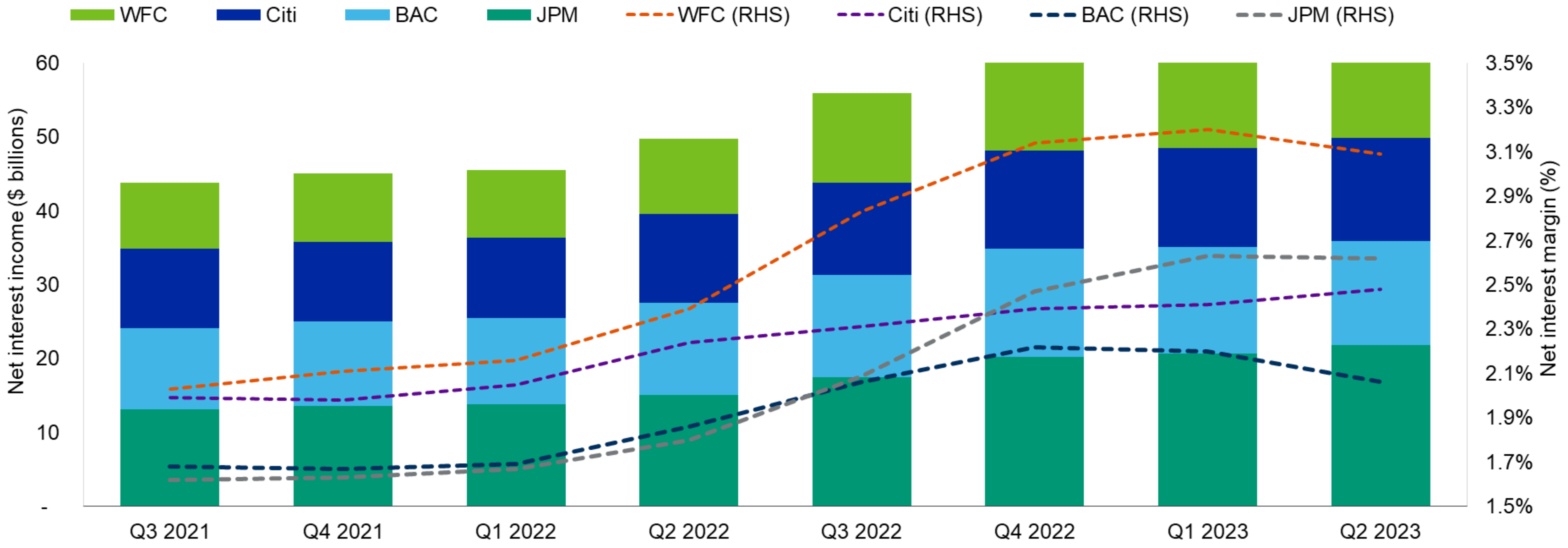
Annualized pre-provision profit/advanced approaches risk-weighted assets



JPM Q2 2023 excludes $2.7 billion one-time bargain purchase gain from First Republic acquisition.
Source: Company reports, Moody's Investors Service

Net interest income and net interest margins flatten out in Q2

NII (bars) and NIM (lines)

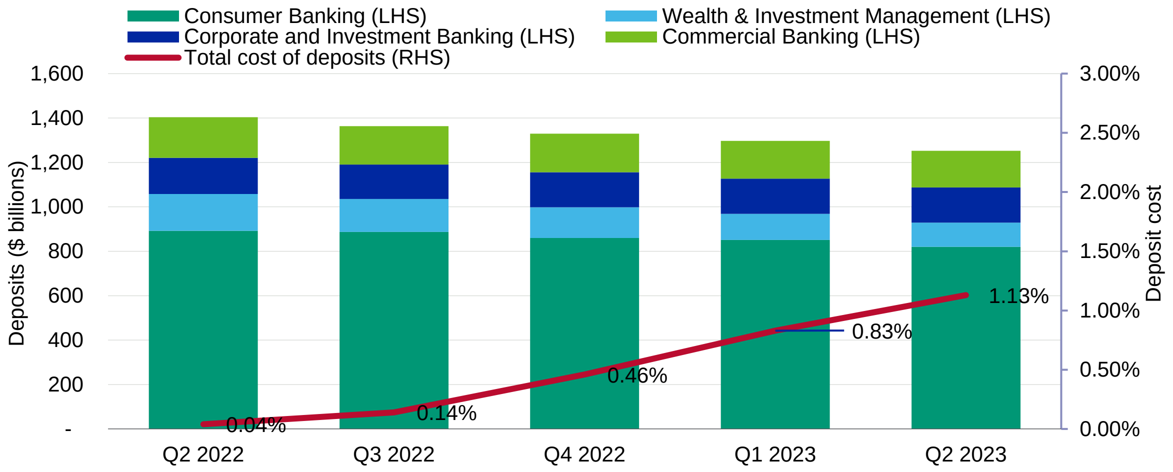


1) JPM's NIM excluding Markets was 3.83% in Q2 2023, 3.80% in Q1 2023 and 2.26% in Q2 2022. 2) BAC's net interest yield excluding Global Markets was 2.65% in Q2 2023, 2.85% in Q1 2023 and 2.20% in Q2 2022.
Source: Company reports, Moody's Investors Service

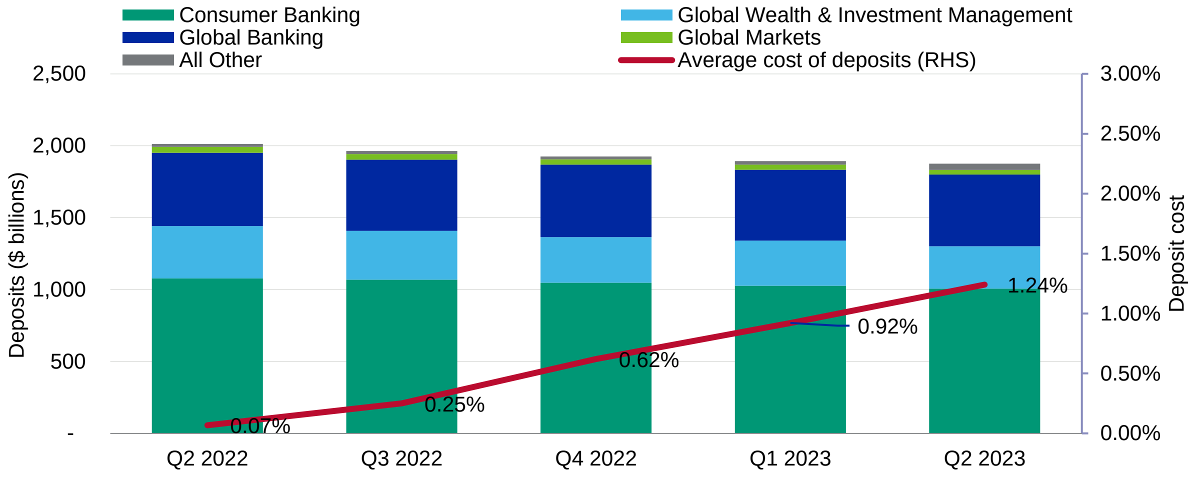
Trends in deposit costs reflect differing business mixes

Deposits by LOB and total cost of deposits

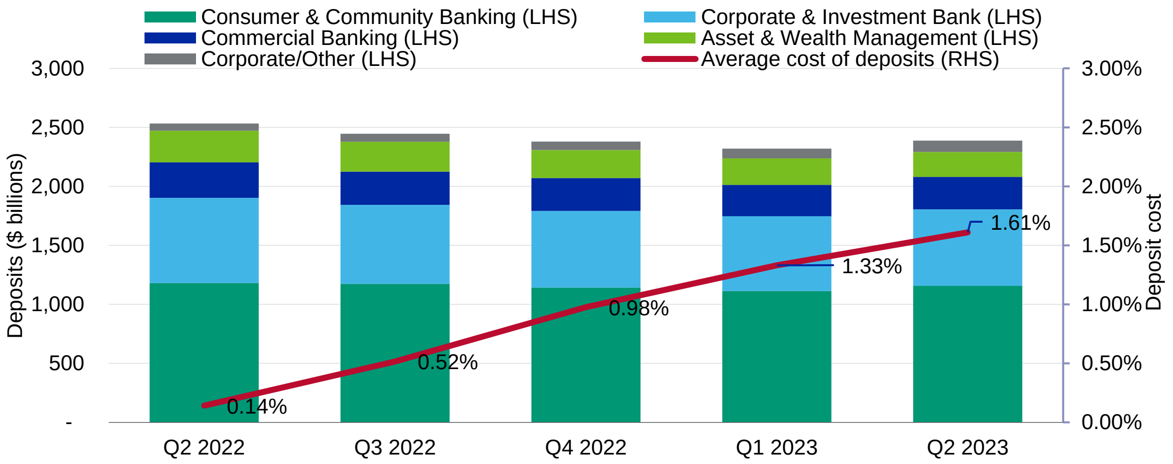
WFC



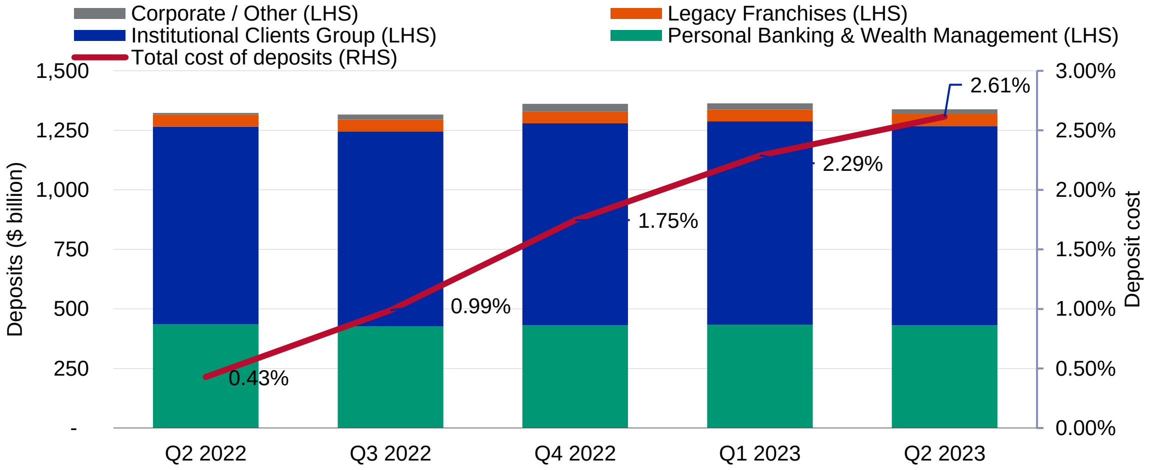
BAC



JPM



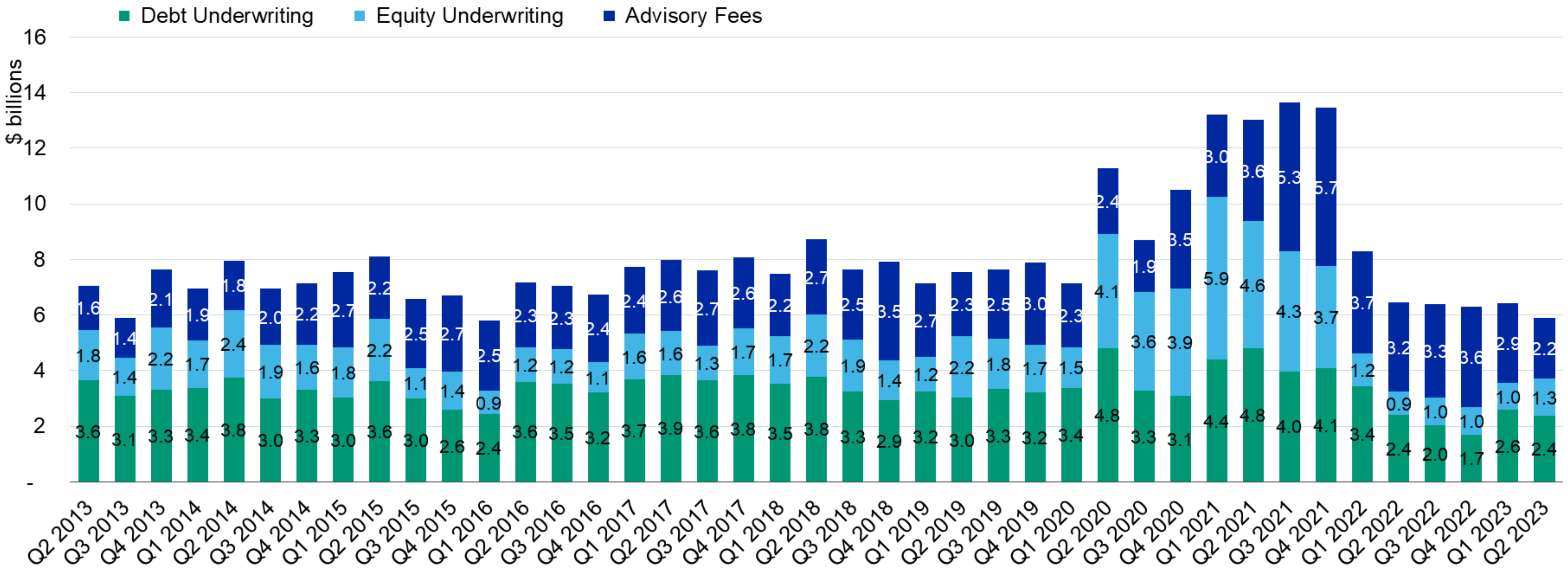
Citi



Source: Company reports, Moody's Investors Service

Higher interest rates and macroeconomic uncertainty drives down the investment banking wallet

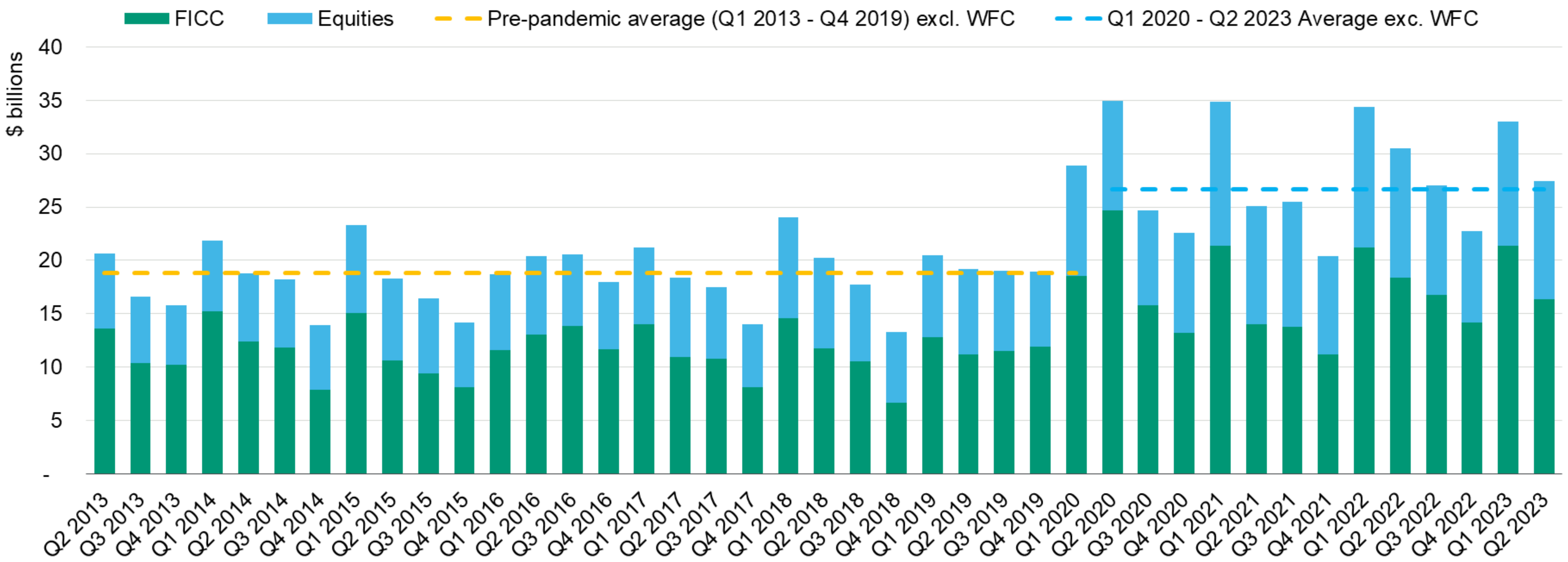
Quarterly investment banking revenue by business line



Source: Company reports, Moody's Investors Service

Aggregate trading revenue down YOY and sequentially

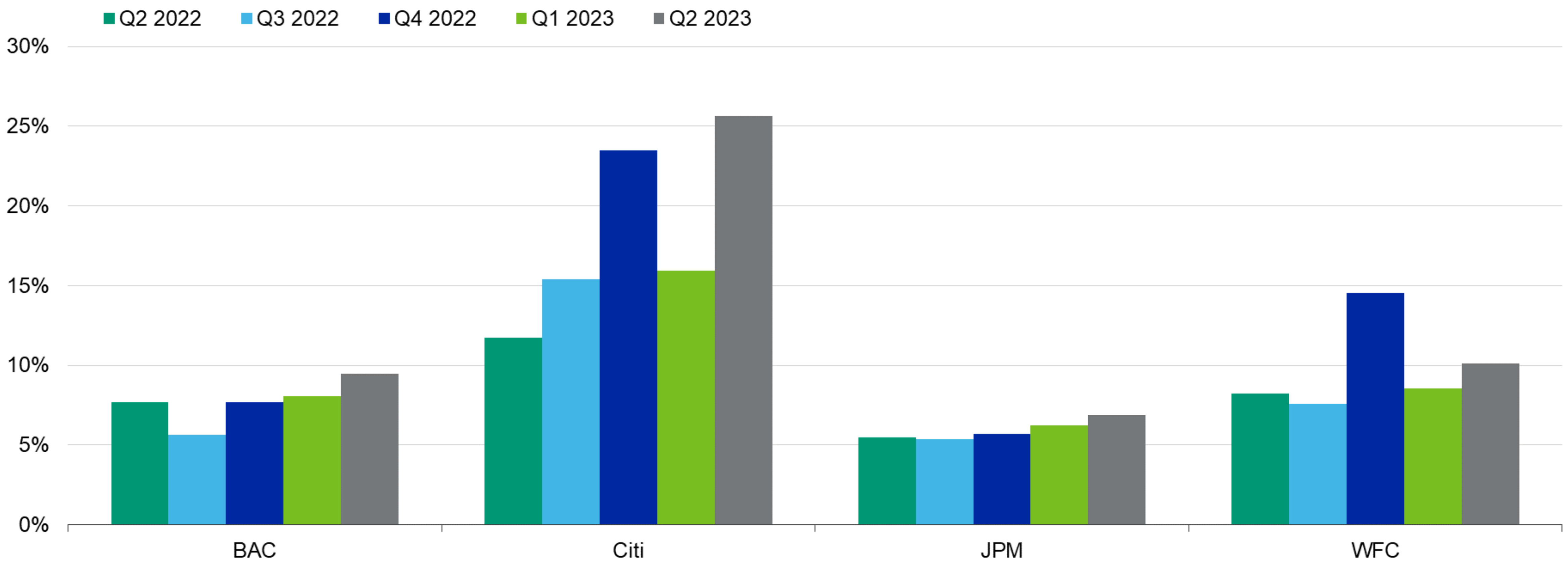
Quarterly secondary capital markets revenue by asset class



The dotted yellow and blue line present averages for the five largest firms (excluding WFC, since WFC does not disclose FICC and equities revenue for the entire period presented)
Source: Company reports, Moody's Investors Service

Net charge-offs consume more PPP but remain low by historical standards

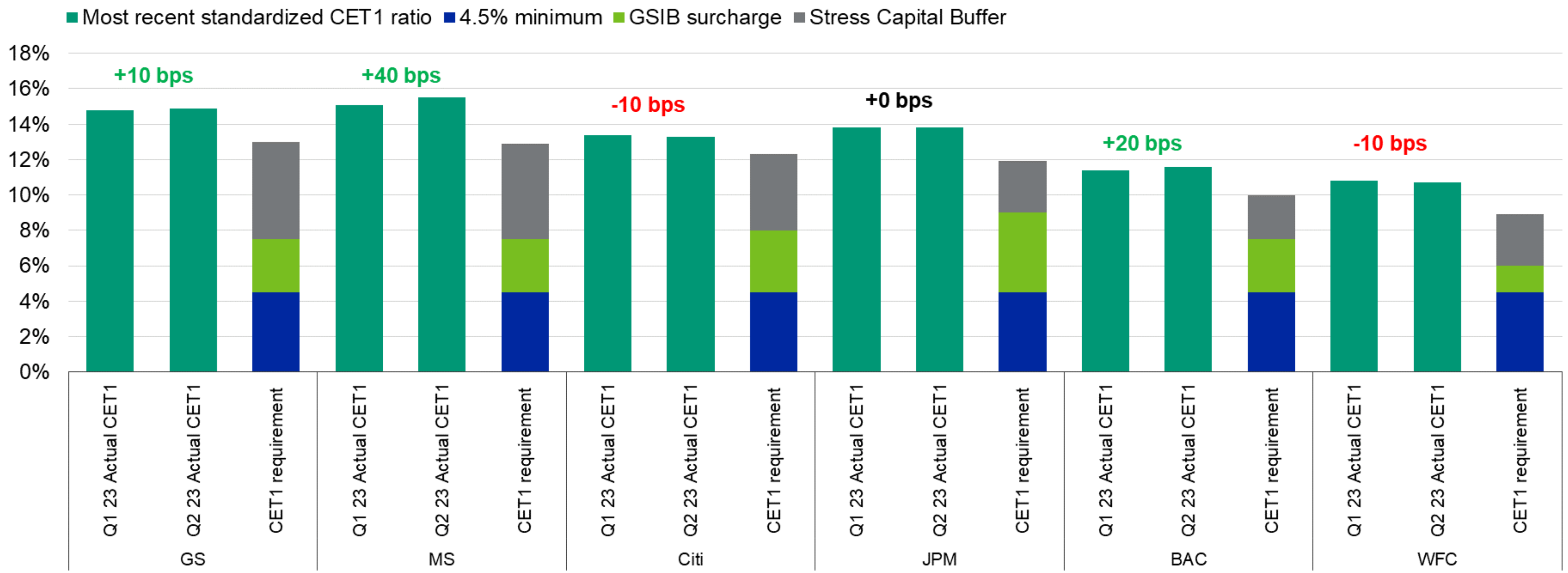
Net charge-offs at universal banks as % of pre-provision profit



PPP = Pre-Provision Profit
Source: Company reports, Moody's Investors Service

Capital ratios held steady in face of rising regulatory requirements

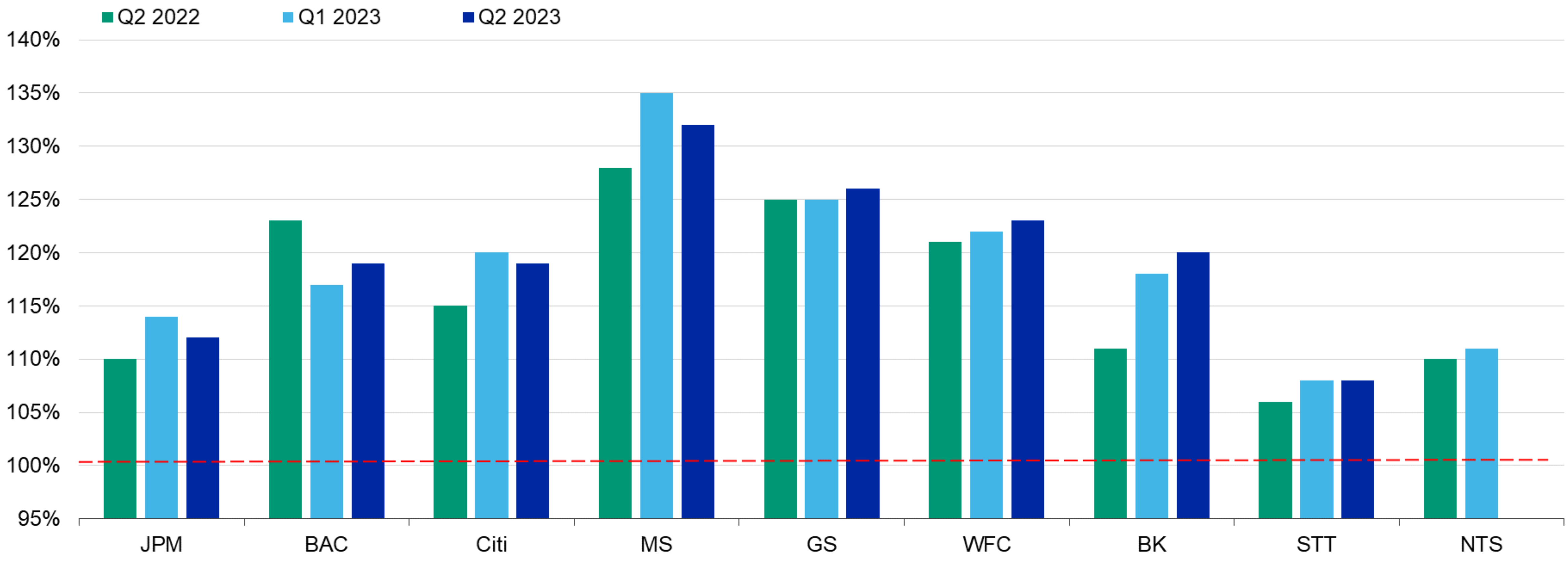
Standardized CET1 ratios and requirements



G-SIB surcharge incorporates new G-SIB surcharges effective on January 2024 for JPM and BAC.
Source: Company reports, Moody's Investors Service

Disclosed Liquidity Coverage Ratios remain strong

LCRs

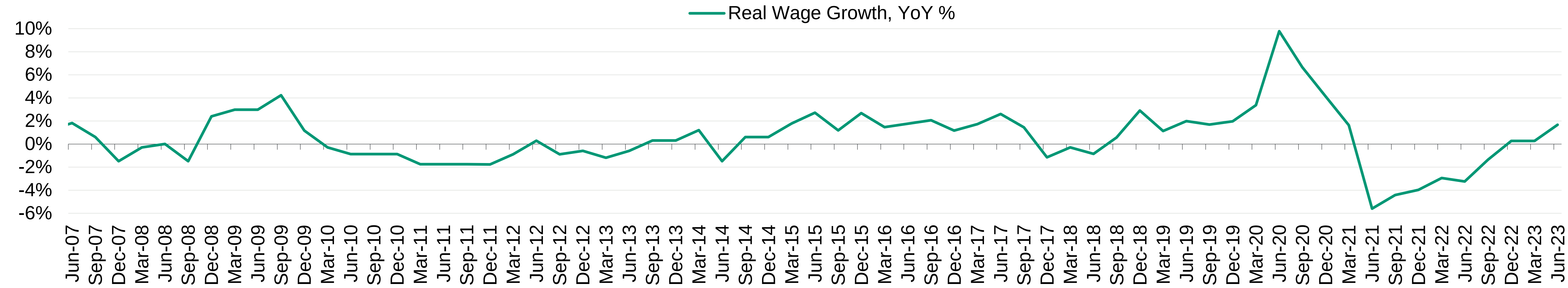


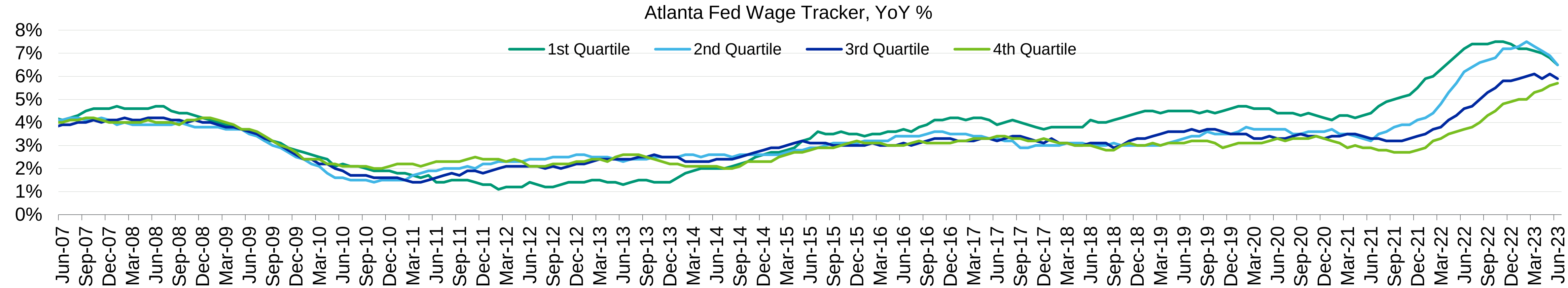
WFC's Q2 2023 LCR is estimated. NTS's 2Q 2023 LCR is undisclosed.
Source: Company reports, Moody's Investors Service

6

US Consumer – continued weakening and the forward view

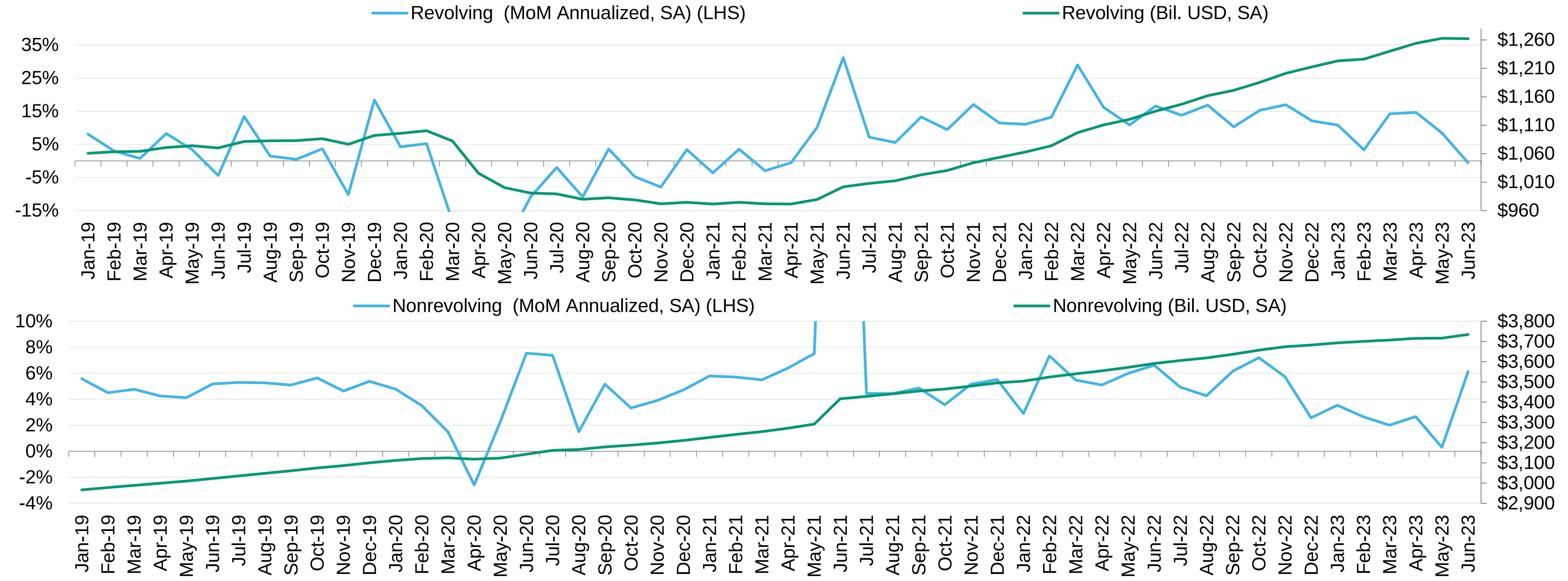
Wage growth continues to turnover but remains elevated





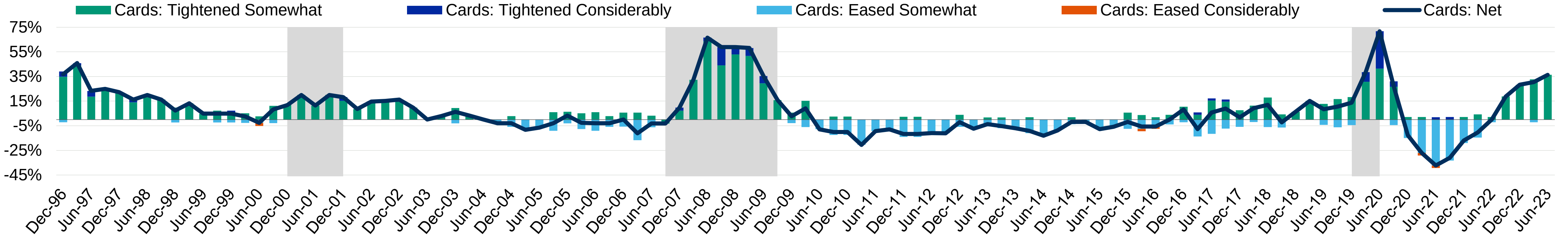
Source: Bureau of Labor Statistics: Employment Cost Index; Federal Reserve Bank of Atlanta: Wage Growth Tracker; Bureau of Labor Statistics: Usual Weekly Earnings

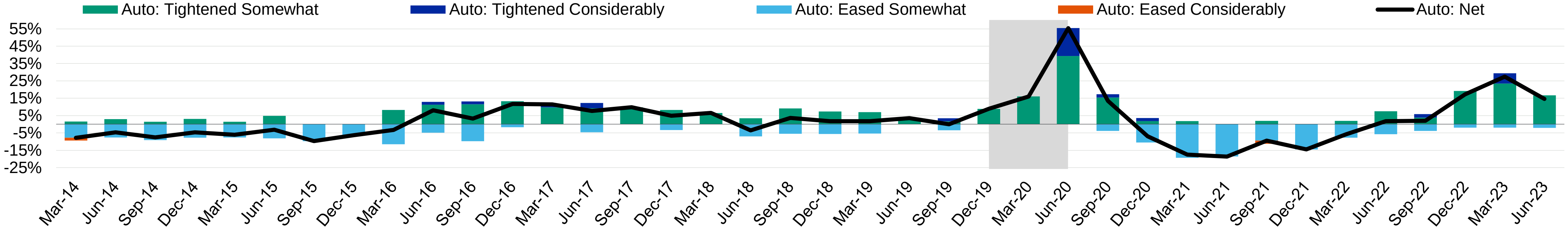
Consumer loan growth has slowed; expect revolving loan growth to again accelerate

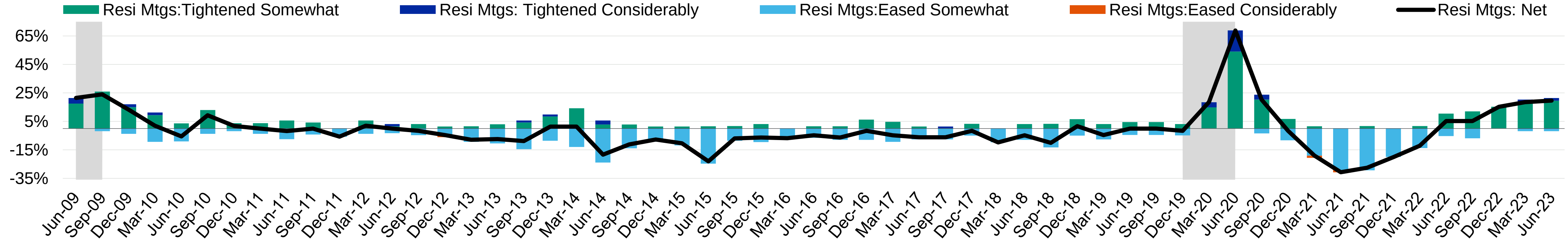


1) Revolving MoM Annualized was -47.6% in April 2020. 2) Nonrevolving MoM Annualized was 56.4% in June 2021.
Source: U.S. Board of Governors of the Federal Reserve System: G.19 Consumer Credit

Banks underwriting standards continue to tighten materially

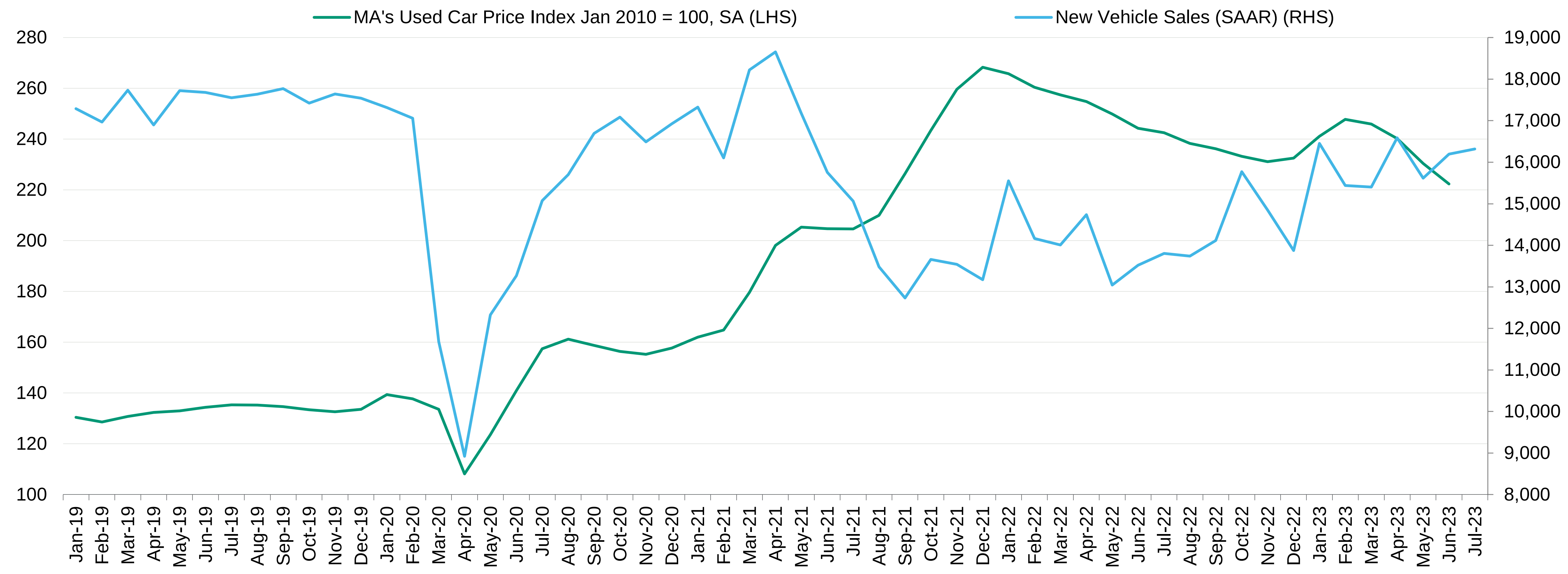






The shaded bars indicate a recessionary period
Source: U.S. Board of Governors of the Federal Reserve System: Senior Loan Officer Opinion Survey (SLOOS)

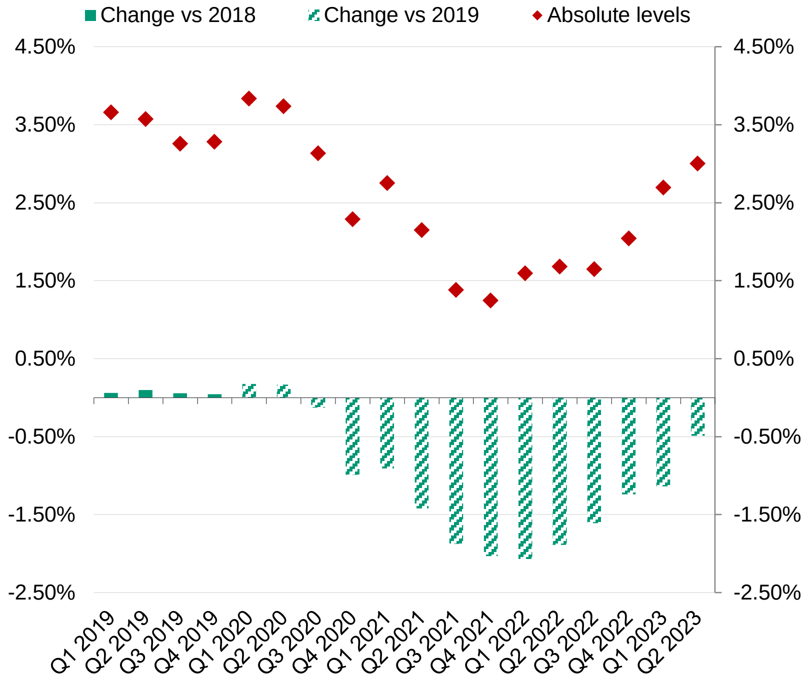
Used car price declines continue as new car availability improves; a credit negative for auto loan asset quality



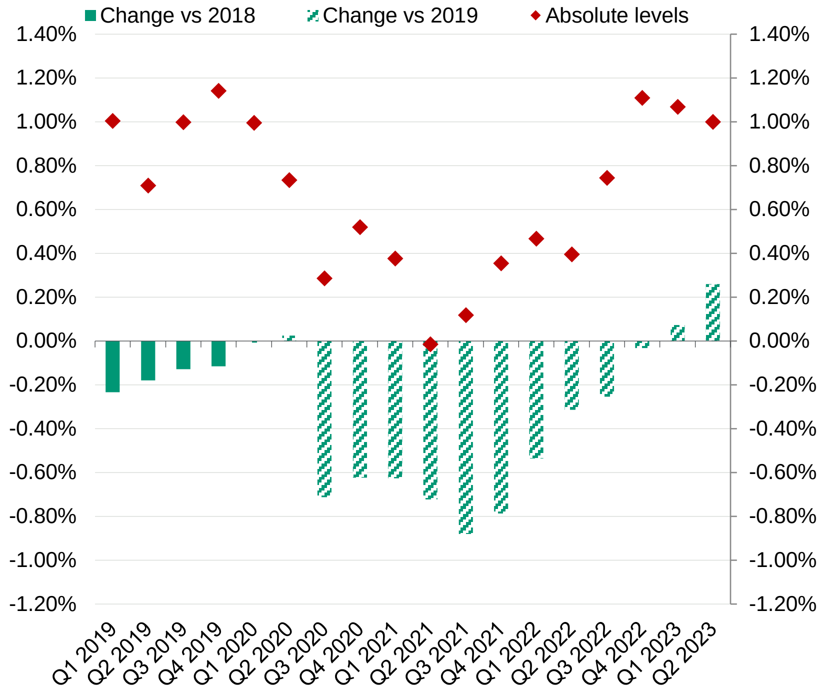
Source: U.S. Bureau of Economic Analysis, Moody's Analytics

Rapid loan growth masks deterioration in credit card charge-offs; auto loan charge-offs now solidly above 2019; resi charge-offs will remain low

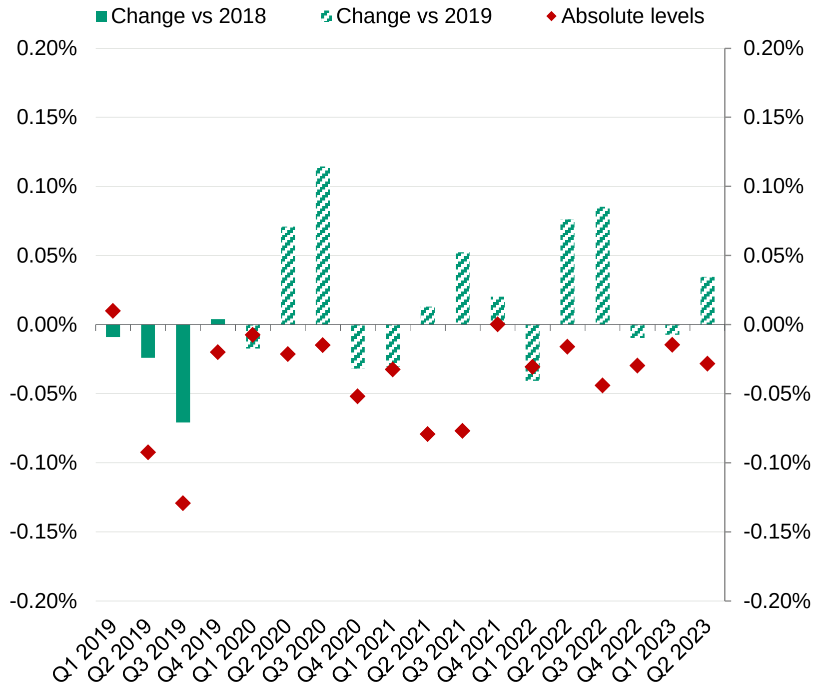
Credit cards net charge-offs averages for large lenders



Auto loans net charge-offs averages for large lenders



Residential mortgage net charge-offs for large lenders



1) The averages are calculated for the largest US retail banks. 2) For credit card, it includes American Express Company, Bank of America Corporation, Capital One Financial Corporation, Discover Financial Services and JPMorgan Chase & Co. For auto, it includes Ally Financial Inc., Capital One Financial Corporation, JPMorgan Chase & Co. and Wells Fargo & Company. For residential mortgage, it includes Bank of America Corporation, JPMorgan Chase & Co., U.S. Bancorp and Wells Fargo & Company.

Source: Company disclosures and Moody's Investors Service

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Q&A

Thank you

Quarterly update on US banks – Q2 2023