MOODY'S RATINGS

Quarterly Update on US Banks – Q4 2024

4 February 2025

Agenda

1 **Introduction and Overview**
Jeff Berg
Associate Managing Director – Financial Institutions Group, Moody's Ratings

2 **US Economic Update/Outlook**
Mark Zandi
Managing Director – Chief Economist, Moody's Analytics

3 **US Global Investment and Universal Banks**
Warren Kornfeld
Senior Vice President – Financial Institutions Group, Moody's Ratings

4 **US Regional Banks**
Allen Tischler
Senior Vice President – Financial Institutions Group, Moody's Ratings

5 **US Consumer**
Mike Taiano
VP – Senior Analyst – Financial Institutions Group, Moody's Ratings

Moody’s Presenters

Jeffrey Berg
Associate Managing Director

- Jeff is an Associate Managing Director and recent joiner to the North American Regional Banking leadership team. Jeff joins from Credit Strategy & Standards where he focused most recently on Public Finance after a long period focused on Financial Institutions.
- Prior to joining Moody’s in 2003, Jeff spent 12 years in public accounting, most recently with PwC.

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.

Warren Kornfeld
Senior Vice President

- Warren is a Senior Vice President in the FIG team and has been with Moody’s since 2001. He covers a broad portfolio of global investment and universal banks, regional banks and finance companies. In addition, Warren focuses on the state of the US consumer and consumer credit..
- Prior to joining the Financial Institutions Group, Warren was a Managing Director in the Structured Finance Group.
- Prior to joining Moody's, Warren held senior investment banking positions with William Blair & Co. and The Industrial Bank of Japan. He holds a B.S. from the Wharton School of the University of Pennsylvania.

Allen Tischler
Senior Vice President

- Allen is a senior vice president in the FIG team and has been with Moody’s since 1999. He covers US G-SIBs, regional banks and GSEs.
- Prior to joining Moody's, Allen completed a Management Associate program with the Dun & Bradstreet Corporation. He holds an M.B.A from the University of Chicago and a B.A. from Michigan State University.

Mike Taiano
VP – Senior Analyst

- Mike is a Vice President – Senior Analyst in Moody’s Financial Institutions Group covering banks, consumer finance companies, and securities firms.
- Prior to joining Moody’s in July 2023, Mike was a senior director at another rating agency for 8 years where he covered banks, consumer finance companies, asset managers, and securities firms. Previously he was a sell-side equity analyst covering the consumer and specialty finance sector for 15 years.

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The Economy is Performing Well, But...

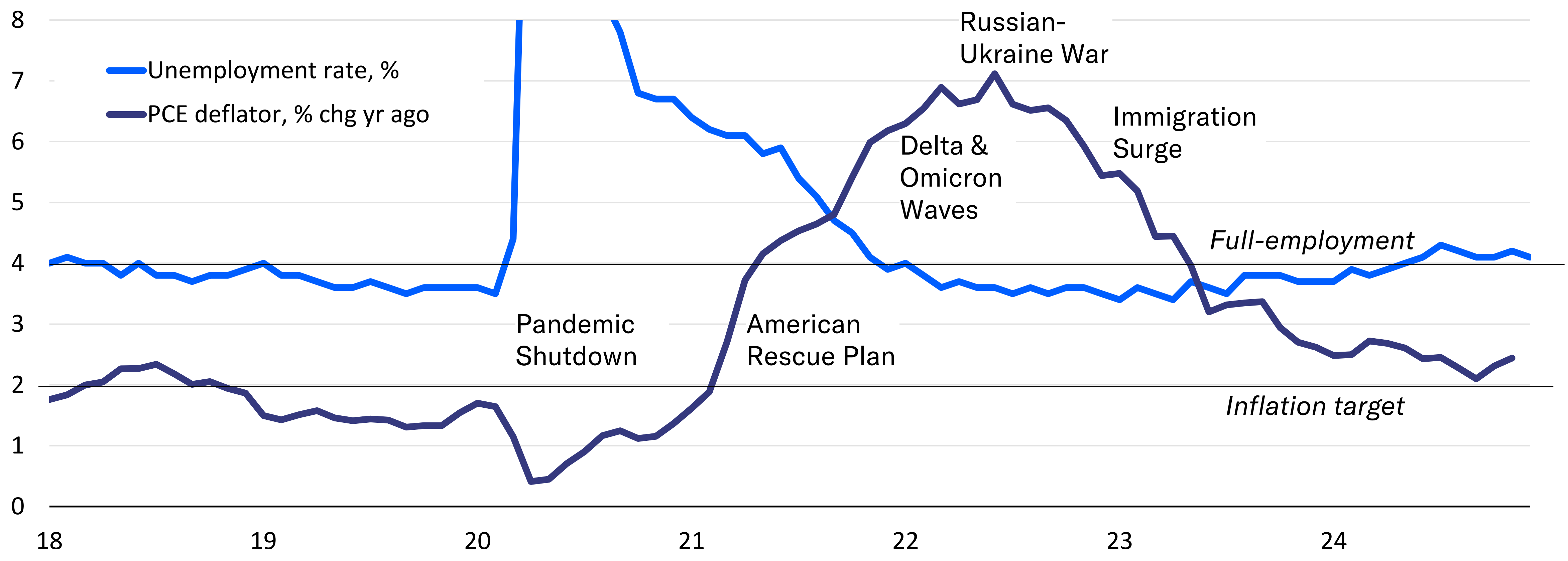
Please attribute information in this section to Moody's Analytics, which is a division within Moody's that is separate from Moody's Ratings. Accordingly, the viewpoints expressed herein do not reflect those of Moody's Ratings.

Mark Zandi, Chief Economist – Moody's Analytics

1

The Economy is Performing Well

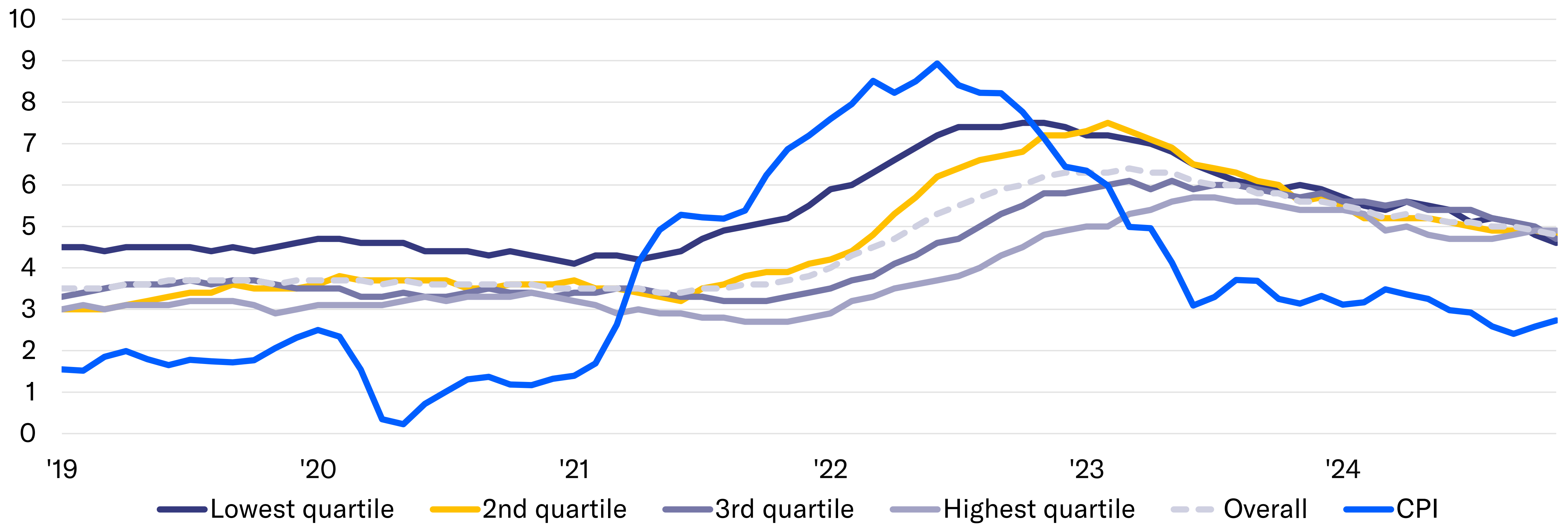
The Federal Reserve Achieves Its Dual Mandate



Sources: BLS, Moody's Analytics

Consumer Purchasing Power Continues To Improve...

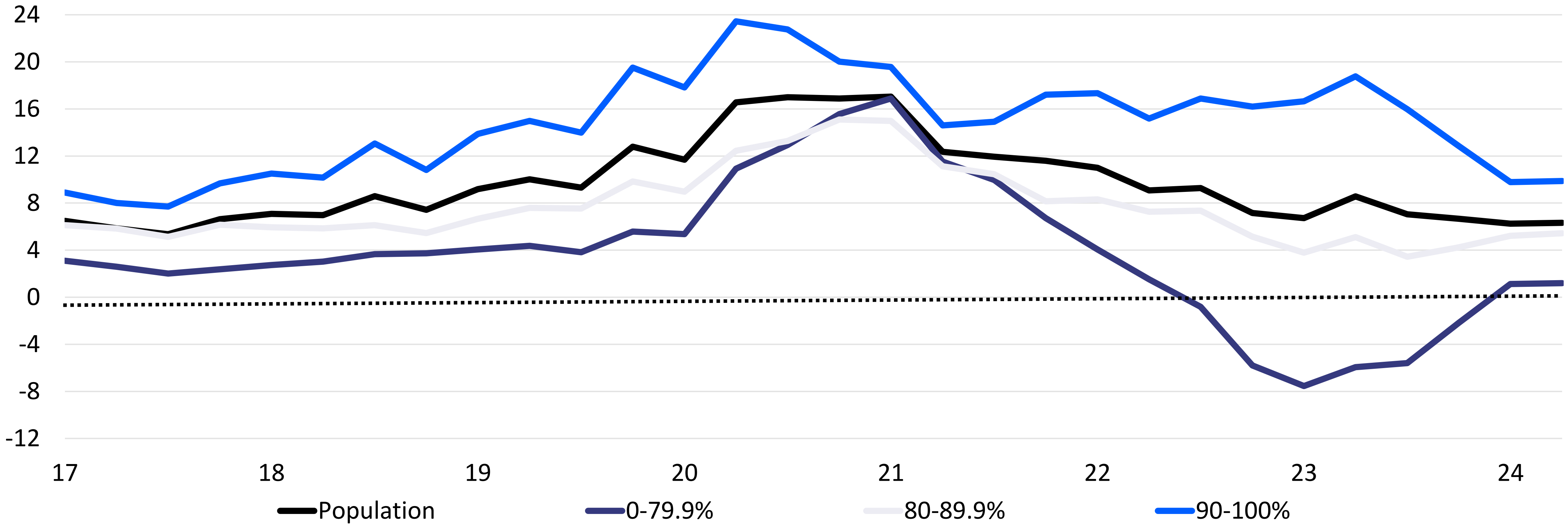
Wage growth by wage quartile and consumer price inflation, % change yr ago



Sources: BLS, Atlanta Fed, Moody's Analytics

...And the Well-To-Do Save Less

Personal savings rate across the income distribution, %, 4-qtr MA



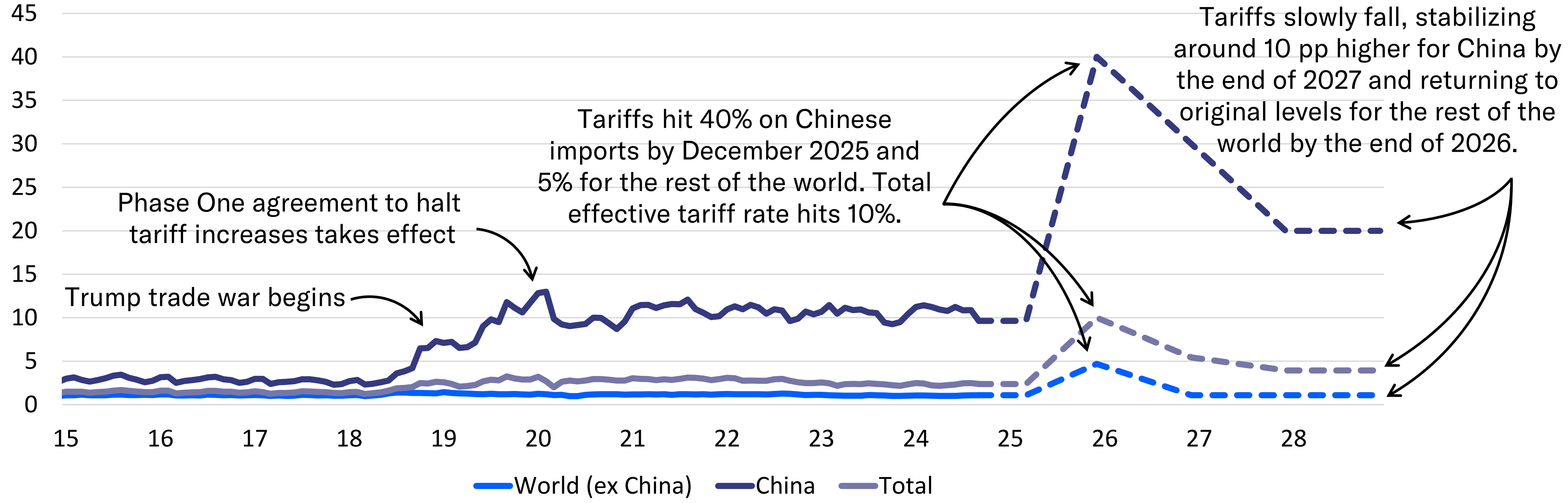
Sources: Federal Reserve Board, Moody's Analytics

2

But Economic Policy is Highly Uncertain...

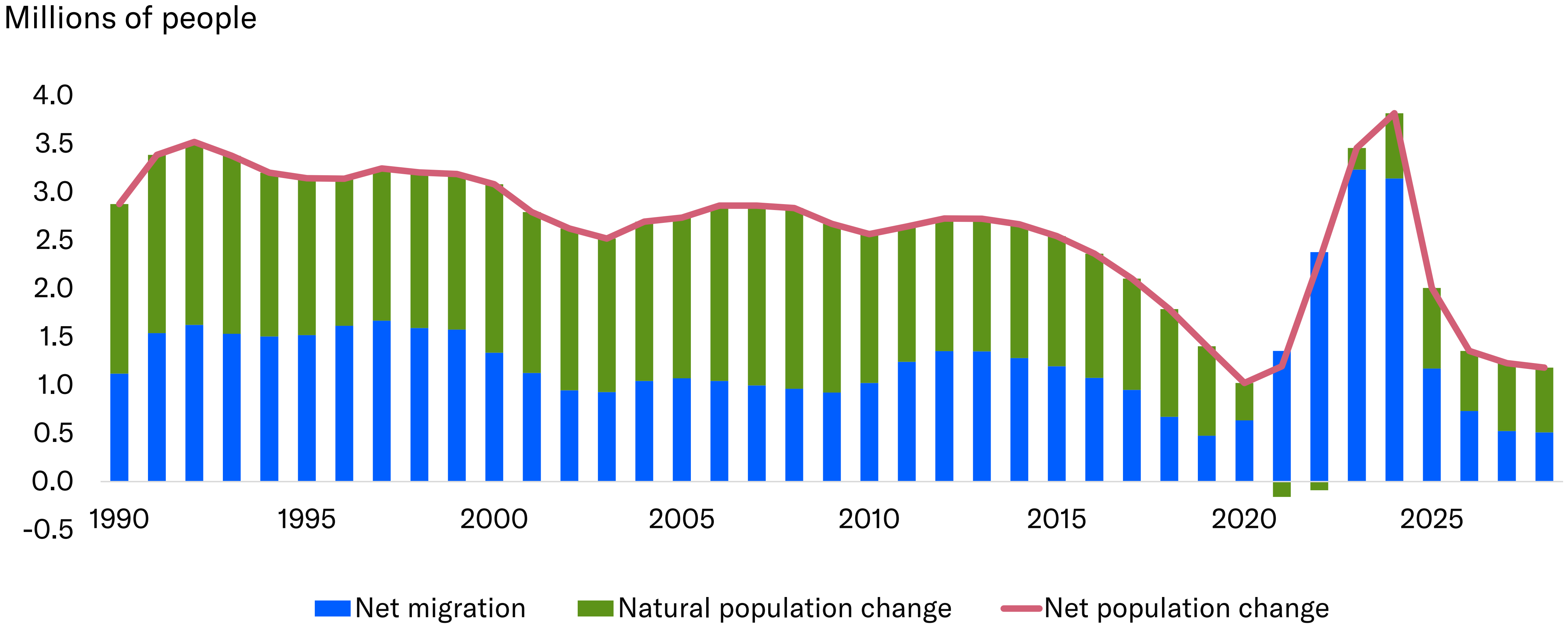
Trump Tariff War Redux

U.S. import duties, % of imports



Sources: U.S. Census Bureau, Moody's Analytics

Less Immigration, Weaker Population and Labor Force Growth



Sources: UN, Moody’s Analytics

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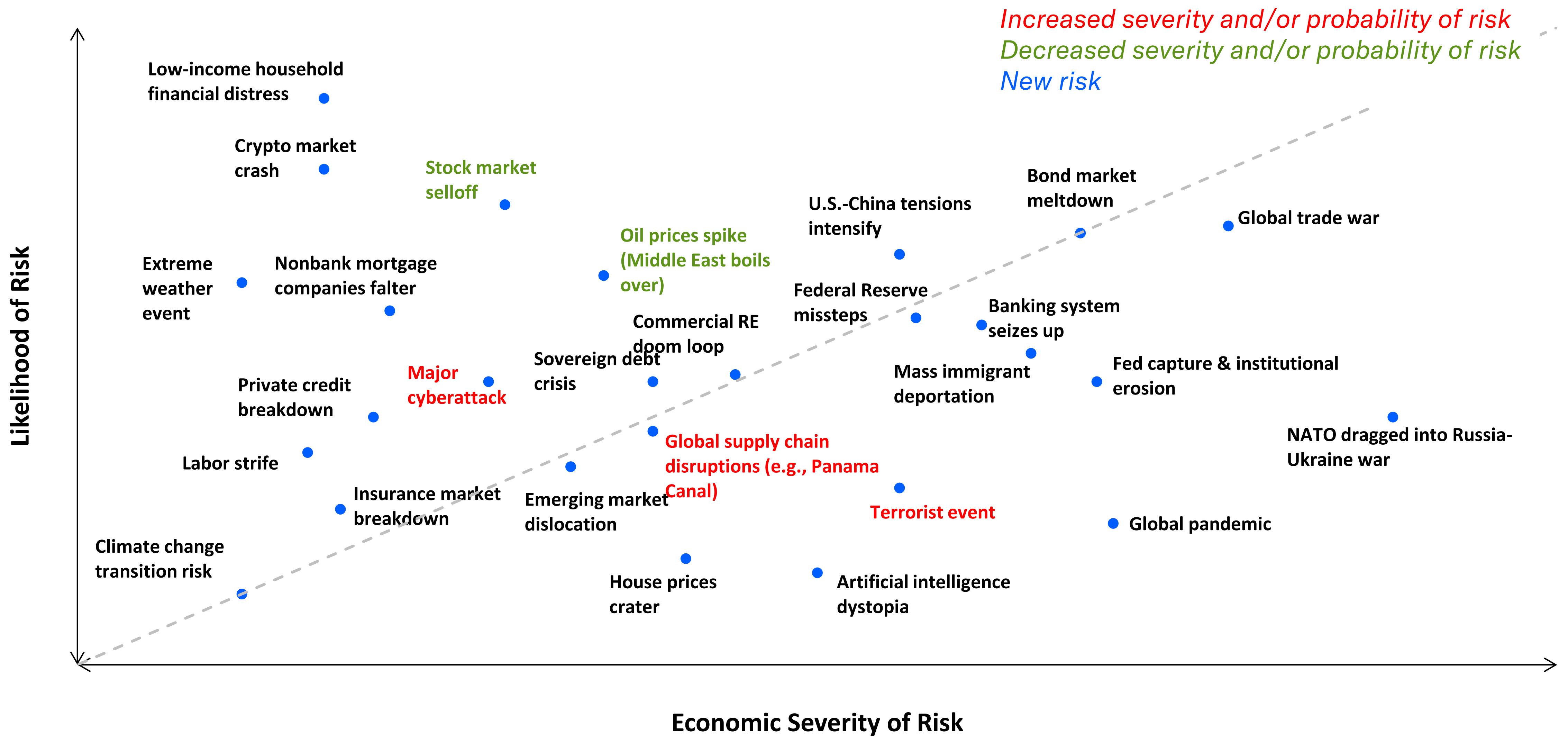
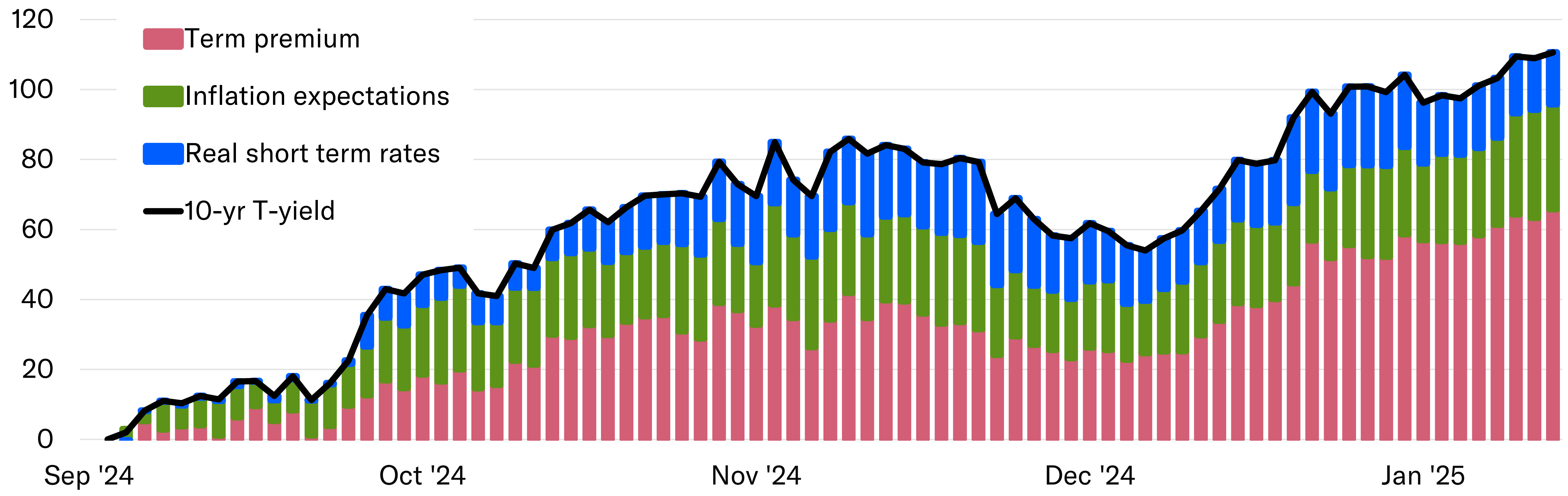
...And There Are Many Threats

What Could Go Wrong



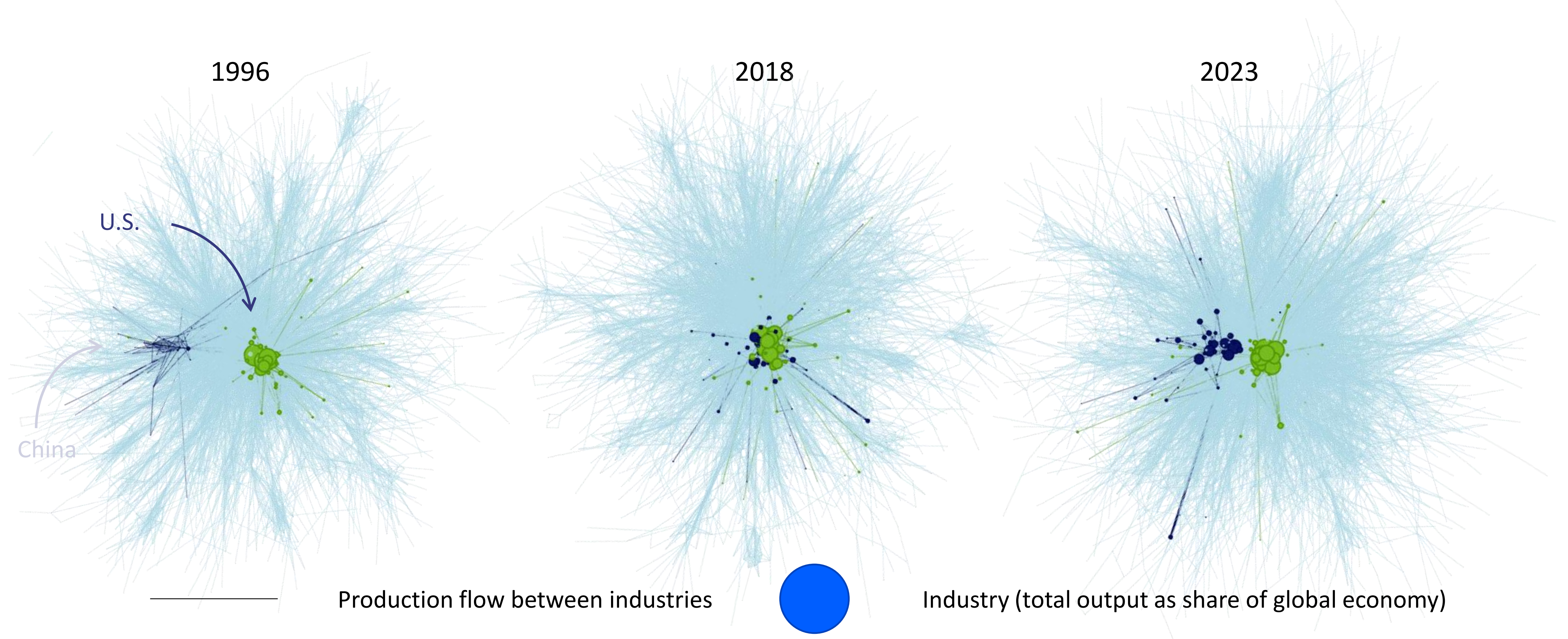
What's Behind the Recent Runup in 10-Year Treasury Yields?

Change in 10-year Treasury yield since mid-September, basis points



Sources: Federal Reserve, Moody's Analytics

U.S. and China Decouple and Tensions Intensify

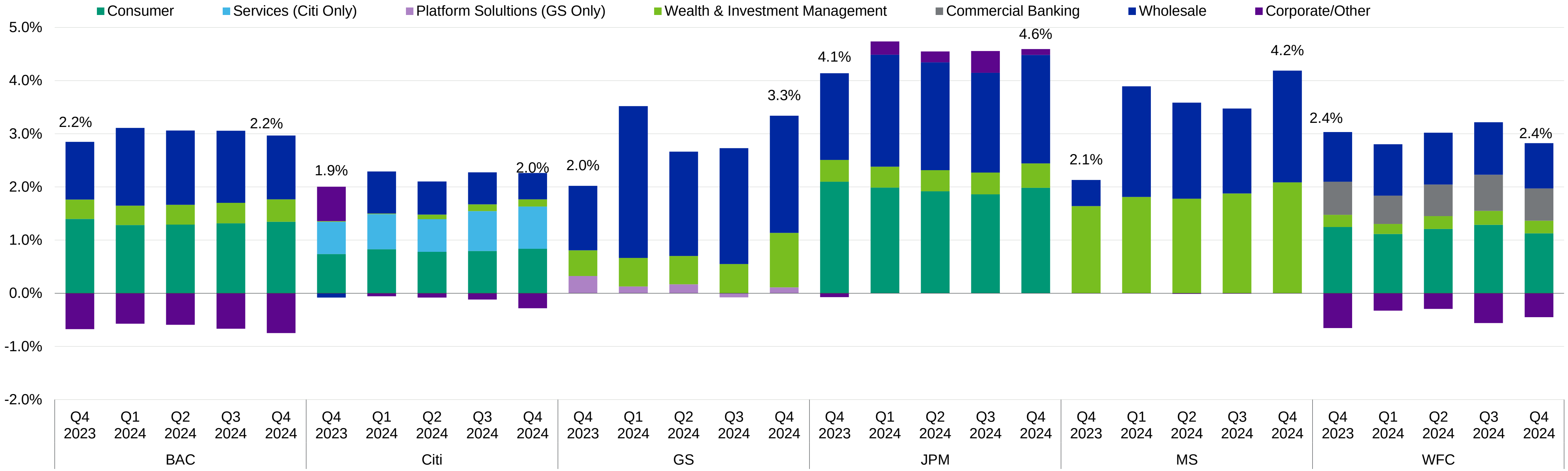


Sources: OECD, Moody's Analytics

US Global Investment and Universal Banks

Robust trading and investment banking activity drove the strong results at GS, JPM and MS

Annualized PPI by segment/group advanced approaches RWA

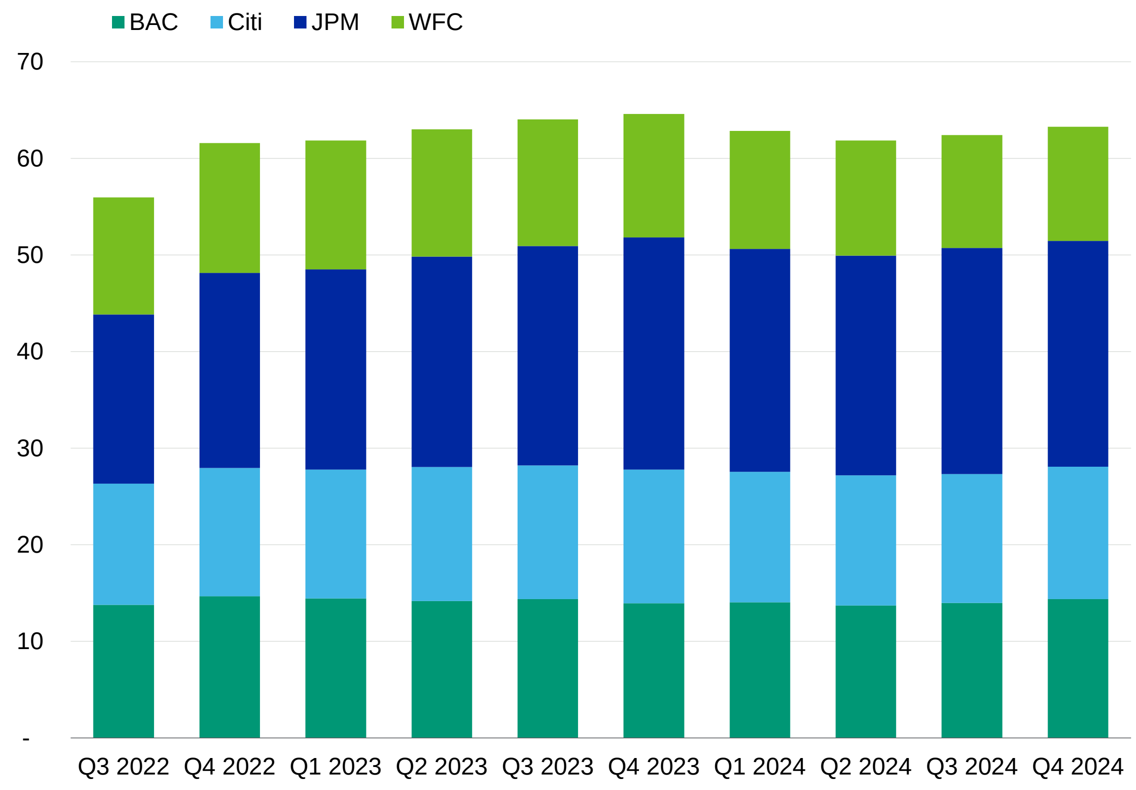


1) At the bottom of the stack are more stable consumer, wealth and services business that tend to act as “shock absorbers” for more volatile businesses, such as capital markets activities within wholesale segments. The composition of the wholesale segments (dark blue) varies across these firms, making the comparison less than ideal (for example, some of the activities that Citigroup puts in its Services segments are included in the wholesale segments at JPM and BAC). 2) Wholesale segment defined by issuer: JPM = Commercial and Investment Bank; MS = Institutional Securities; WFC = Corporate and Investment Banking; GS = Global Banking and Markets; BAC = Global Banking and Global Markets; Citi = Banking and Markets; 3) For BAC, Citi, JPM and WFC, results presented include tax-equivalent adjustments. 4) Data excludes any gains and expenses related to JPM's and Citi's Visa class B shares as well as any charges or credits related to the FDIC special assessment. 5) BAC Q4 2023 excludes pretax noninterest income charge of $1.6 billion as a result of the Bloomberg Short-Term Bank Yield Index (BSBY) cessation announcement. 6) Citi Q4 2023 excludes pretax charges of $3.0 billion related to reserve builds for Russia and Argentina exposure, Argentina currency devaluation and restructuring charges.

Source: Company reports, Moody's Ratings

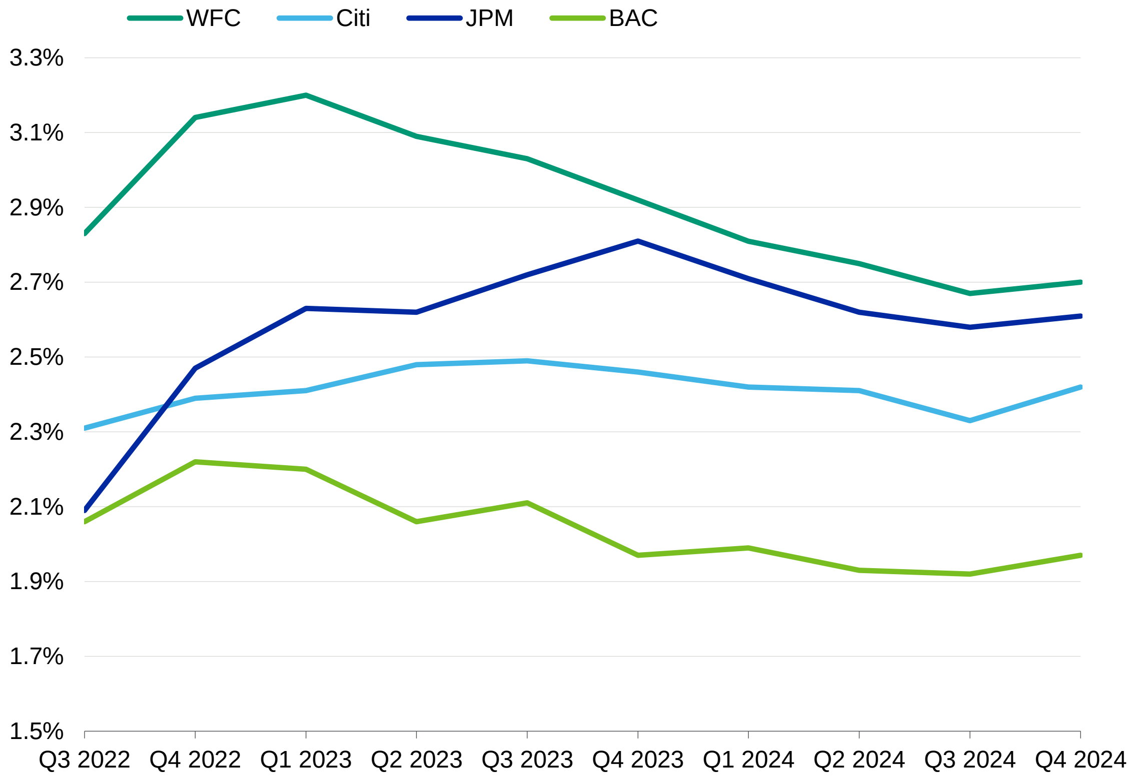
NII increased sequentially driven by modest loan growth and NIM expansion; expect NII to increase modestly in 2025

NII Q3 2022 - Q4 2024, $ billions



Source: Company reports, Moody's Ratings

NIM Q3 2022- Q4 2024



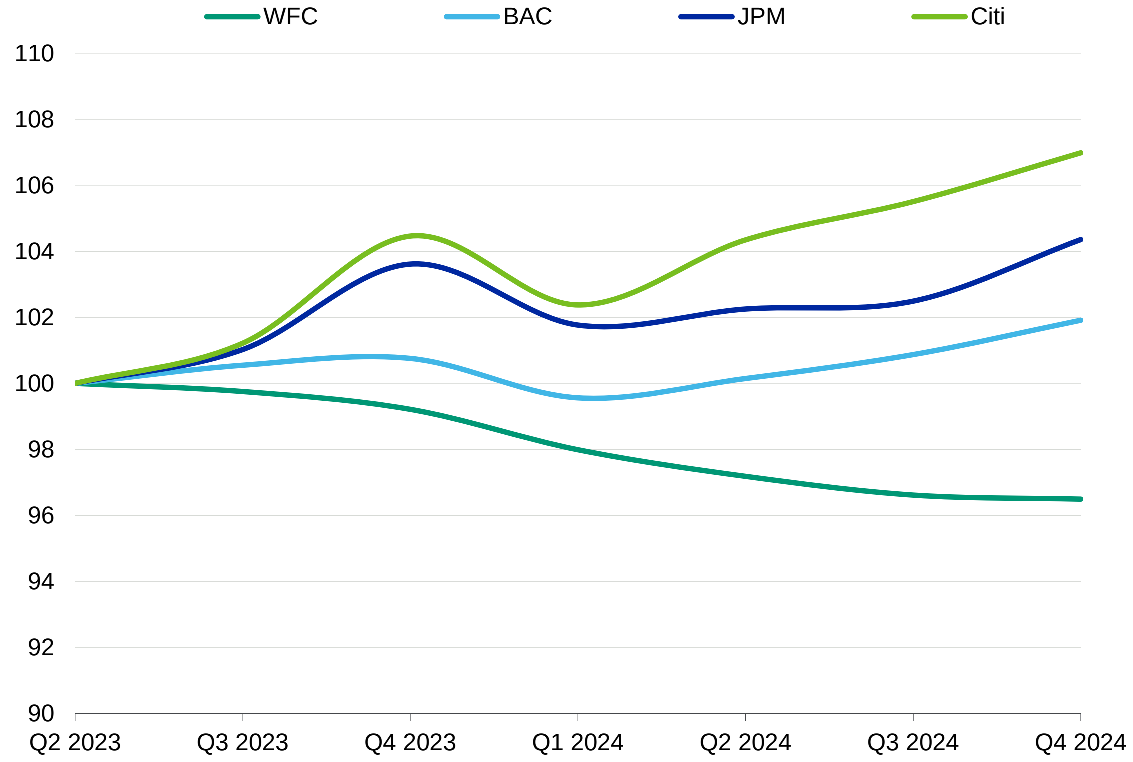
1) JPM's NIM excluding Markets was 3.79% in Q4 2024, 3.86% in Q3 2024 and 3.86% in Q4 2023. 2) BAC's net interest yield excluding Global Markets was 2.42% in Q4 2024, 2.40% in Q3 2024 and 2.47% in Q4 2023.

Source: Company reports, Moody's Ratings

Loan growth has been modest over the last year, but varies across banks and loan types

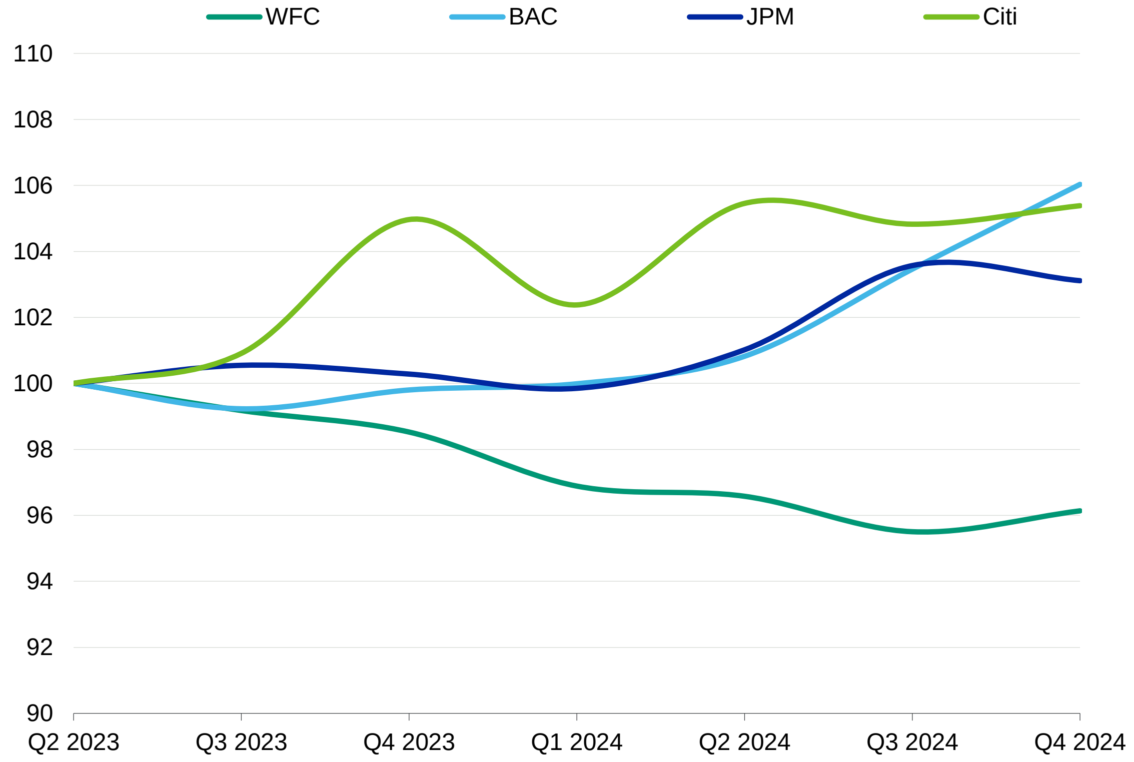
Citi has grown its consumer book the most...

All consumer loans including resi mortgages, indexed to Q2 2023



... but BAC inches ahead as the leader on corporate lending

Corporate loans, indexed to Q2 2023



Source: Company reports, Moody's Ratings

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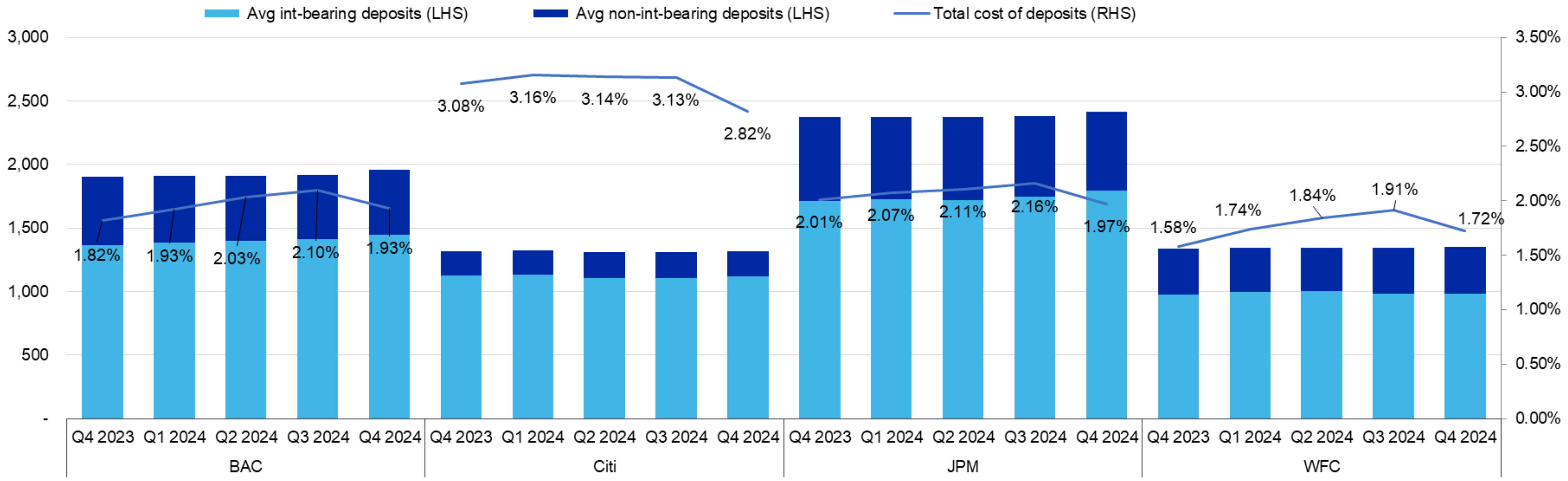
Deposit costs drop as large banks regain pricing power

Average interest-bearing deposits ($ billions), average non-interest-bearing deposits ($ billions) and total cost of deposits (%)

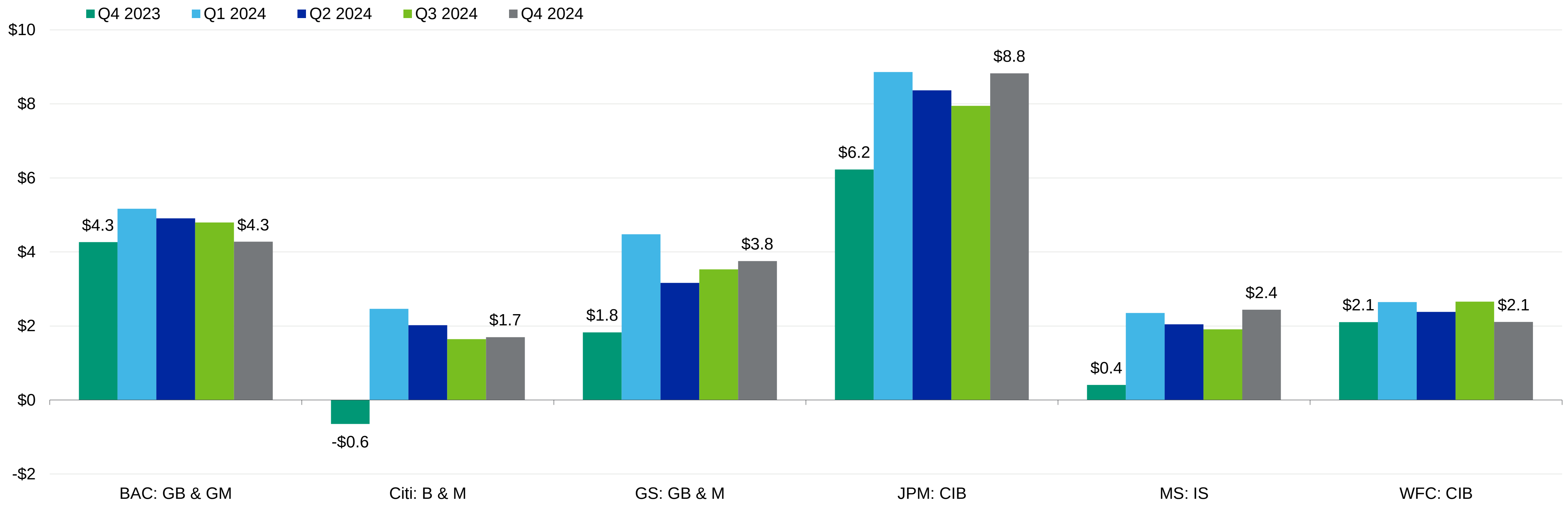


1) Aggregate rate paid on deposits is also a function of the mix of retail deposits (lower beta) versus wealth management and corporate deposits (higher betas). Each of the banks generates significant core deposits from its nationwide branch network and within their consumer, wealth and commercial banking franchises. 2) Citigroup's NII and NIM reflect the unique characteristics of its deposit business, driven by its international network. These deposits within its Services businesses have higher betas but are also sticky, particularly since multinational clients use Citigroup in many jurisdictions. Again, Citi's higher deposit costs reflect the different business mix of its deposits with a smaller US retail deposit base as a percentage of total deposits.

Source: Company reports, Moody's Ratings

Wholesale segment performance up materially at Citi, GS, JPM and MS

Pretax earnings for wholesale segments, $ billions

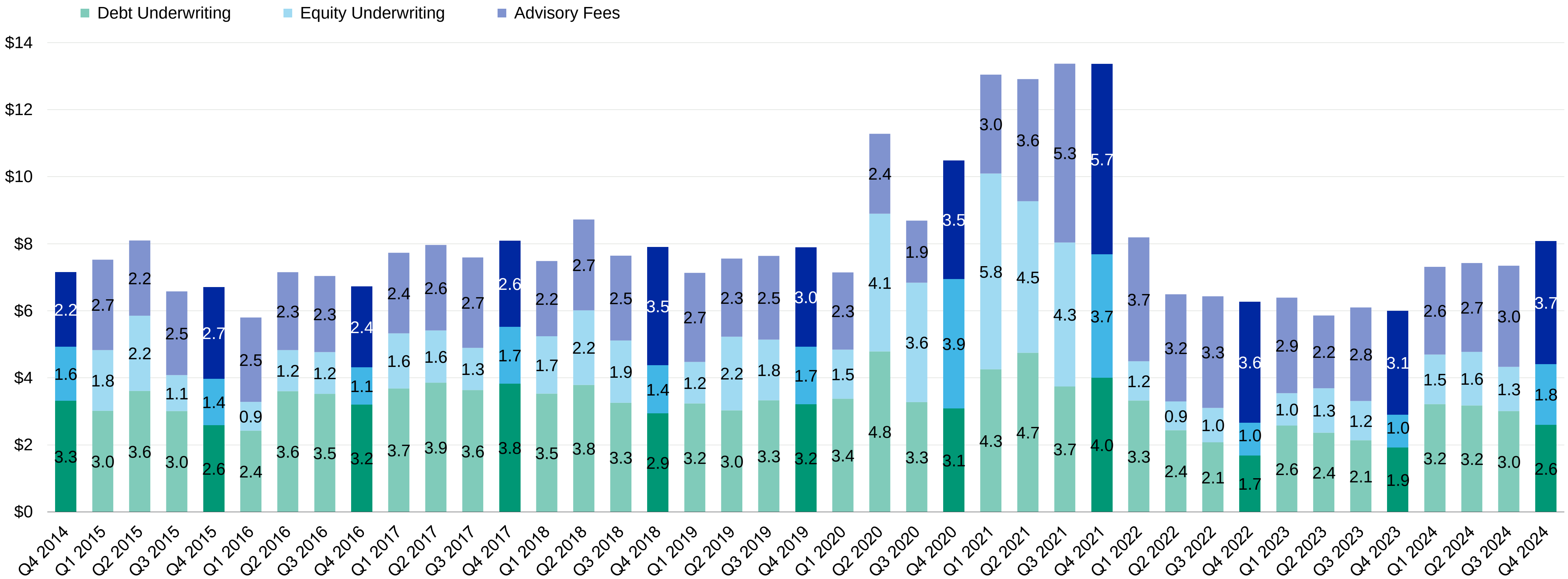


1) The extensive capital markets franchises of these six banks distinguish them from the broader US banking sector, presenting both a more differentiated earnings stream as well as more complex risk management challenges. Further, the business mix within wholesale banking segments varies among the six banks, with each having a different proportion of investment banking, trading and transaction services revenue. 2) Wholesale segment defined by issuer: JPM = Commercial and Investment Bank; BAC = Global Banking and Global Markets; GS = Global Banking and Markets; WFC = Corporate and Investment Banking; MS = Institutional Securities; Citi = Banking and Markets.

Source: Company reports, Moody's Ratings

Very strong level of Q4 investment banking fees only surpassed by '20 and '21

Quarterly investment banking revenue by business line, $ billions

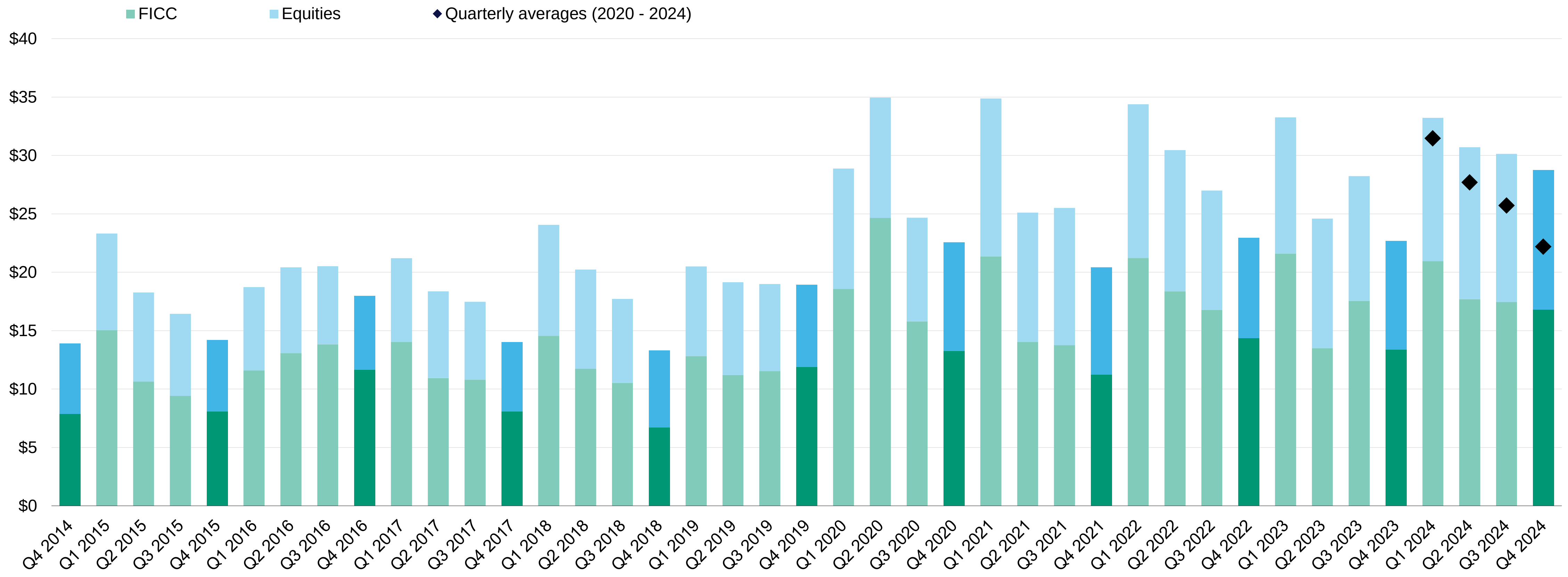


The bars show the aggregate quarterly investment banking revenue for BAC, Citi, GS, JPM and MS

Source: Company reports, Moody's Ratings

Record fourth quarter trading revenue

Quarterly secondary capital markets revenue by asset class, $ billions

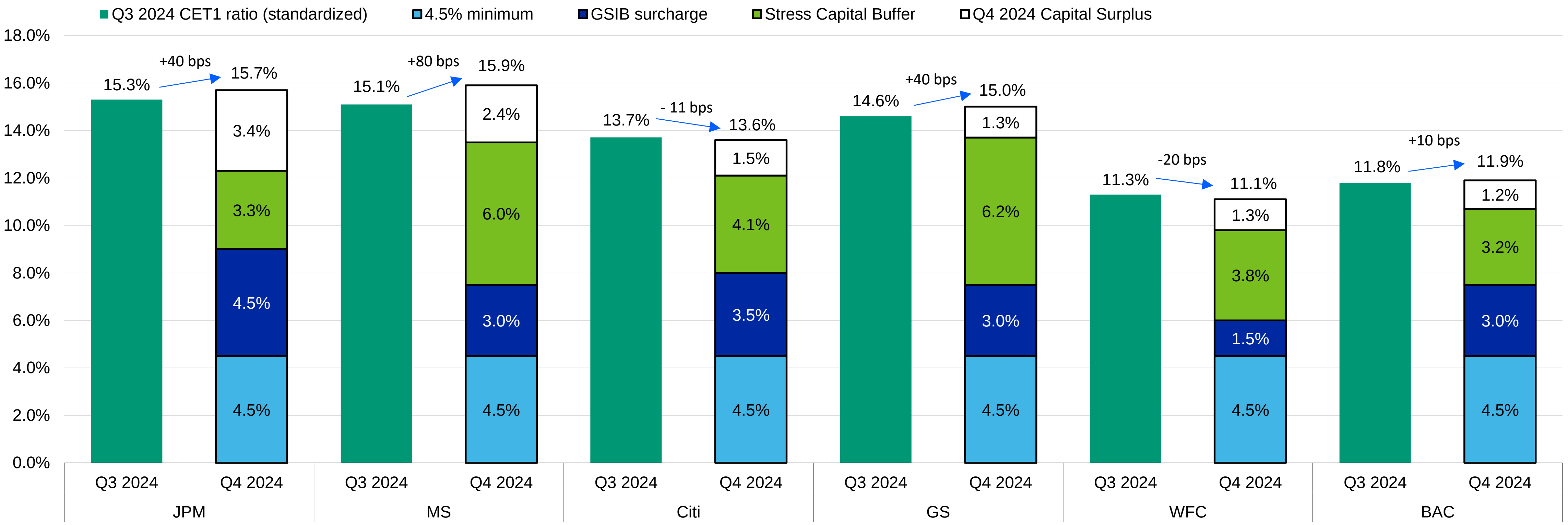


The bars show the aggregate quarterly trading revenue for BAC, Citi, GS, JPM and MS. WFC's trading revenue is also included from Q4 2019 to Q4 2024.

Source: Company reports, Moody's Ratings

Large bank capital levels remain favorable; however, potential regulatory changes could result in banks electing to decrease their capital ratios

CET1 ratio versus CET1 requirement (standardized approach), sorted by magnitude of surplus over requirement



Source: Company reports, Moody's Ratings

US Regional Banks

Slower rate cut pace will help earnings, but higher long-term rates could weaken asset quality

- After cutting fed funds by 100 bps, the Fed recently paused, indicating a slower glide path towards lower short-term rates.
- Net interest income will be aided by deposit costs that adjust more in line with falling asset yields, and by the return of an upward sloping yield curve.
- For asset risk, higher rates limit marginal borrowers' ability to refinance debt and constrains collateral values, particularly CRE.
- For capital, higher long-term rates increase unrealized securities losses, but heightened rate volatility could encourage a more conservative capital posture.

Source: Moody's Ratings

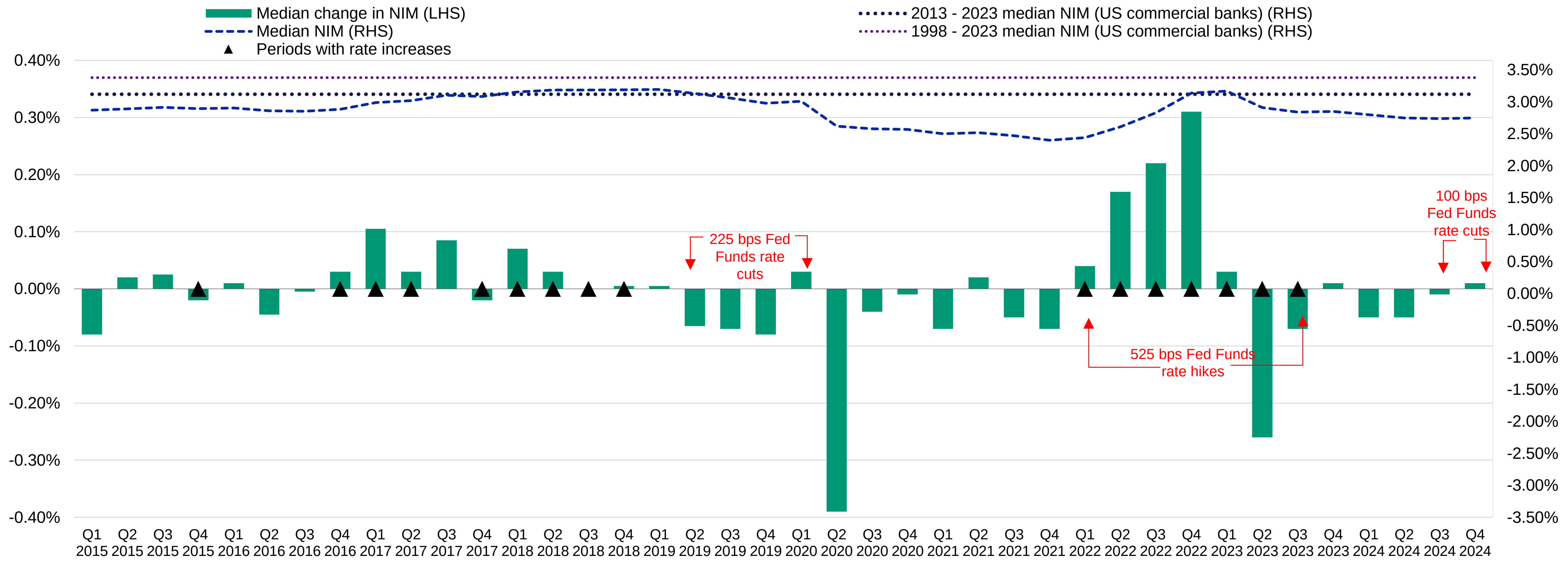
	Slower pace of short term rate cuts	Sustained higher long-term rates with upward sloping yield curve
Asset Risk	Neutral	Unfavorable
Capital*	Neutral	Unfavorable
Profitability	Favorable	Favorable
Funding Structure	Neutral	Neutral
Liquid Resources	Neutral	Neutral

*Although US banks' regulatory common equity Tier 1 ratio (CET1) is not affected by fluctuations in unrealized losses (except for the nine Category I and II firms), their economic capital is improved with lower unrealized losses and weakened with higher unrealized losses

Source: Moody's Ratings

Median NIM was little changed in Q4 2024 as banks took action to offset their natural asset sensitivity; loan growth and rising long-term rates also helped

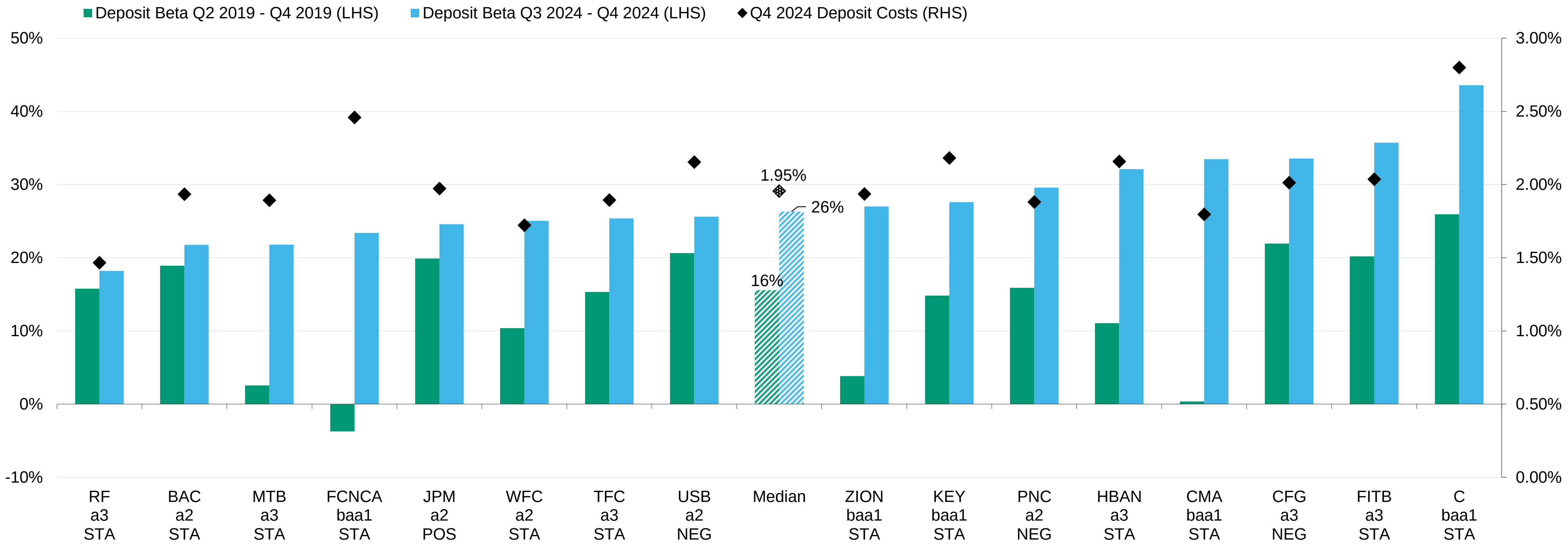
Quarterly change in banks' median net interest margin, Q1 2015 – Q4 2024



1) The blue dashed line represents the median net interest margin of the following banks: BAC, BK, C, CFG, CMA, FCNCA, FITB, HBAN, JPM, KEY, MTB, NTRS, PNC, RF, STI, STT, TFC, USB, WFC, and ZION. From Q1 2015 – Q3 2019, the peer group included BBT and STI, but not TFC. 2) The black dotted line represents the median net interest margin of aggregate US commercial banks from 2013 – 2023. 3) The purple dotted line represents the median net interest margin of aggregate US commercial banks from 1998 – 2023.
Source: Company reports, US Federal Reserve, Moody's Ratings

Banks have been more disciplined about repricing their deposit bases when compared with the last rate cutting cycle

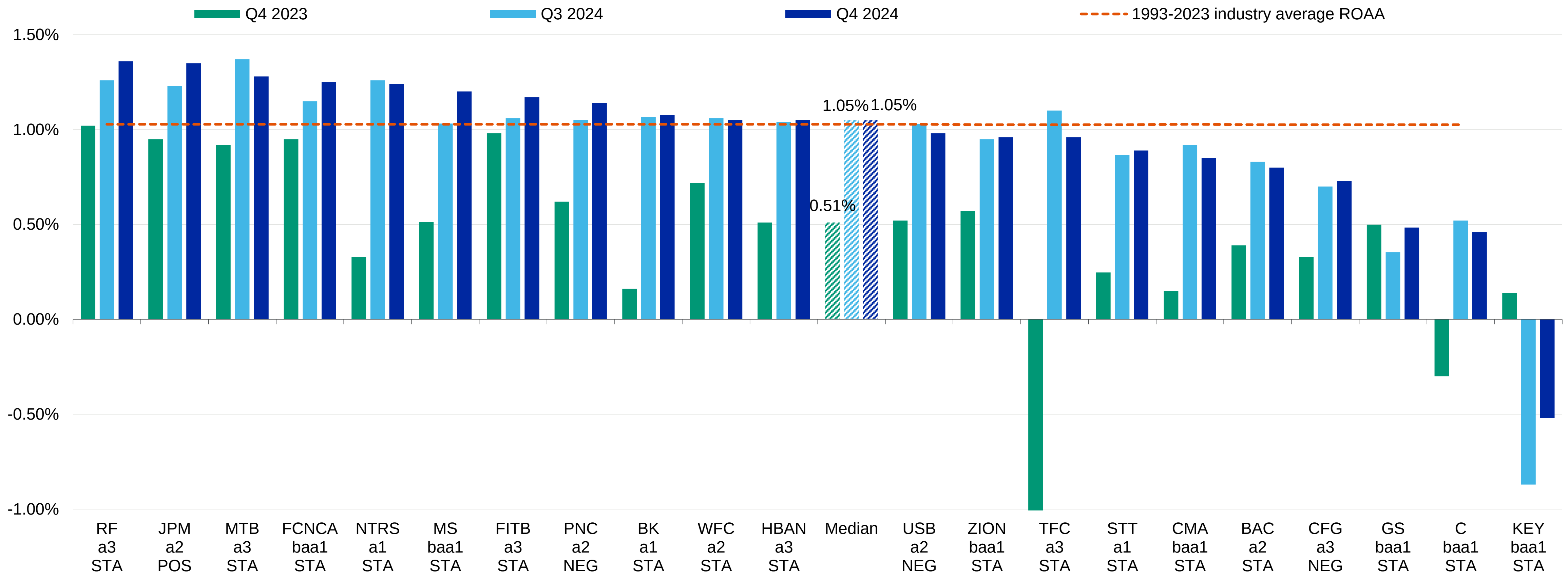
Deposit beta, Q2 2019 – Q4 2019 and Q3 2024 – Q4 2024; cost of deposits Q4 2024



1) The x-axis labels include the lead banks' BCAs. 2) The Q2 2019 to Q4 2019 deposit beta represents each bank's change in deposit costs over the time period divided by the 75 bps decline in the Federal Funds rate during the same time period. The deposit beta from Q3 2024 to Q4 2024 represents each bank's change in deposit costs over the quarter divided by the 75 bps in rate cuts from September 2024 to November 2024.
Source: Company reports, Moody's Ratings

Profitability was relatively stable in the fourth quarter

Reported return on average assets, Q4 2023, Q3 2024, and Q4 2024



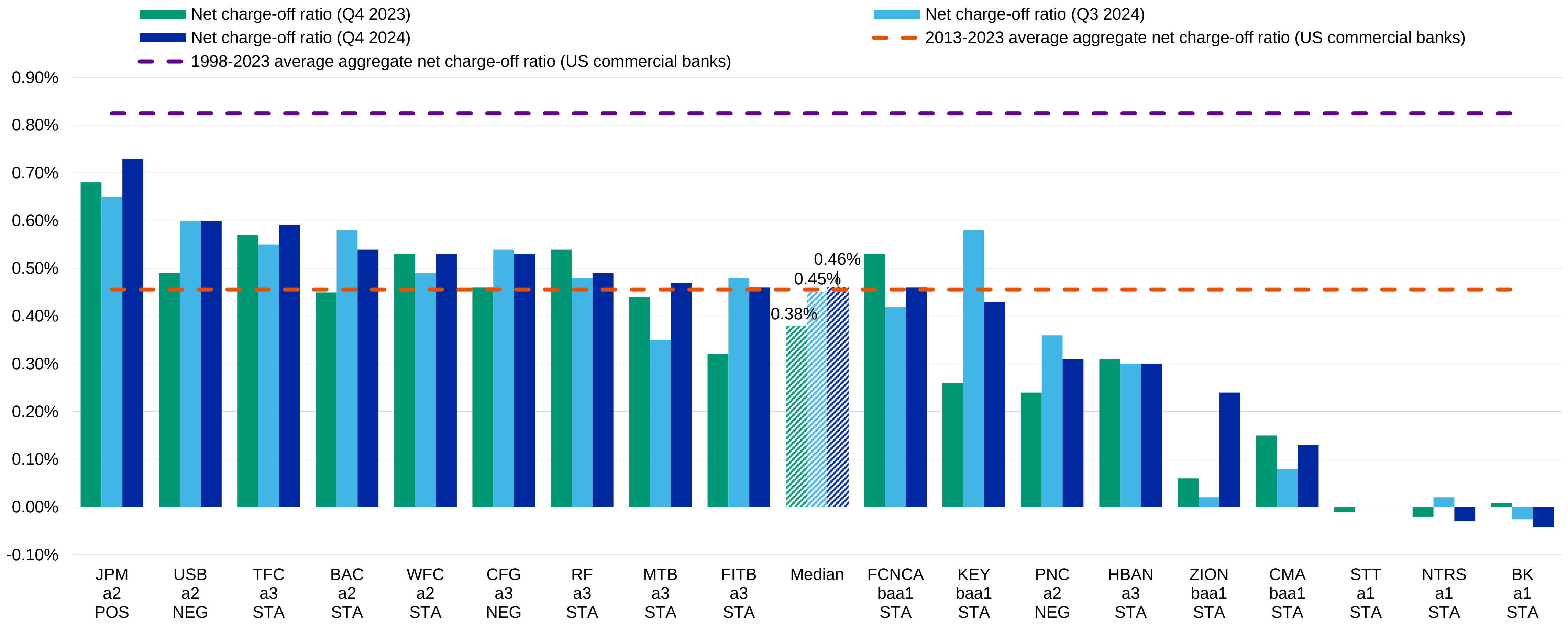
The x-axis labels include the lead banks' BCAs

Included banks: NTRS = Northern Trust Corporation, JPM = JPMorgan Chase & Co., FCNCA = First Citizens BancShares, Inc., RF = Regions Financial Corporation, MTB = M&T Bank Corporation, FITB = Fifth Third Bancorp, BK = Bank of New York Mellon Corporation, PNC = PNC Financial Services Group, Inc., CMA = Comerica Incorporated, WFC = Wells Fargo & Company, MS = Morgan Stanley, HBAN = Huntington Bancshares Incorporated, USB = U.S. Bancorp, ZION = Zions Bancorporation, N.A., STT = State Street Corporation, BAC = Bank of America Corporation, CFG = Citizens Financial Group, Inc., TFC = Truist Financial Corporation, KEY = KeyCorp, C = Citigroup Inc., GS = Goldman Sachs Group, Inc.

Source: Company reports, Moody's Ratings

Net charge-offs continued to rise modestly, reaching 10-year long-term average

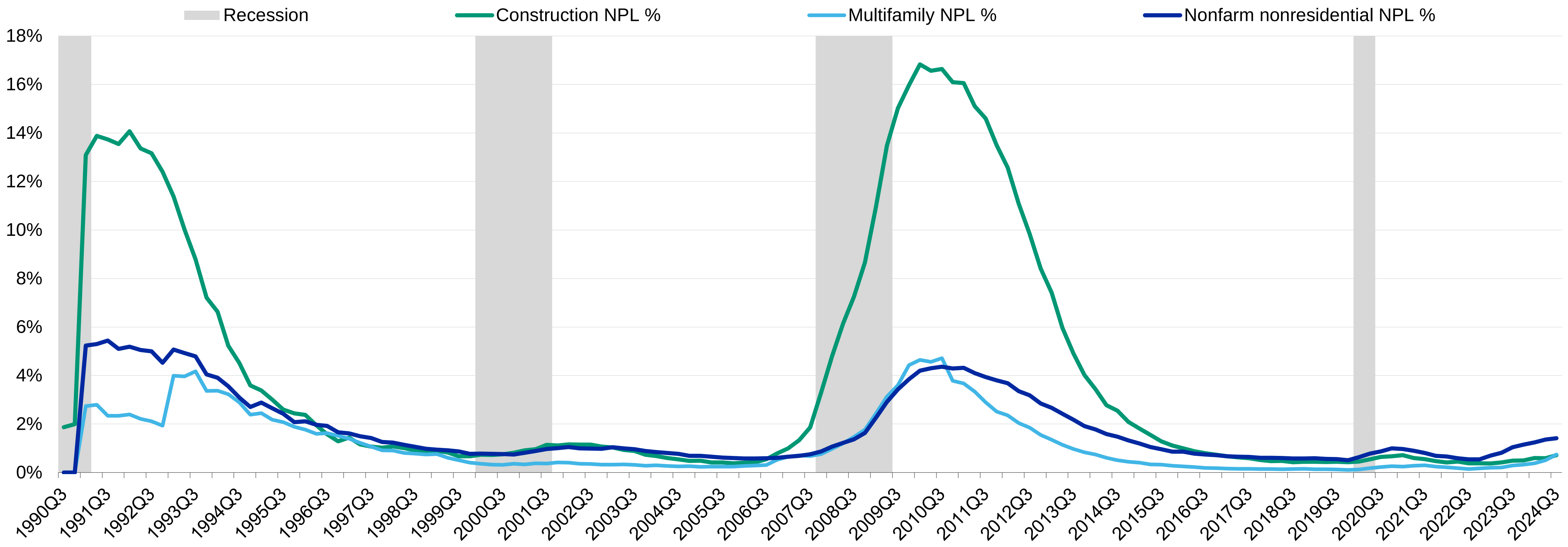
Net charge-offs % gross loans, Q4 2023, Q3 2024, and Q4 2024



The x-axis labels include the lead banks' BCAs
Source: Company reports, Moody's Ratings

CRE asset quality is deteriorating largely driven by the office sector; refinancing could be challenging

CRE asset quality indicators: NPLs, Q3 1990 – Q3 2024



Source: FDIC Statistics on Depository Institutions, CBRE, Moody's Ratings

Banks' forward-looking perspectives on capital and M&A

Capital

- Banks generally optimistic about the regulatory environment.
- However, banks generally guided to stability in their capital ratios for the time being.
- Nonetheless there was a broad-based openness to increase buybacks.

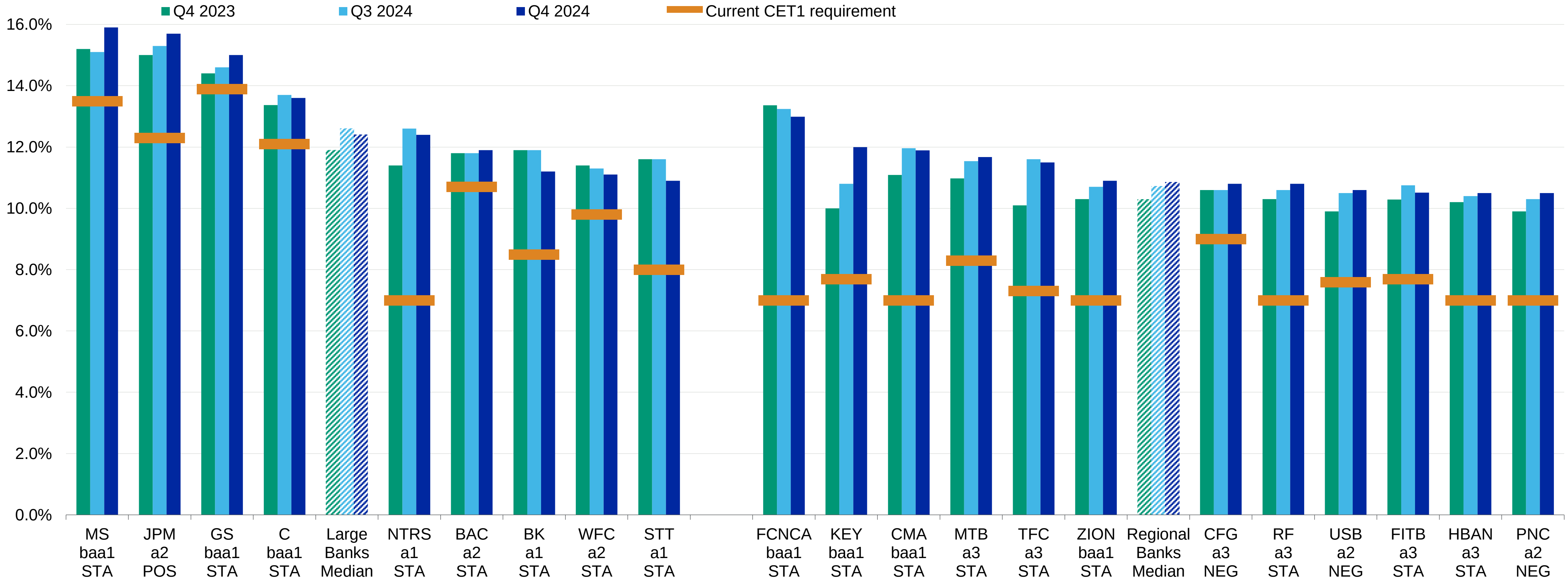
M&A

- Banks believe there will be an uptick in bank M&A, but not imminently.
- Smaller regional banks were more optimistic about an uptick in bank M&A in the near term.
- Banks expect corporate M&A activity to pick up, which would boost capital markets and investment banking.

Source: Company reports, Moody's Ratings

Capital has peaked for most, declines unlikely amid uncertainty

Common Equity Tier 1 capital ratio (standardized approach), Q4 2023, Q3 2024, and Q4 2024

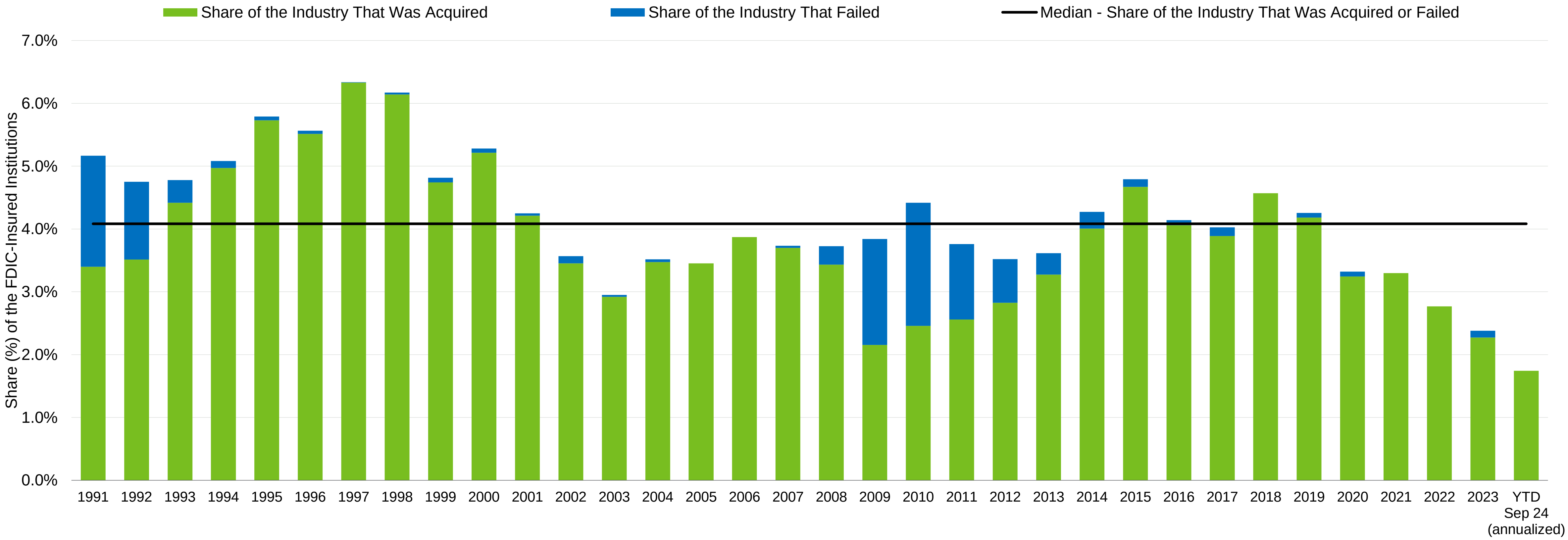


1) The x-axis labels include the lead banks' BCAs and outlooks as of January 15th. 2) The CET1 ratios for all banks were derived using the U.S. Basel III standardized framework. 3) The CET1 capital requirements are based on the Federal Reserve Large Bank Capital Requirements as of 1 Oct 2024. The requirement 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 Ratings

Median consolidation (M&A + failures) has been ~4% of US banks annually, but failures come in waves

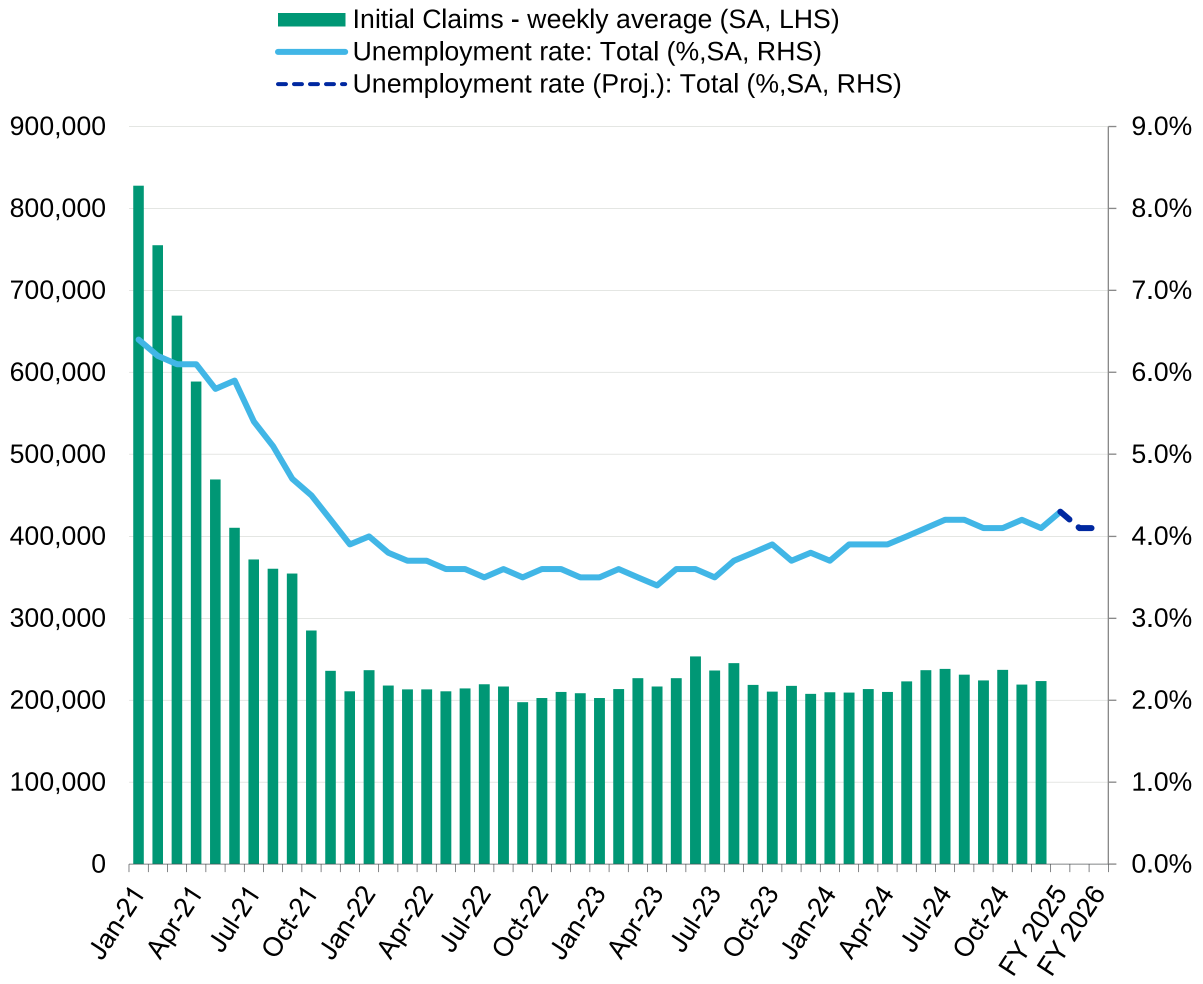
Share of the FDIC-Insured Institutions that were acquired or failed, 1991 - YTD September 2024 (annualized)

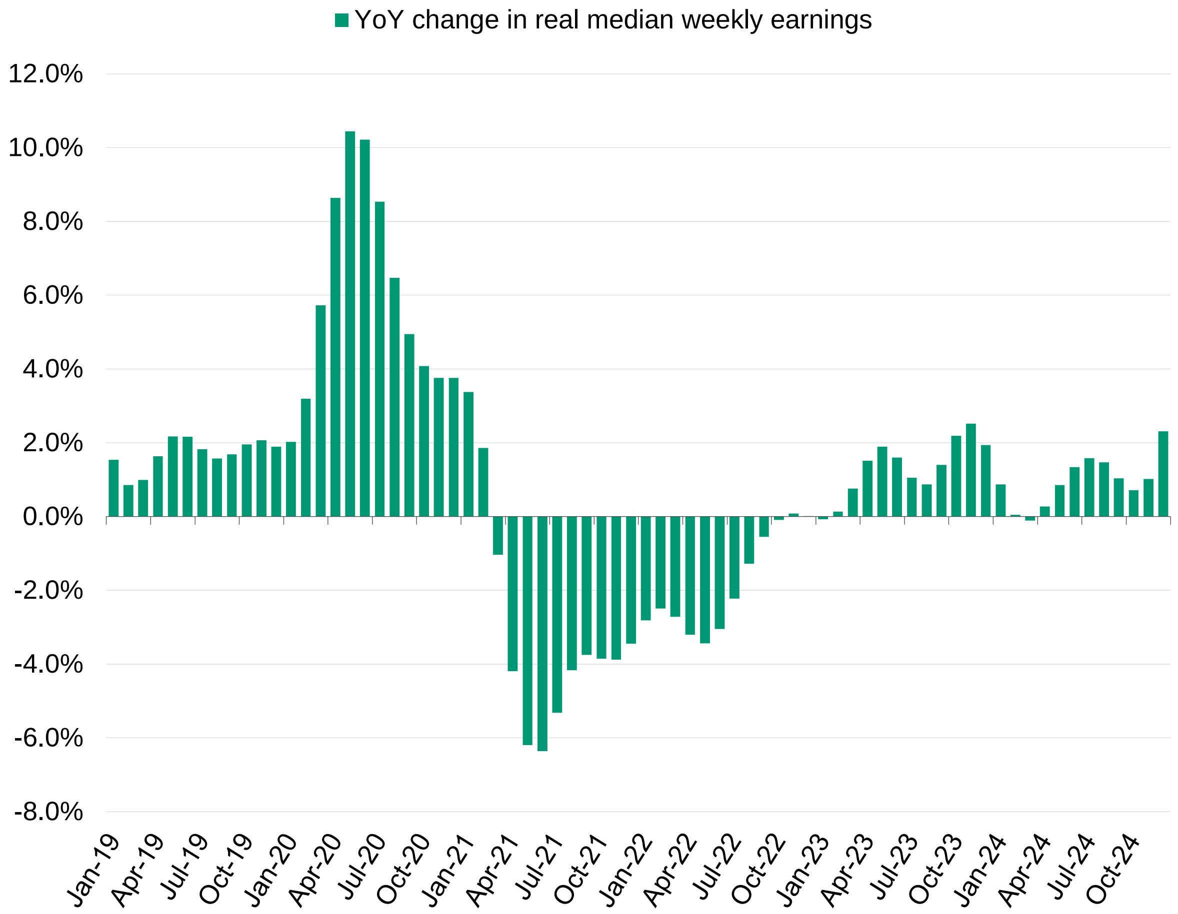


1) The share of the industry data is based on the number of FDIC-insured institutions. 2) Chart excludes new industry entrants, though there have been few since the 2008/2009 financial crisis.
Source: FDIC, Moody's Ratings

US Consumer

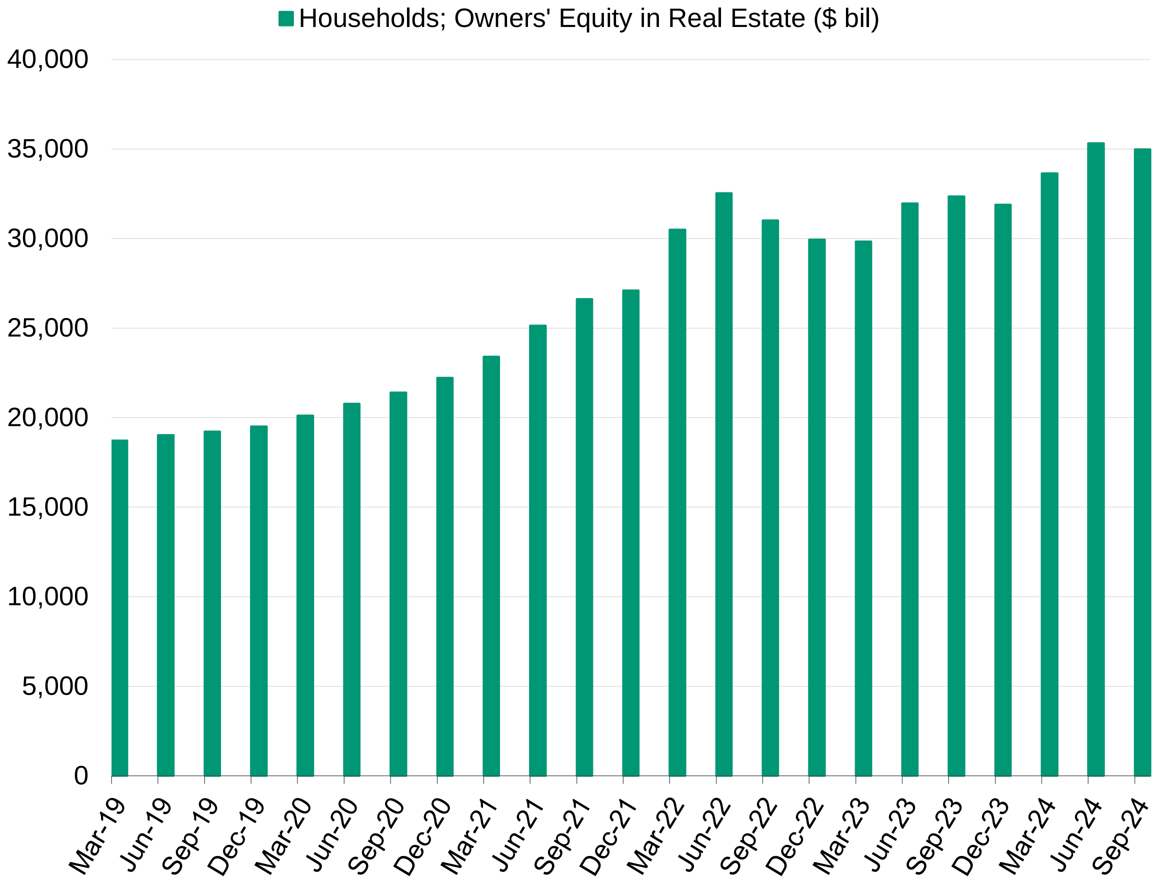
Low layoffs and real wage growth continue to support US consumers

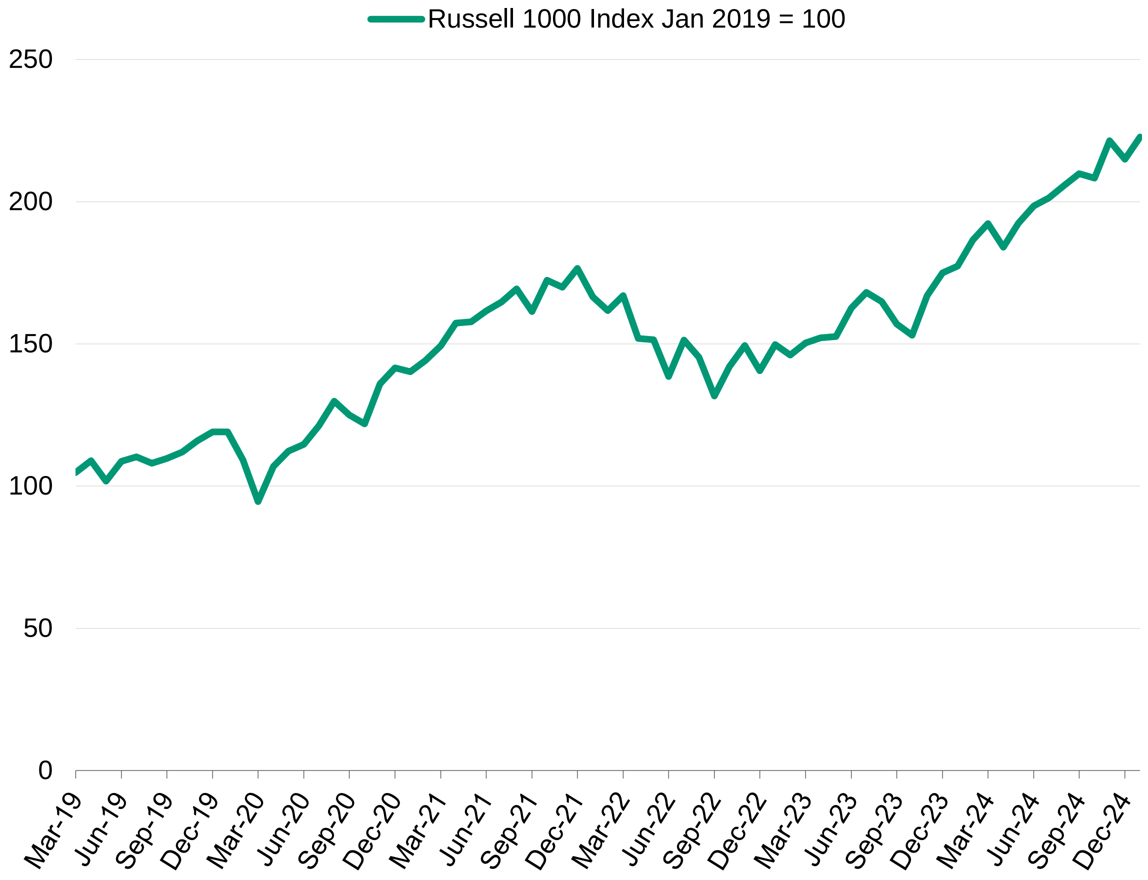




Source: U.S. Bureau of Labor Statistics, Moody's Ratings

Wealth effects from stocks and home appreciation have provided a tailwind to consumers, but a significant correction would likely weigh on spending

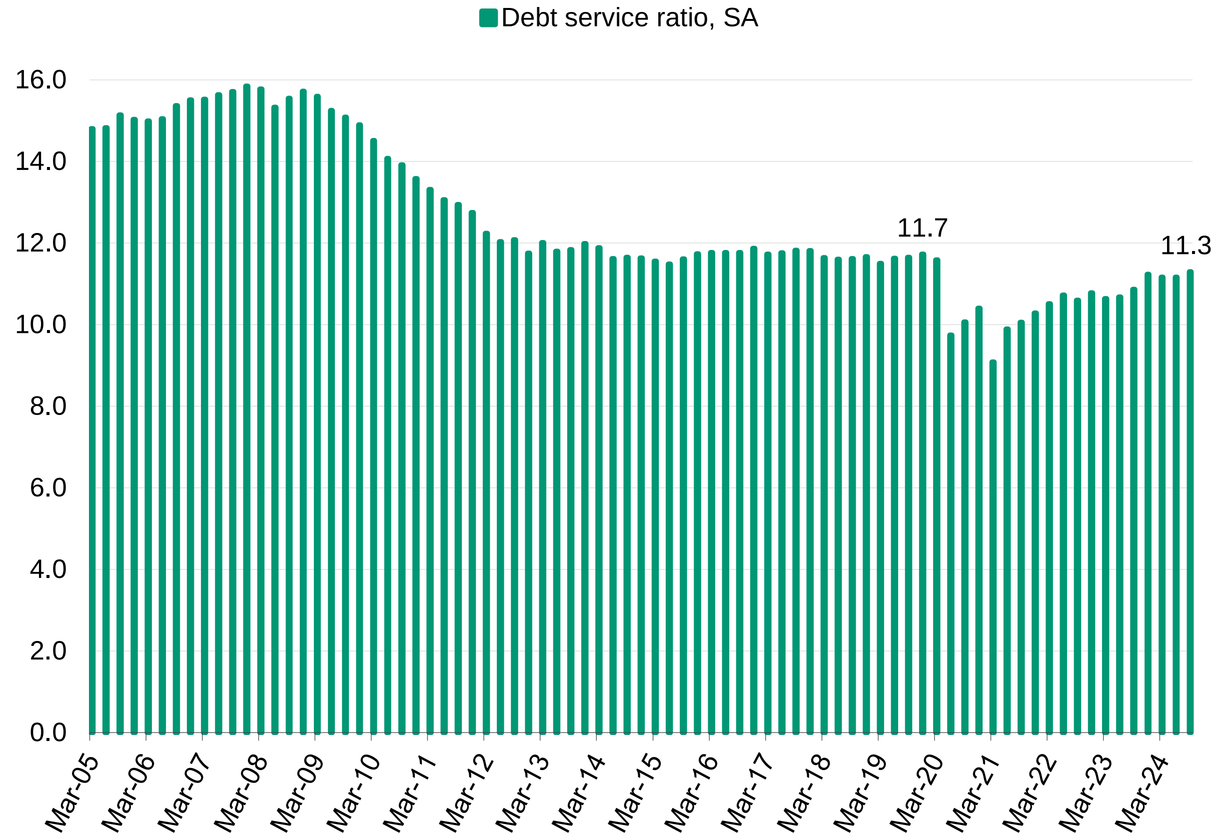


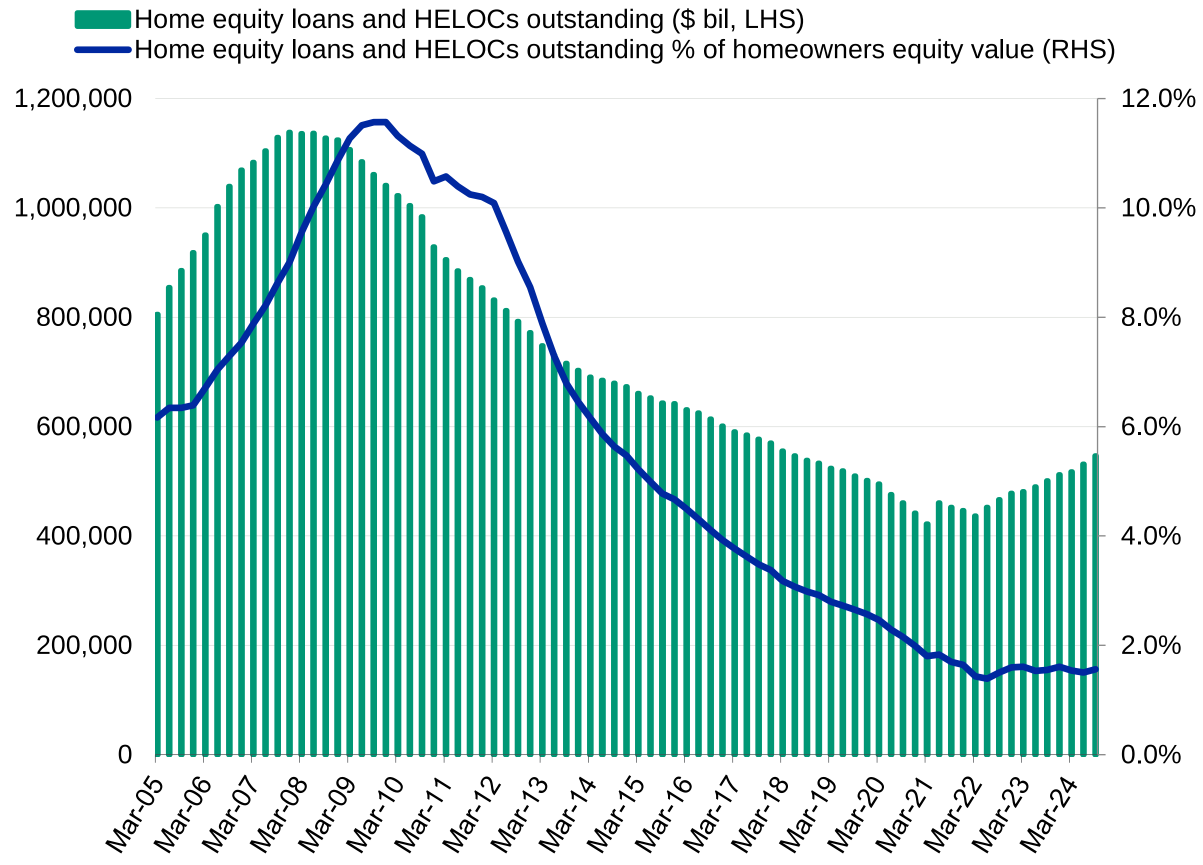


Source: Board of Governors of the Federal Reserve System (US), Federal Reserve Bank of St. Louis, FactSet, and Moody's Ratings

Household debt service remains well contained despite higher interest rates

Homeowners have increased usage of home equity lines, but utilization of equity remains low

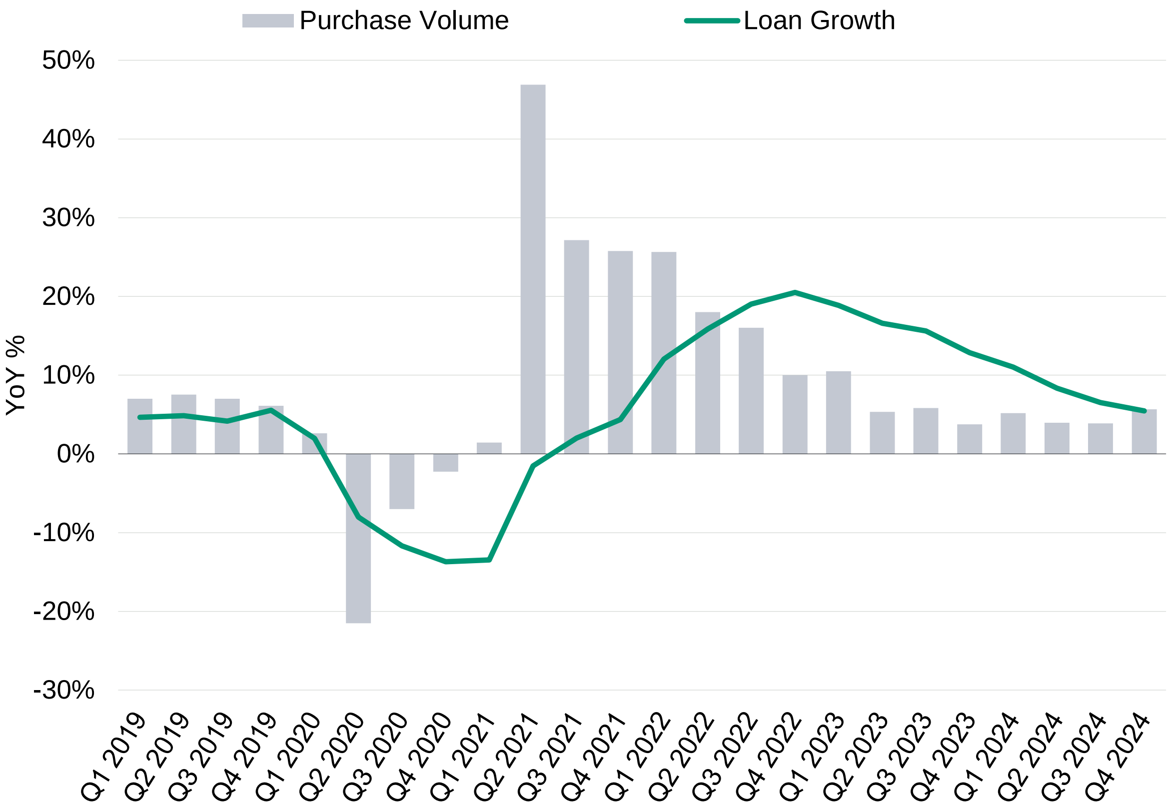


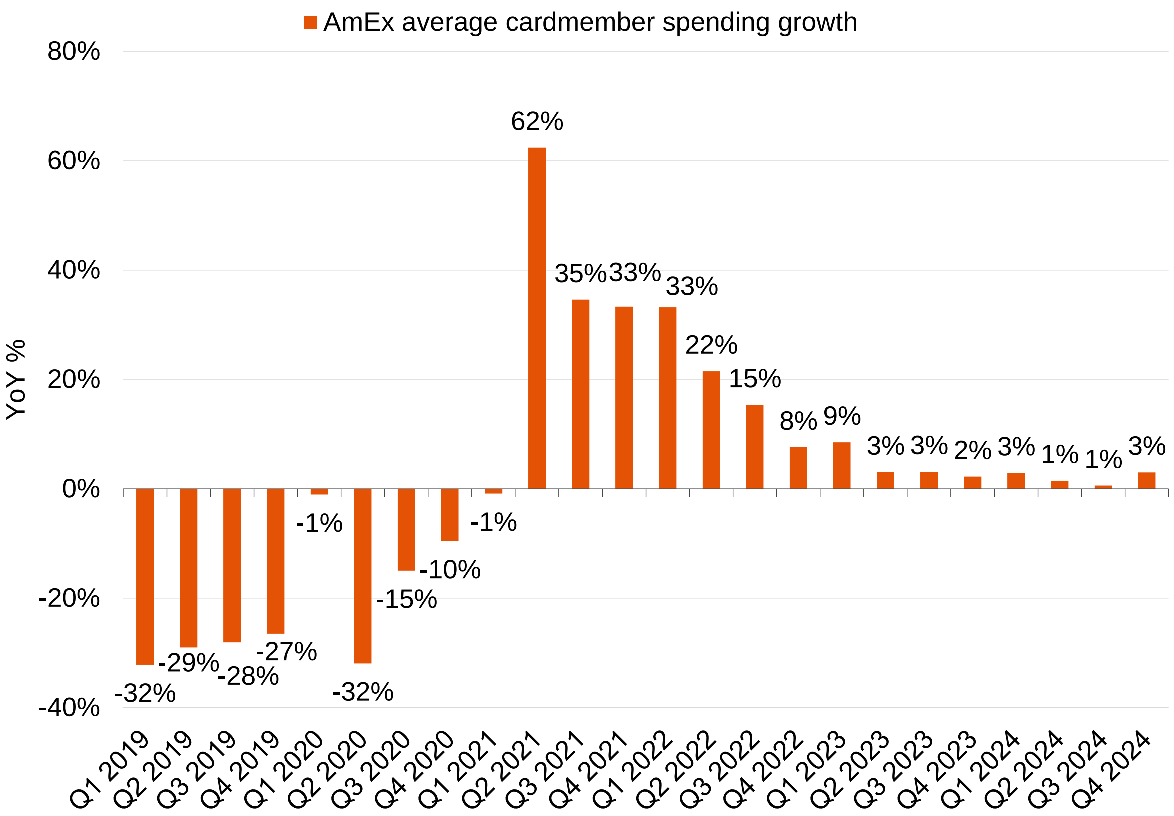


Source: Board of Governors of the Federal Reserve System (US), Federal Reserve Bank of St. Louis, and Z.1 Flow of Funds

Credit card purchase volume ticked up in 4Q after moderating for several quarters

Mass affluent consumers have constrained spending following post-pandemic surge



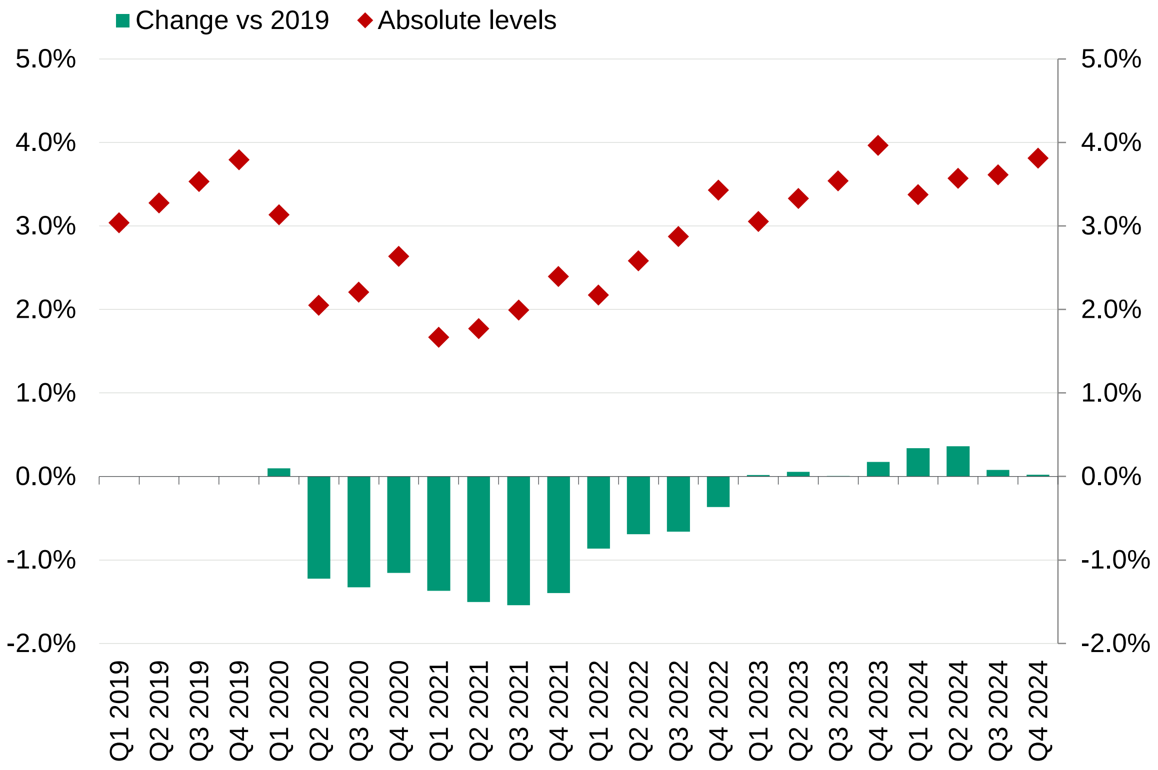


Note: Median calculation includes data from American Express Company, Capital One Financial Corporation, Discover Financial Services, JPMorgan Chase & Co., Citigroup, Inc., Bank of America Corporation, Synchrony Financial, and Wells Fargo & Company
Source: Company Filings, Moody's Ratings

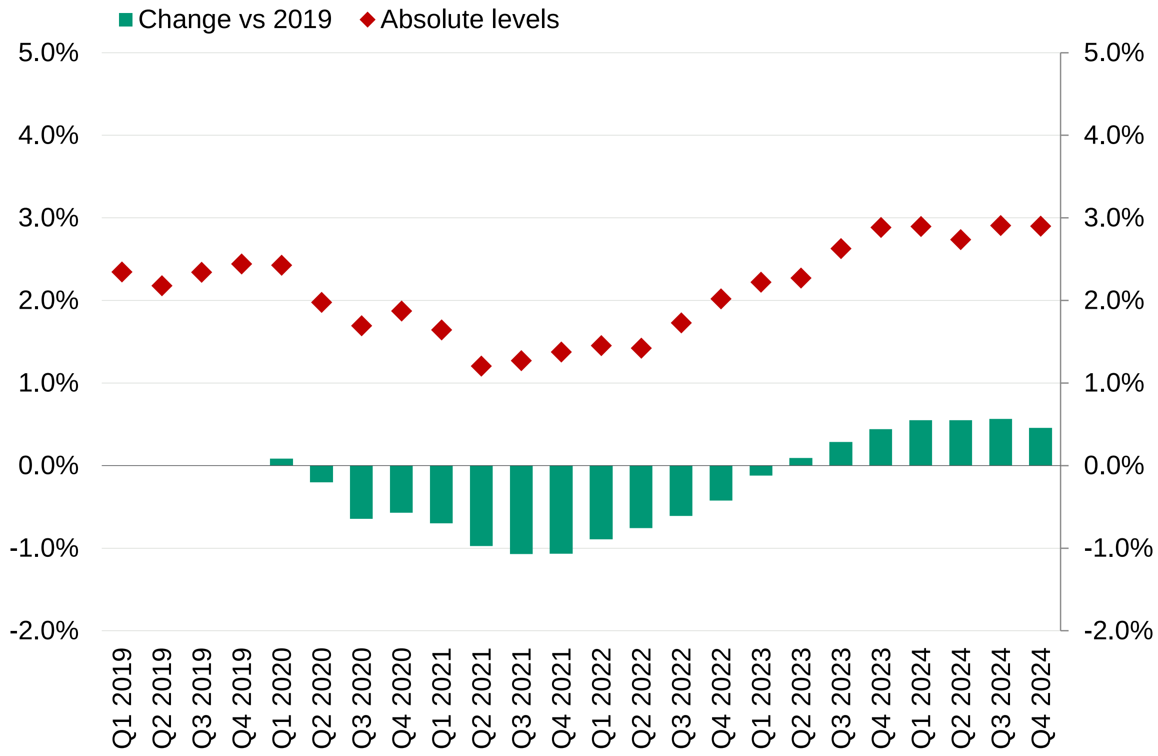
Note: AmEx average cardmember spending includes data from AmEx's US Consumer Services segment

Auto Loan and credit card delinquencies have plateaued, which should lead to moderating loan loss provisions and reserve coverage

Auto loans 30+ day delinquency averages for large lenders



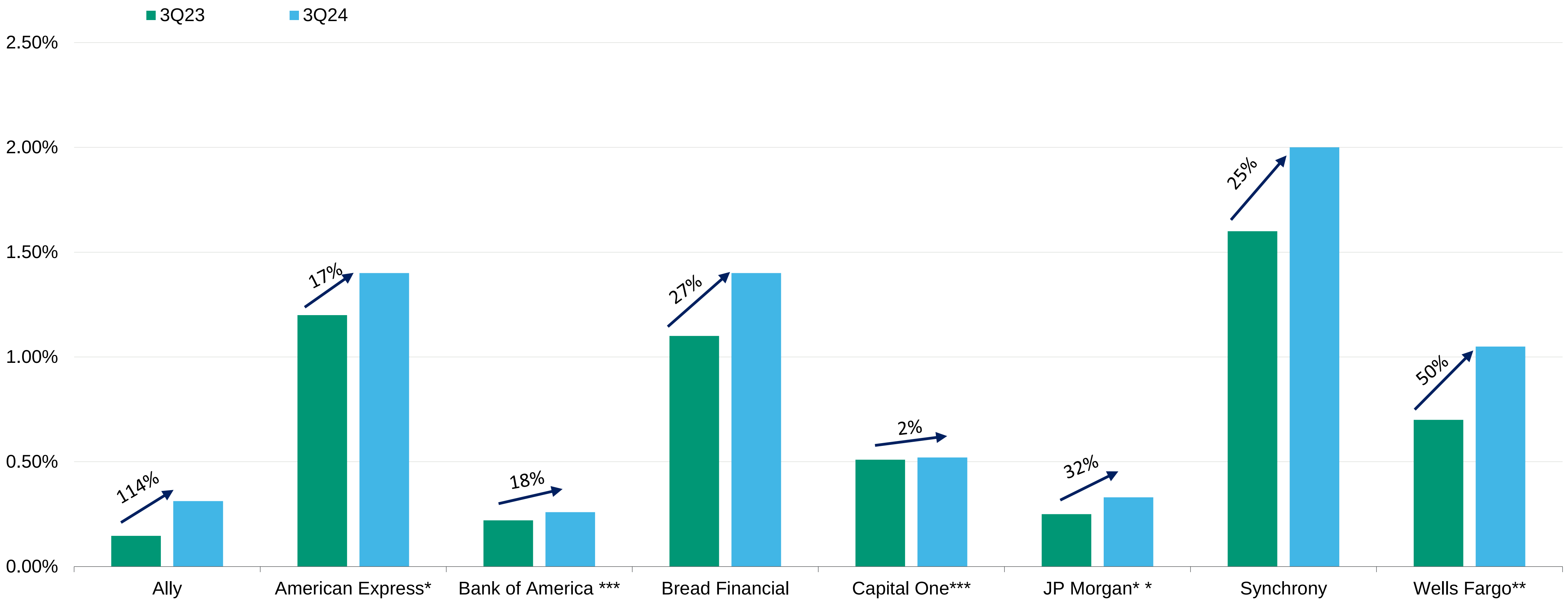
Credit card 30+ day delinquency averages for large lenders



1) The averages are calculated for the largest US retail banks. 2) For auto, it includes Ally Financial Inc., Capital One Financial Corporation, JPMorgan Chase & Co. and Wells Fargo & Company. For credit card, it includes American Express Company, Bank of America Corporation, Capital One Financial Corporation, Discover Financial Services and JPMorgan Chase & Co. 3) The bars represent the change compared with the same period in 2019.
Source: Company reports, Moody's Ratings

Growth in consumer loan modifications suggest that pockets of weakness still linger for certain borrowers

Consumer loan modifications % gross consumer loans



Note: Loan modifications % gross consumer loans calculation is an estimation using company reported financials ; * Excludes small business, corporate, and charge cards ; ** Credit card only ; *** Credit card and other non-mortgage consumer loans
Source: SEC Filings, Moody's Ratings

Thank you

Quarterly update on US banks - Q42024

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