The IRA Bank Book
Q4 2022 Industry Outlook

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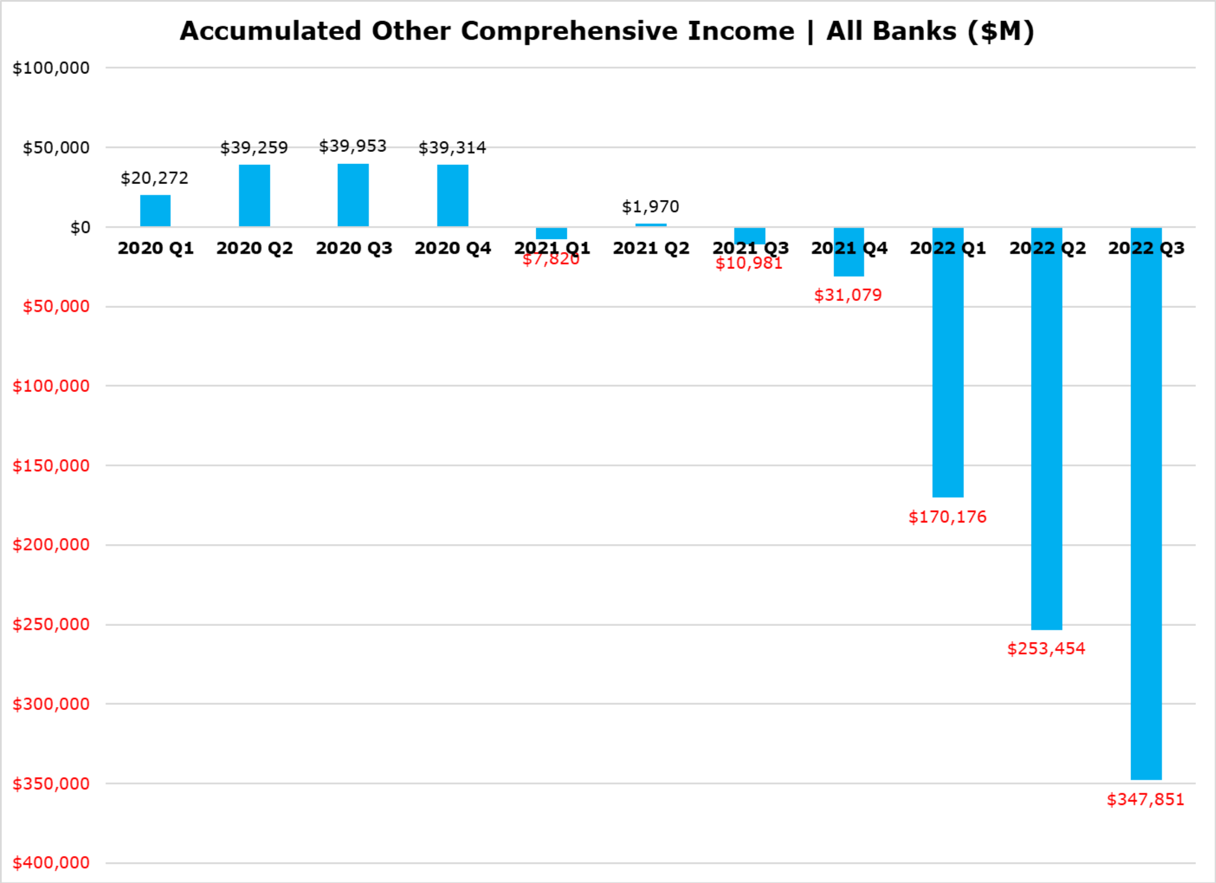
Rising Yields & Wider Spreads

- Investors continue to search in vain for evidence that equity market valuations for financials have bottomed. We believe growing awareness of market losses embedded on the balance sheets of banks will temper enthusiasm for financials. As we note below, rising interest rates have historically hurt bank book value and today more than ever.
- Two names: **Raymond James Financial (RJF)** and **UBS Group (UBS)** are actually up for the year among our bank surveillance group. **JPMorgan (JPM)** is down 17% YTD and currently trading at 1.6x nominal market value. As we note below, the tangible M2M book value of most banks is negative because of interest rate hikes by the FOMC and resulting asset impairments.
- The big area of danger for the banking industry continues to be market risk generated by rising interest rates. In the past nine months, once minor measures such as AOCI became so large and so financially significant that market risk is effectively becoming outsized credit risk that threatens the solvency of banks and nonbanks alike.

QT: Unrealized Losses Rise 40% Q/Q

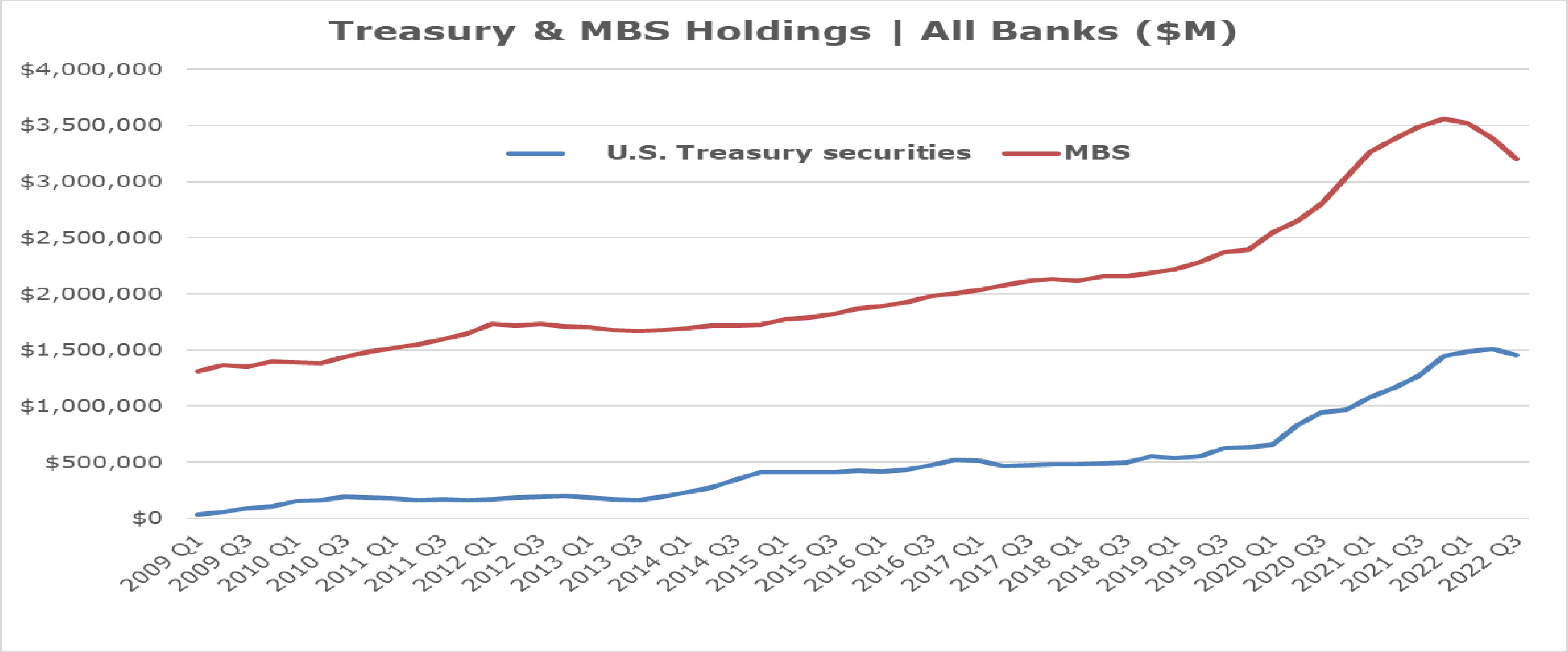
Rising interest rates caused accumulated other comprehensive income (AOCI) for the US banking industry to rise almost 40% in Q3 2022 to $347 billion or roughly 25% of total tangible capital.

Year-end AOCI could hit $500 billion depending upon the rate of interest rate increases by the FOMC, asset sales and the movement of available-for-sale assets into portfolio (HTM)



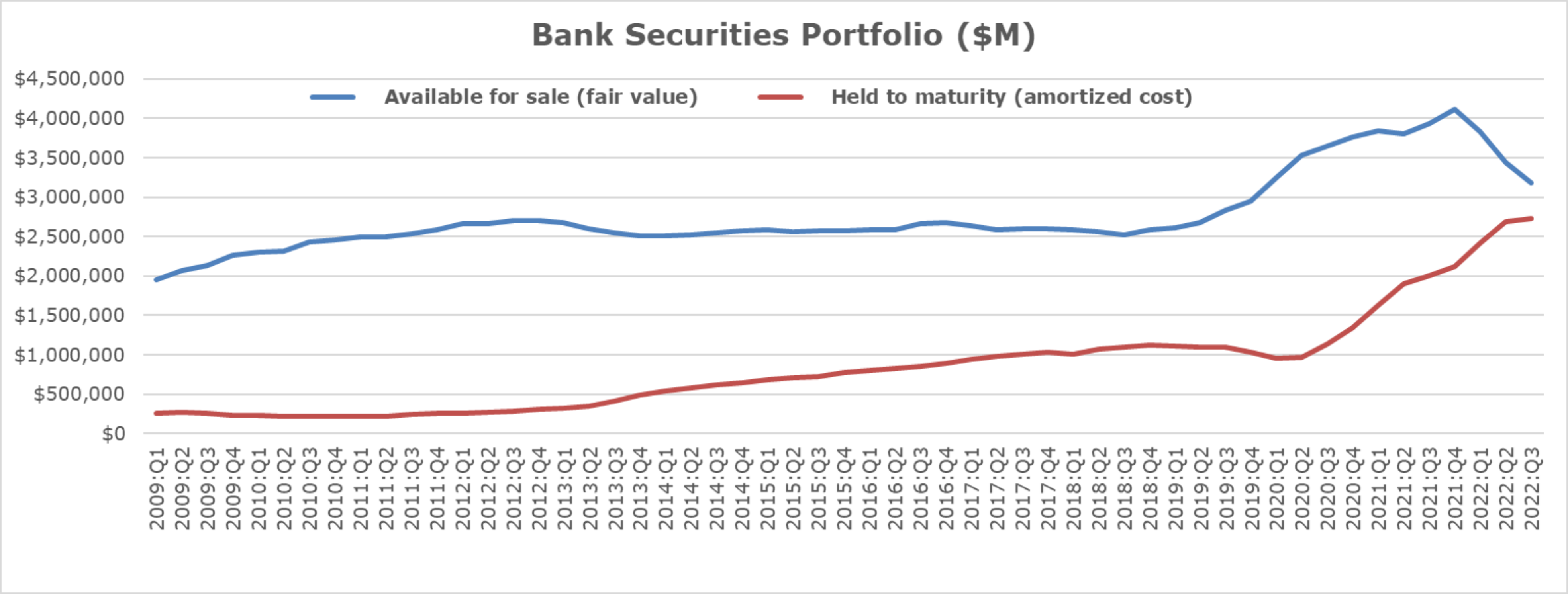
Source: FDIC

QT: Banks Net-Sellers of MBS



Source: FDIC

QT: Banks Net-Sellers of AFS Securities



Source: FDIC

QT: Industry Solvency Negative $1.9T

Rapidly rising interest rates pushed down the tangible capital for the US banking industry to negative $1.9 trillion under a moderate stress scenario.

Capital deficit is likely to increase as the FOMC continues to increase interest rates in 2023

$M	2021 Q4	2022 Q1	2022 Q2	2022 Q3
Total Equity Capital	**$2,357,424**	**$2,257,908**	**$2,218,286**	**$2,165,245**
Goodwill	$348,149	$351,511	$354,760	$425,608
Intangible assets	$404,349	$415,379	$421,498	$355,596
$M	2021 Q4	2022 Q1	2022 Q2	2022 Q3
Total Capital (Tangible)	**$1,604,927**	**$1,491,018**	**$1,442,028**	**$1,384,040**
Acumulated other comprehensive income	$31,079	$170,176	$253,454	$347,851
$M	2021 Q4	2022 Q1	2022 Q2	2022 Q3
Total Capital (Tangible-AOCI)*	**$1,573,848**	**$1,320,842**	**$1,188,574**	**$1,036,189**
Net Loans & Leases	$11,068,770	$11,181,401	$11,592,512	$11,815,804
M2M Adjust ($)	$276,719	$894,512	$1,738,877	$2,067,766
$M	2021 Q4	2022 Q1	2022 Q2	2022 Q3
U.S. Treasury securities	$1,443,819	$1,481,802	$1,510,721	$1,456,722
Mortgage-backed securities	$3,557,069	$3,522,187	$3,381,850	$3,202,320
State and municipal securities	$423,815	$415,939	$405,028	$389,779
Total	**$5,424,703**	**$5,419,928**	**$5,297,599**	**$5,048,821**
M2M Adjust ($)	$135,618	$433,594	$794,640	$883,544
Total Capital (Tangible-Adjusted)**	**$1,161,511**	**$7,264**	**$1,344,943**	**$1,915,120**
M2M Adjust (%)	**2.5%**	**8.0%**	**15.0%**	**17.5%**

Source: FDIC/WGA LLC

QT: JPM Solvency Negative $58.7 Billion

As with US banking industry, a moderate stress scenario for JPMorgan Chase (JPM) results in a $58 billion capital deficit on a mark-to-market basis in Q3 2023.

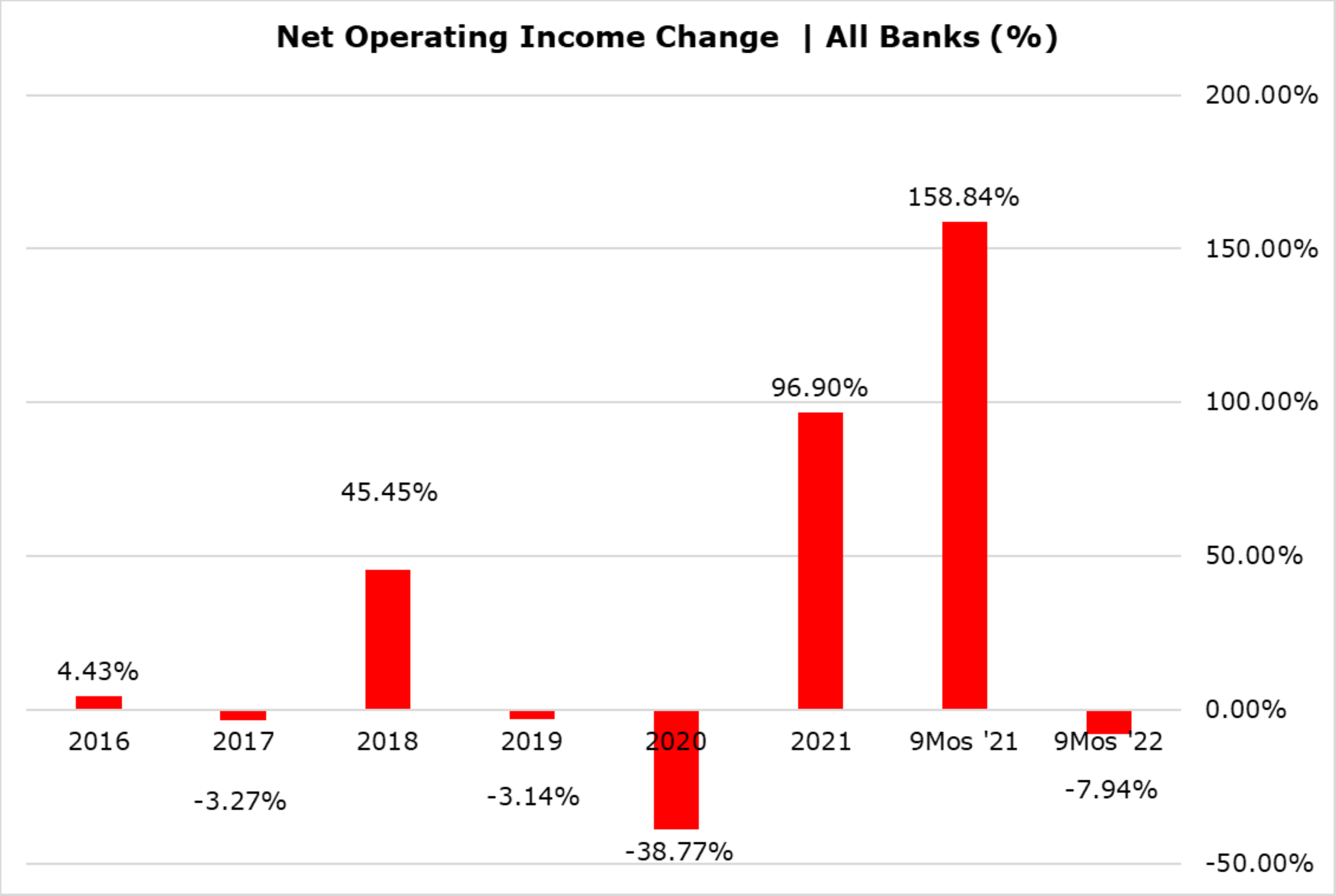
JPM AOCI rose 33% between Q2 2022 and Q3 2022. Additional increase in unrealized losses likely as FOMC raises interest rates.

JPMorgan ($M)	2022 Q1	2022 Q2	2022 Q3
Total Capital	**$285,899**	**$286,143**	**$288,018**
Goodwill, MSRs and other intangible assets	$58,485	$59,360	$60,806
AOCI	$9,567	$14,369	$19,134
Tangible Capital	**$217,847**	**$212,414**	**$208,078**
HTM Securities	$366,585	$441,649	$430,106
M2M Adjust ($)	$10,998	$35,332	$75,269
Net Loans & Leases	$1,056,093	$1,086,405	$1,094,448
M2M Adjust ($)	$31,683	$86,912	$191,528
Total Capital (Tangible-Adjusted)**	$175,167	$90,170	$58,719
M2M Adjust (%)	3.0%	8.0%	17.5%

Source: FDIC/WGA LLC

QT: Industry Income Faces Headwind

The YOY comparisons with 2021 are difficult for US banks for a number of reasons. Last year earnings included some truy massive GAAP adjustments to income that are not present in 2022. Thus even as rising rates boost bank asset returns, operating income growth is down vs 2021.

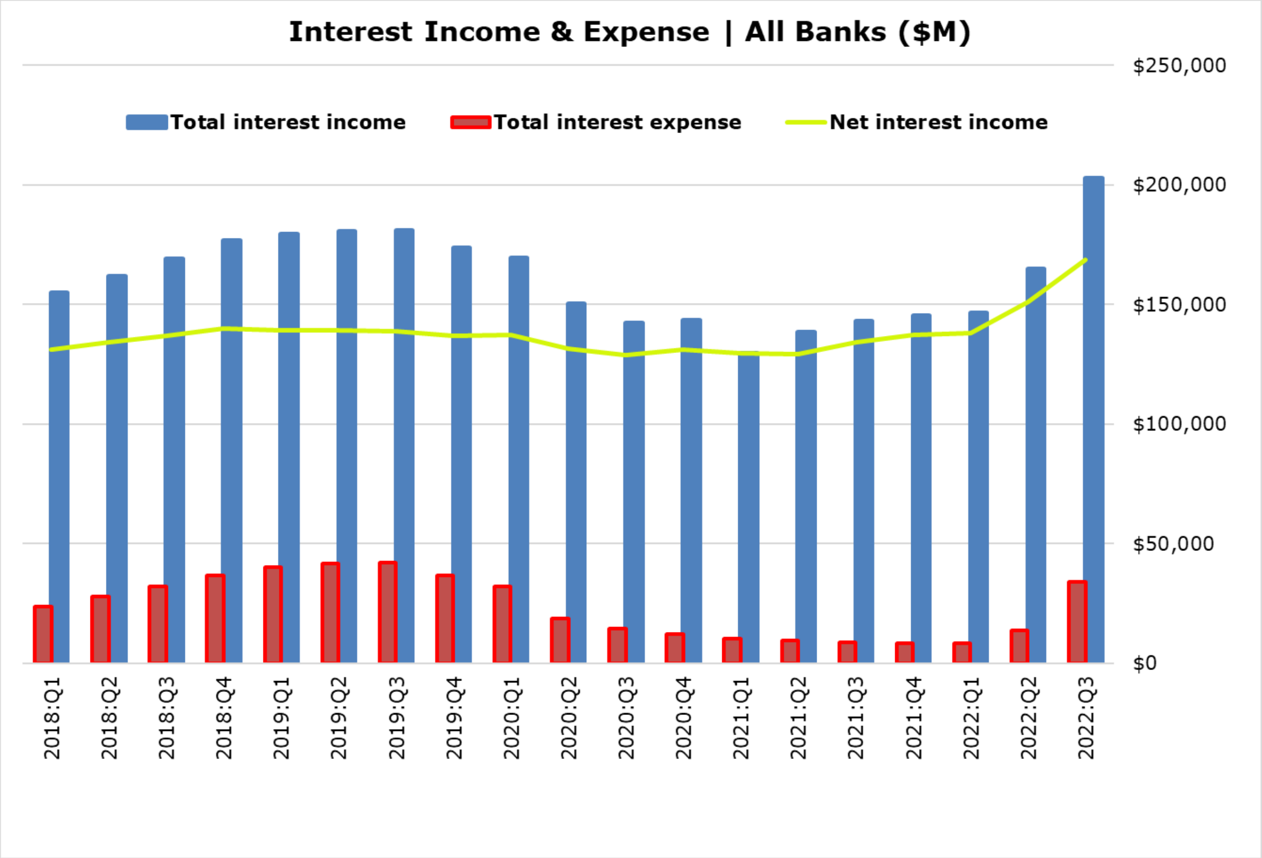


Source: FDIC

Funding Costs, Asset Returns Up

Net interest income for industry jumped $20 billion (11%) in Q3 2022. Yet interest expense surged 145% from $13.8 billion in Q2 to $35 billion in Q3 and with more increases in funding costs ahead.

Gross interest revenue for all banks was over $200 billion in Q3 2022, a 23% increase from Q2 and welcome evidence that the worst effects of QE on bank asset returns is slowly being reversed.

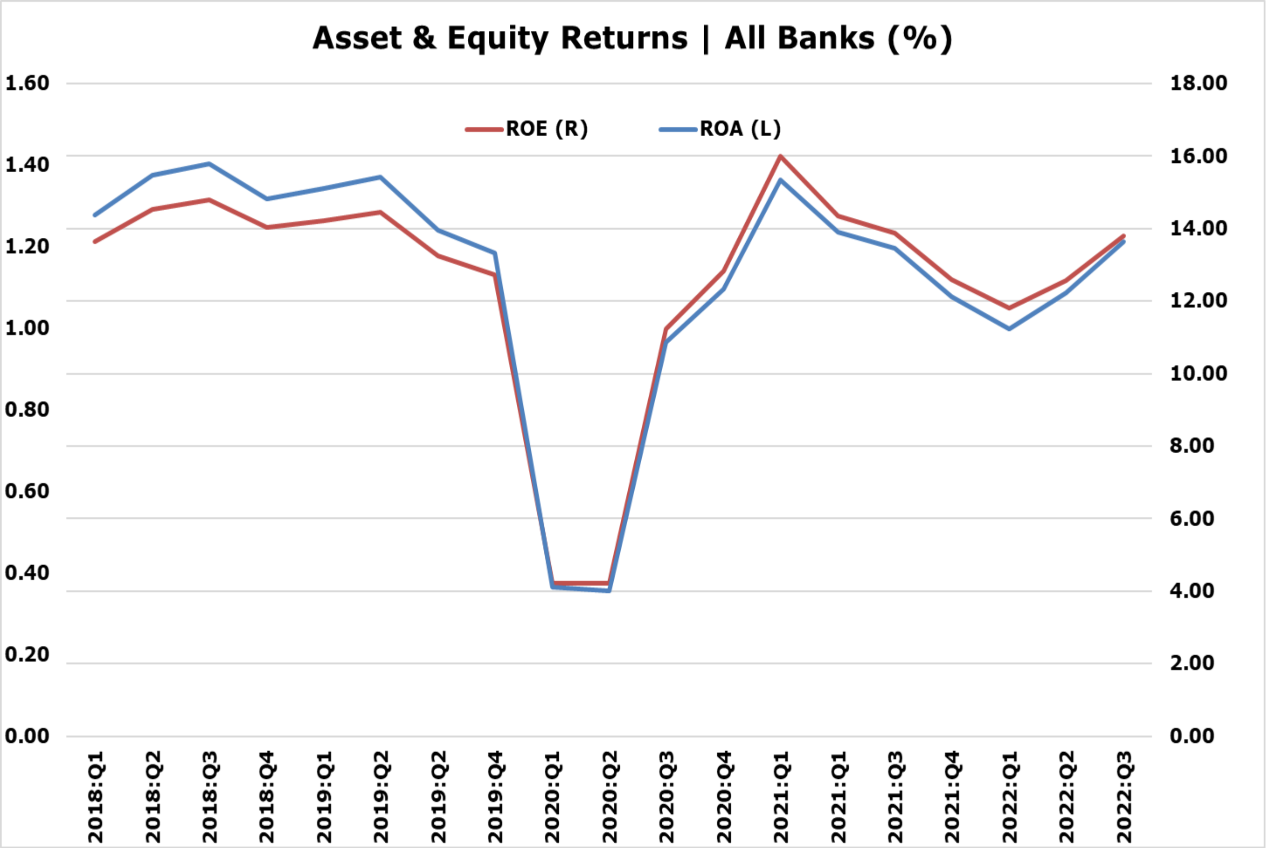


Source: FDIC

Earnings Normalization Continues

A strong showing in operating earnings in Q3 2022 still means banks have a long way to go to repair damage done by QE. Return on earning assets rose to 79bp in Q3 2023.

Risk for banks in Q4 and 2023 is that funding costs continue to rise *faster* than interest earnings. Market facing banks will be under growing pressure to adjust to QT due to rising funding costs



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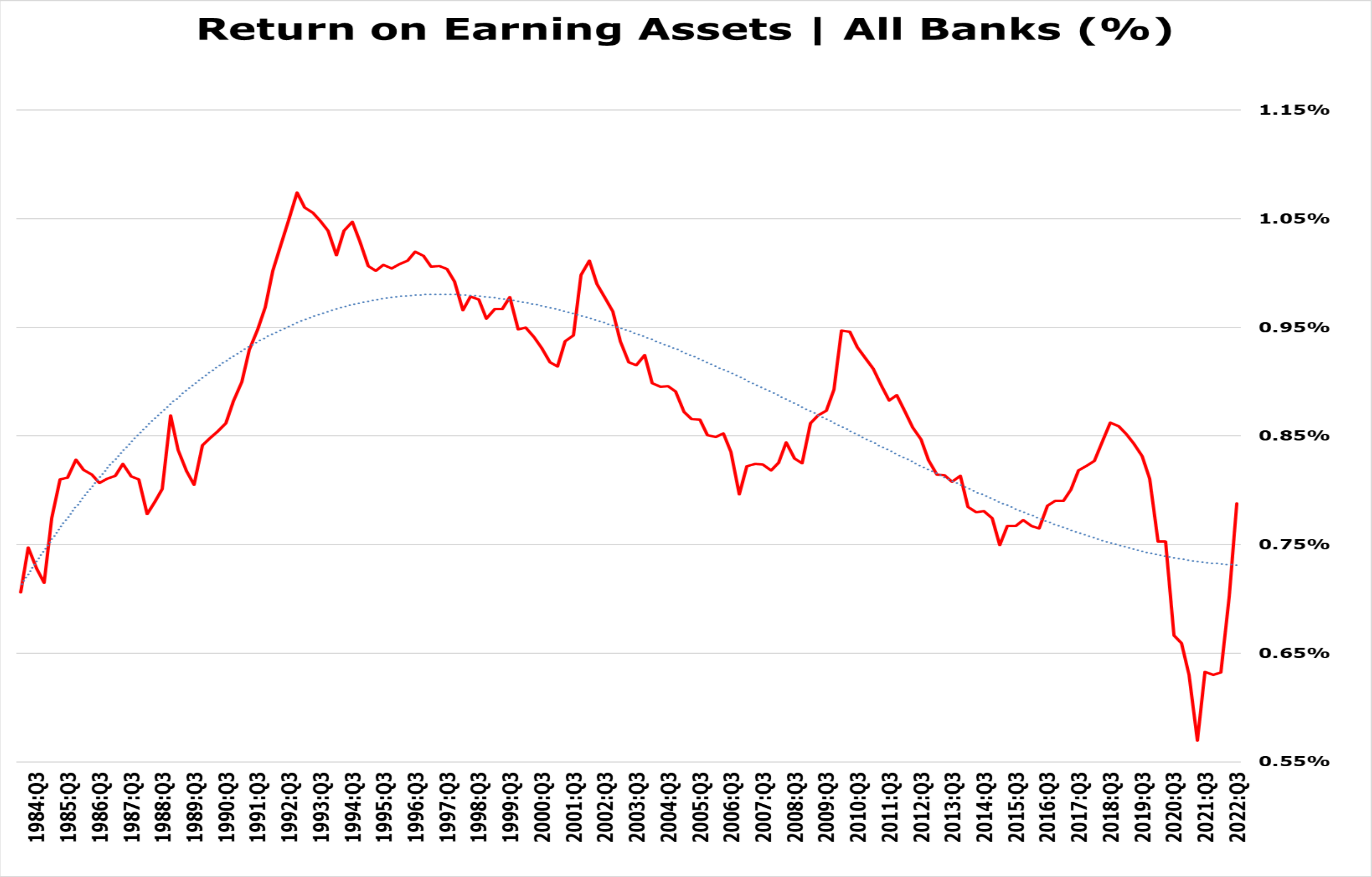
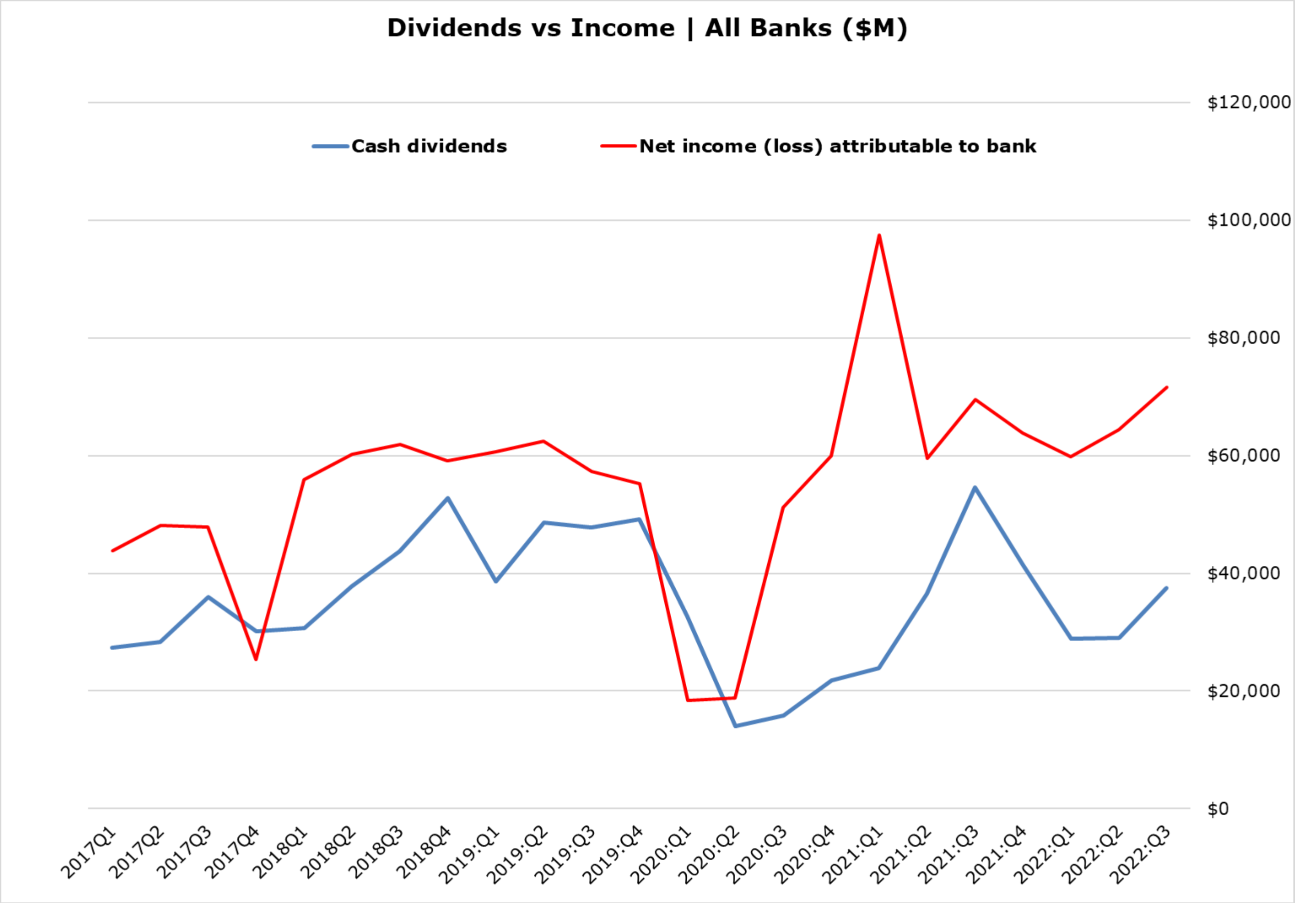


Source: FDIC/WGA LLC

Dividends Constrained

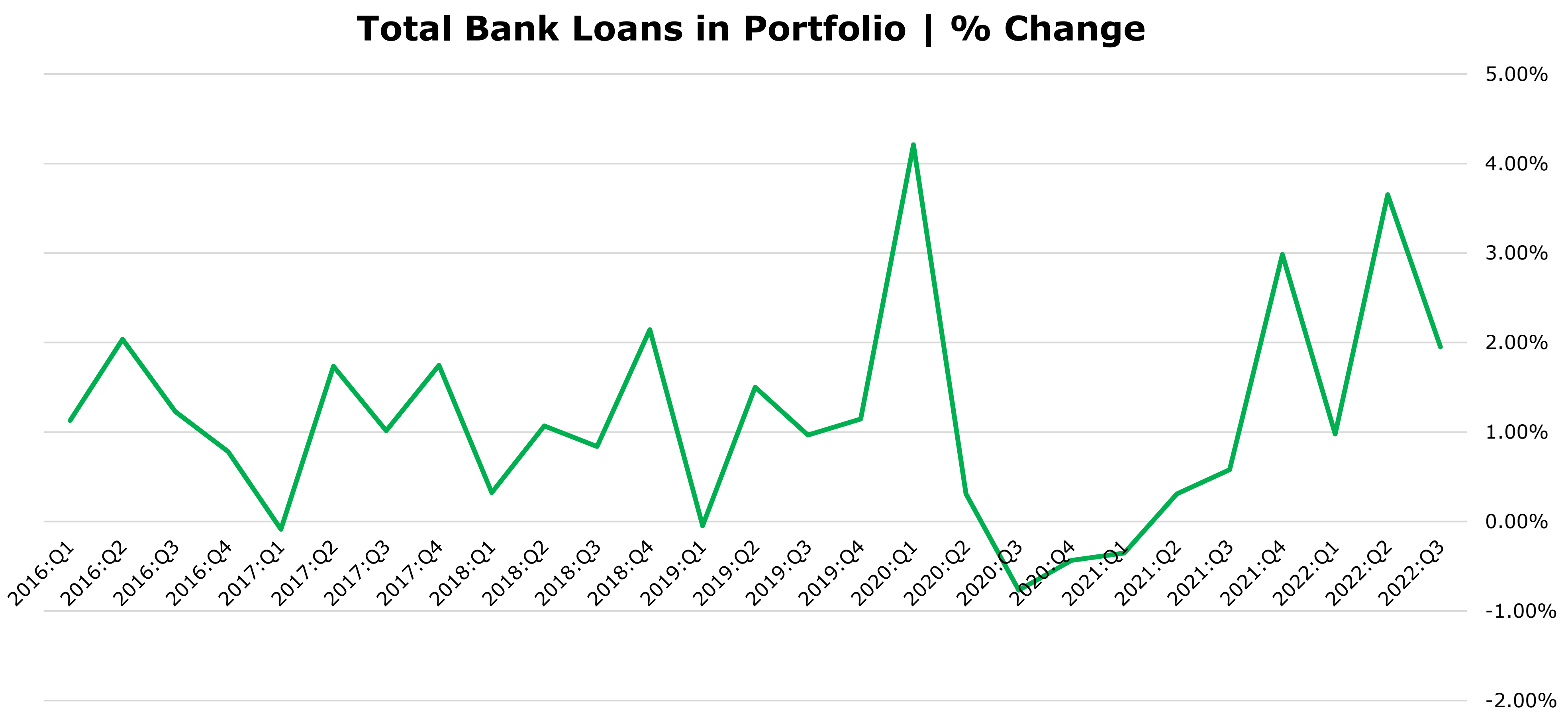
Improving profitability for banks does not necessarily mean higher dividends. Federal regulators are compelling banks to increase reserves in anticipation of *higher loan losses* ahead

Surge in bank dividends paid in 2021 was a one-time upward GAAP adjustments of COVID loan loss provisions. Look for bank dividends *and* share buybacks to track below-average through 2023



Source: FDIC

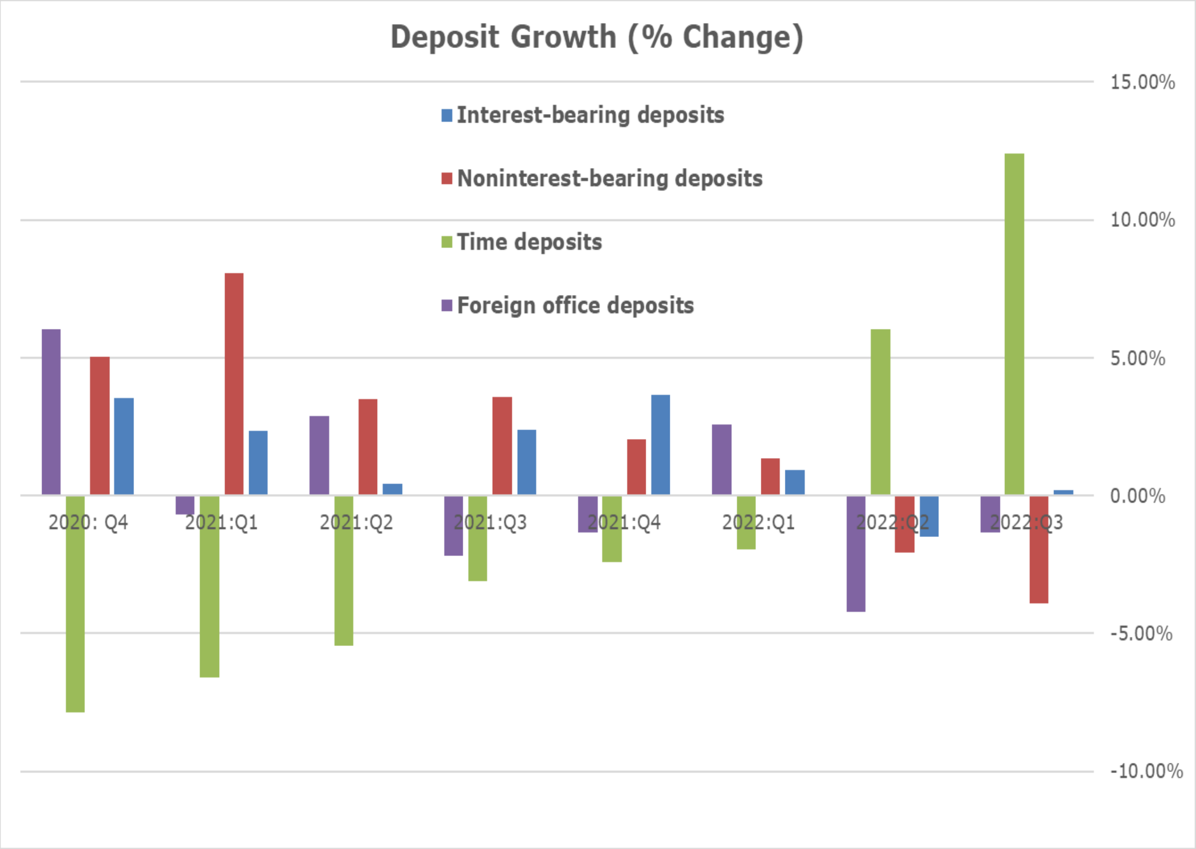
Rate Rise, Portfolio Growth Slows



Source: FDIC

Deposits: Runoff & Duration Shift

- Investors moving out of demand deposits and into time deposits at a double digit rate.
- Other bank deposit categories showing declines as banks seek to exit unwanted QE deposit balances.
- Cost of funding earning assets rose to 35bp in Q3 2023 for a net-interest margin of 3.14% for the same period.
- Total deposits declined $206.0 billion (1.1% between second quarter 2022 and third quarter 2022



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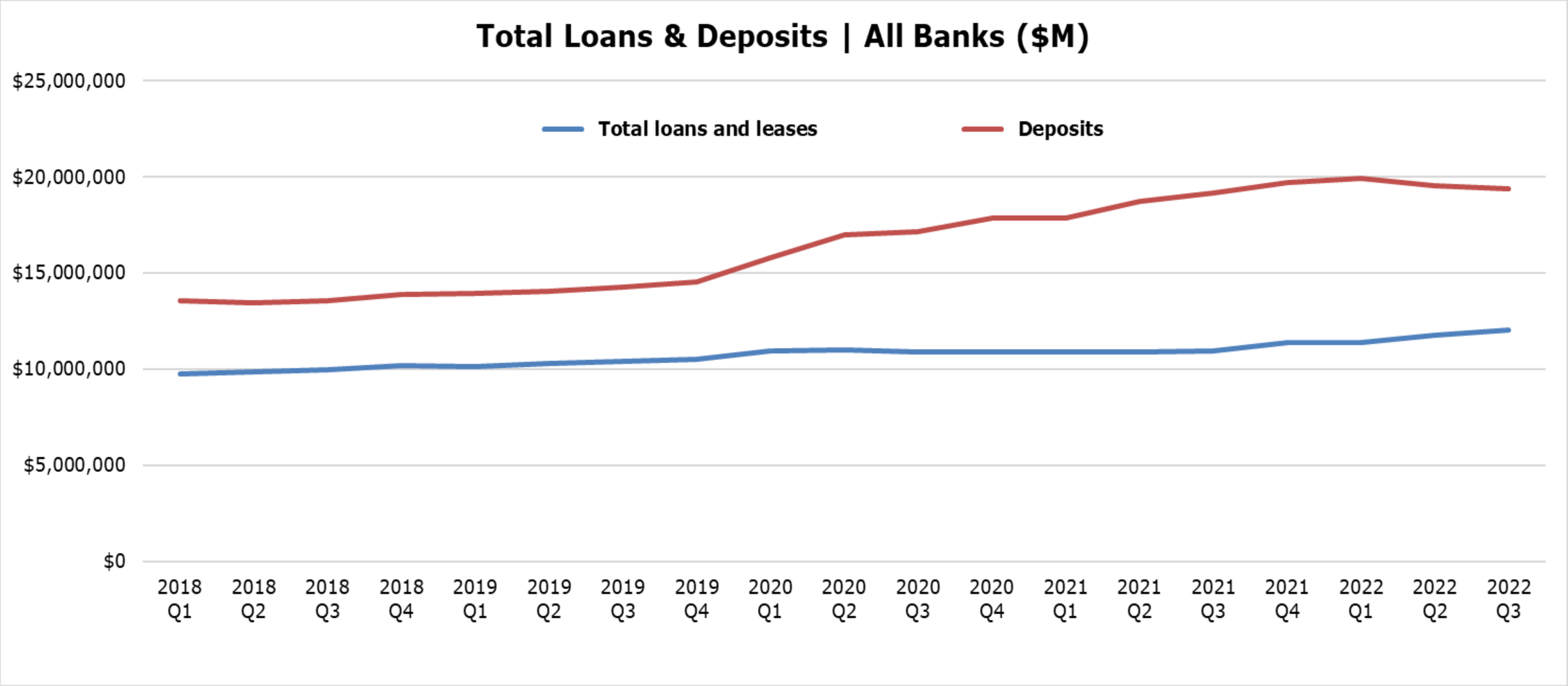

Total Loans & Deposits | All Banks ($M)
$25,000,000
$20,000,000
$15,000,000
$10,000,000
$5,000,000
$0
Total loans and leases
Deposits
2018 Q1
2018 Q2
2018 Q3
2018 Q4
2019 Q1
2019 Q2
2019 Q3
2019 Q4
2020 Q1
2020 Q2
2020 Q3
2020 Q4
2021 Q1
2021 Q2
2021 Q3
2021 Q4
2022 Q1
2022 Q2
2022 Q3

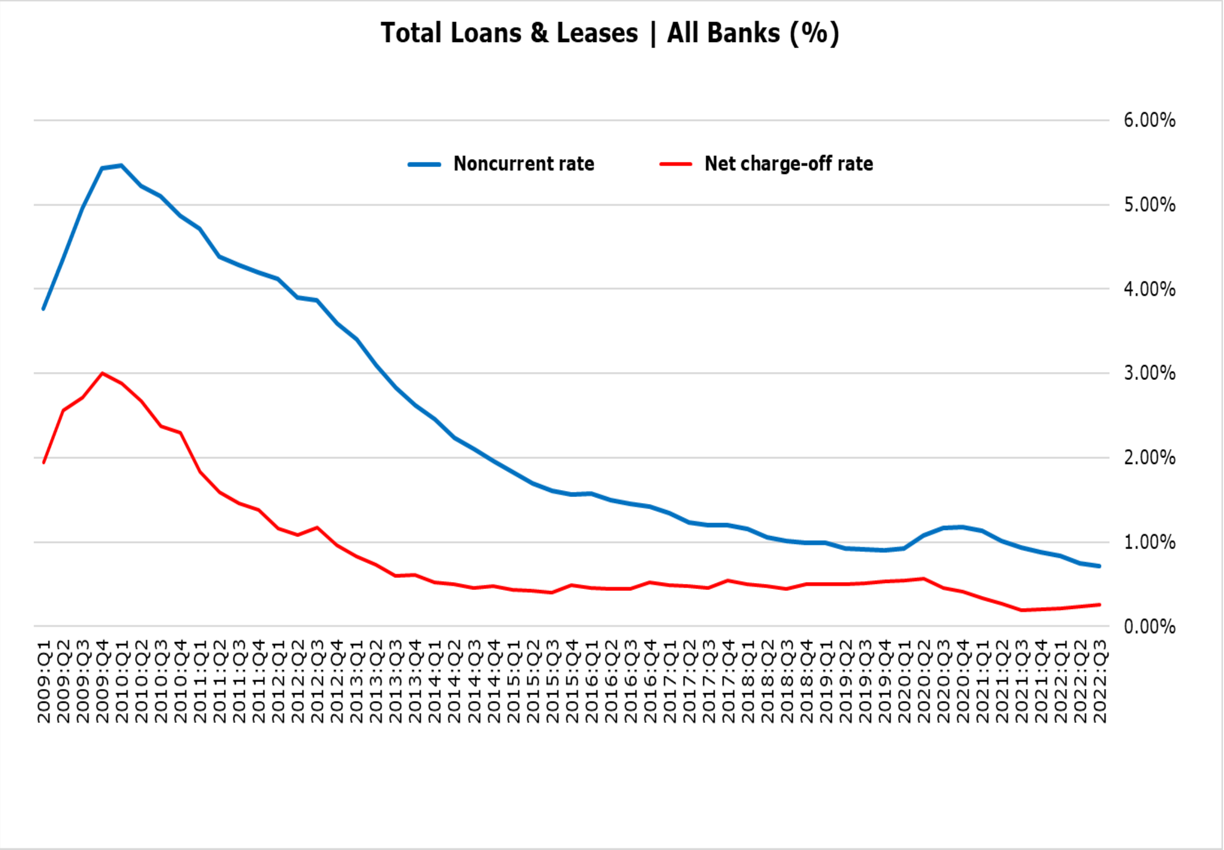
Source: FDIC

Credit Charts

Total Loans & Leases

Even as market losses by banks soar, reported credit losses realized by banks remain at very low levels. Regulators fear a sharp uptick in delinquency in 2023 and beyond, but timing is uncertain.

Fed Vice Chairman Michael Barr strongly suggested he would be "tweaking" the 2023 stress tests. Barr likely will focus on attention on loss scenarios involving mark-to-market volatility and eventual rebound in credit losses post the decade of QE.



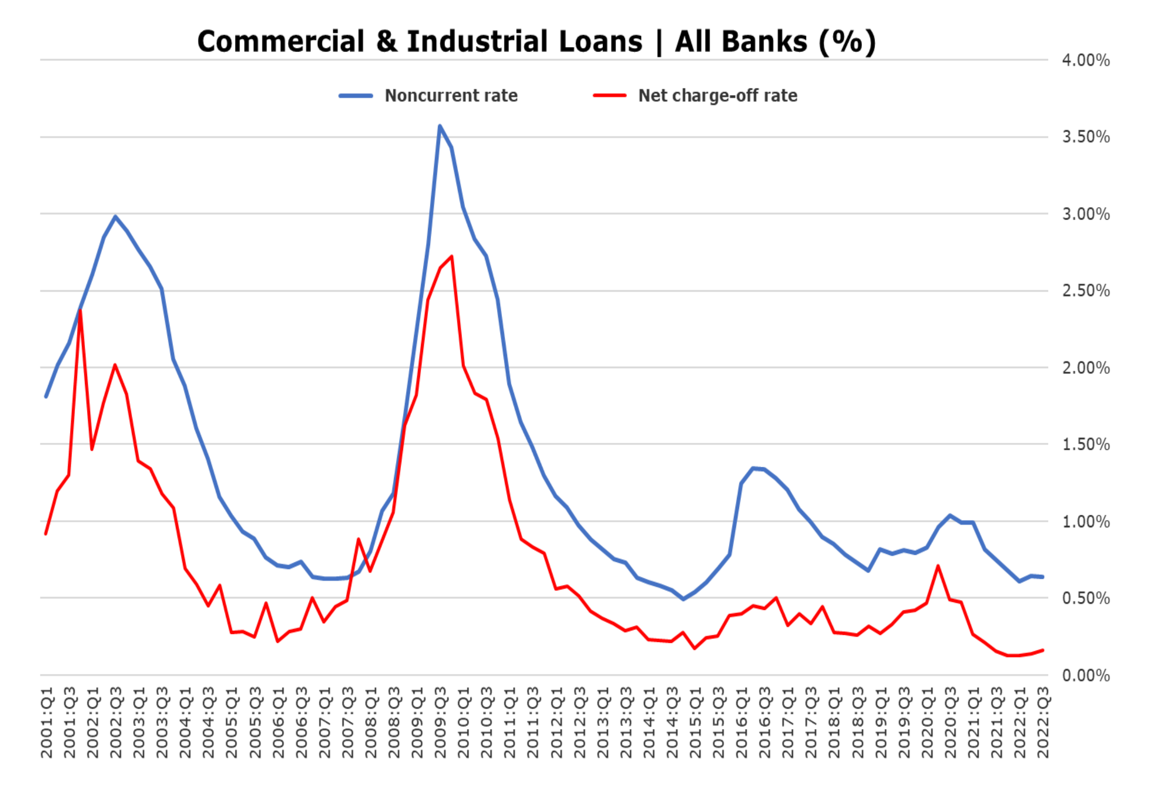
Source: FDIC

Commercial & Industrial Loans

New C&I loans again were up high-single digits in Q3 2022, but redemptions cut overall portfolio growth to half that amount. Sharp declines in residential and commercial mortgage issuance will force banks to look elsewhere for portfolio growth in 2023.

Excluding the effect of declines in Paycheck Protection Program loans, annual total loan growth would have been 11.6% and annual C&I loan growth would have been 20.6%. The annual loan growth YTD was the largest dollar increase observed in the history of the FDIC's *Quarterly Banking Profile*.

Commercial & Industrial Loans



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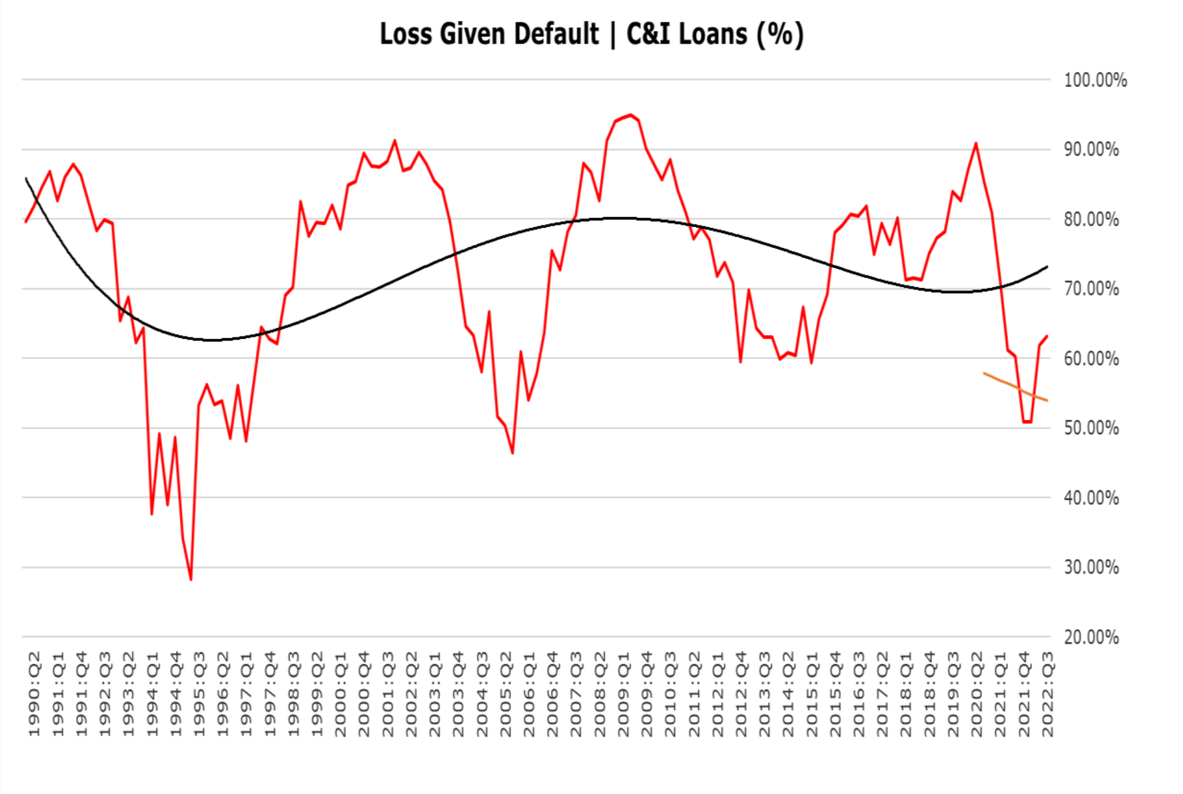
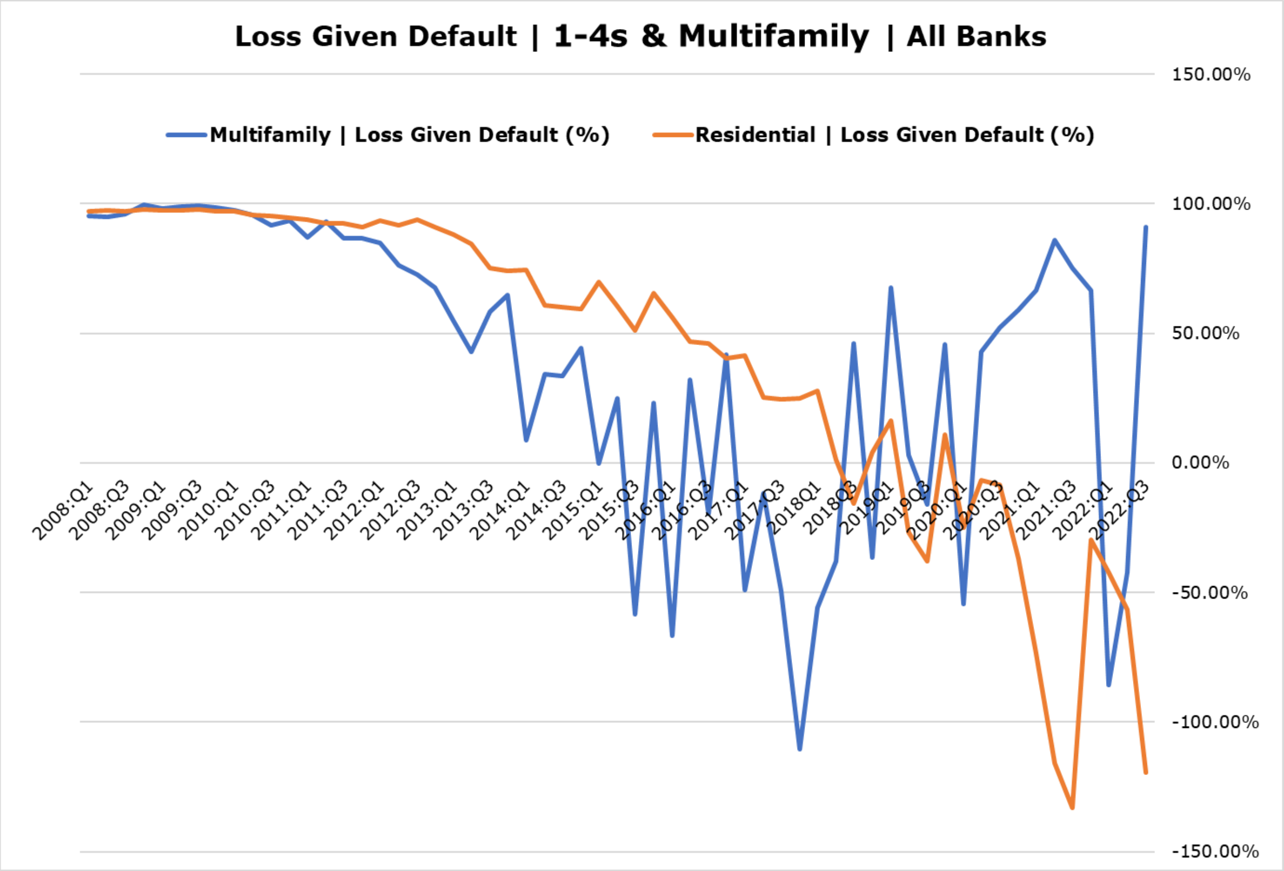


Source: FDIC/WGA LLC

Residential and Multifamily Loans

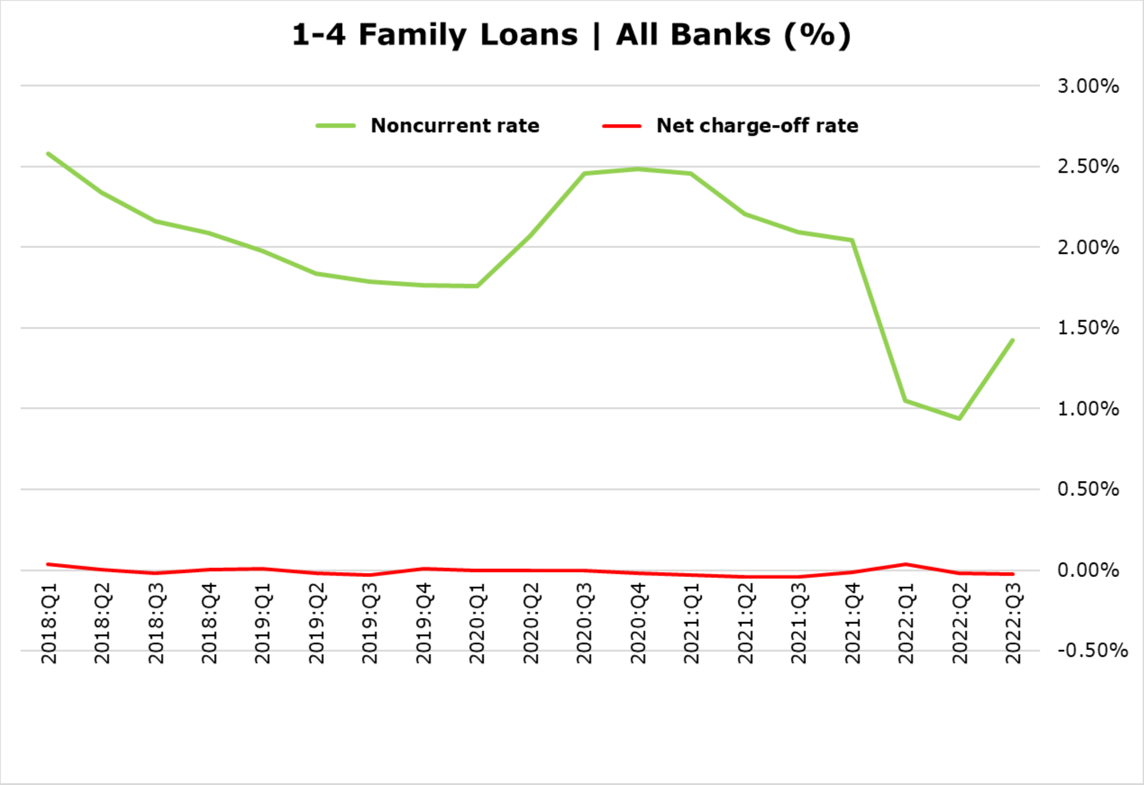
Several analysts predict down home prices in 2023, a remarkable turnabout that could see LGD move back into positive territory. We remain dubious about price decreases in bottom half of market.

LGD for 1-4s skewed deeper into negative territory in Q3 2022. Multifamily loans are showing rising delinquency but also a great deal of volatility as recovery rates slowly normalize over several years.



Source: FDIC/WGA LLC

Residential and Multifamily Mortgages



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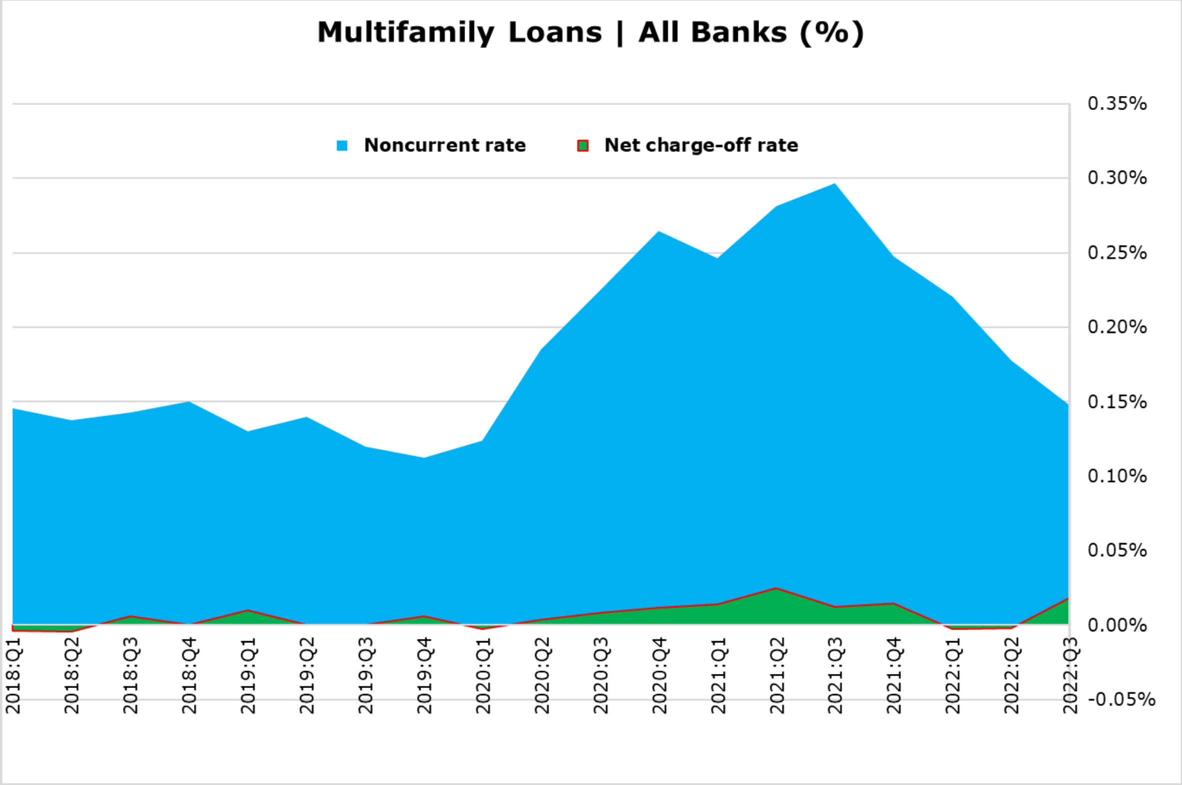
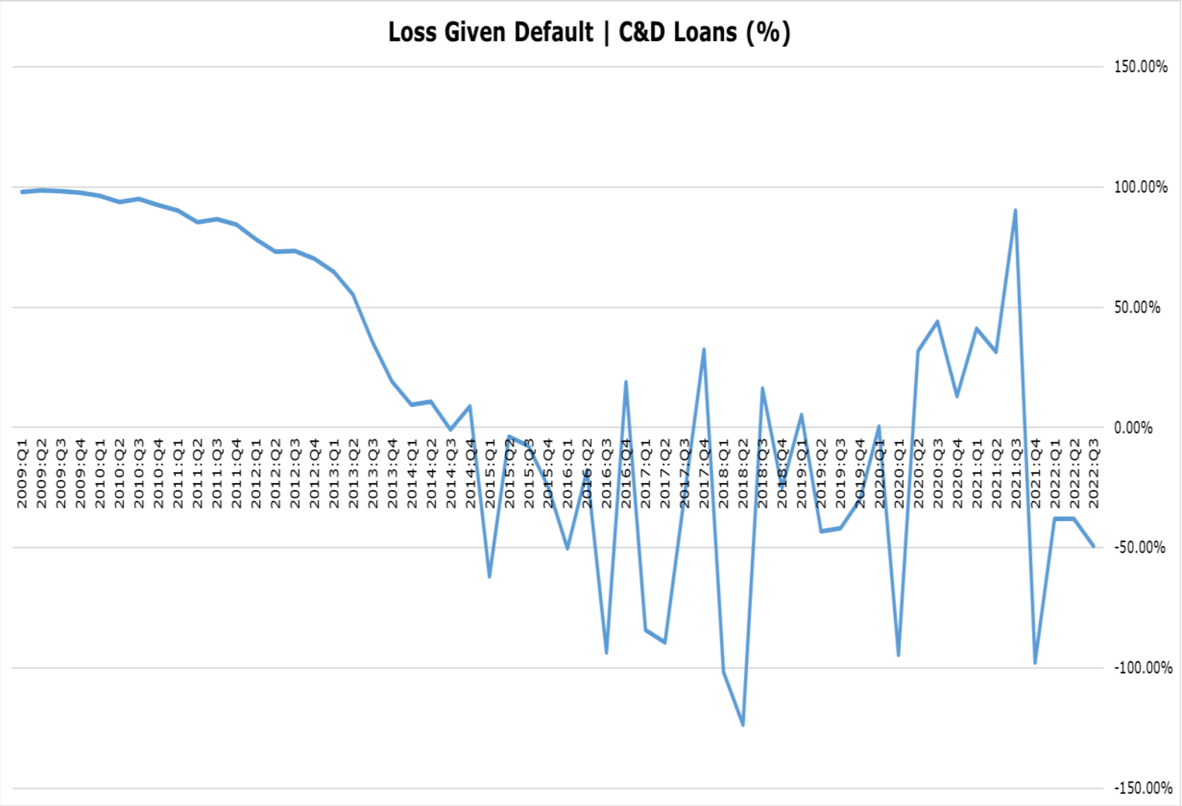


Source: FDIC

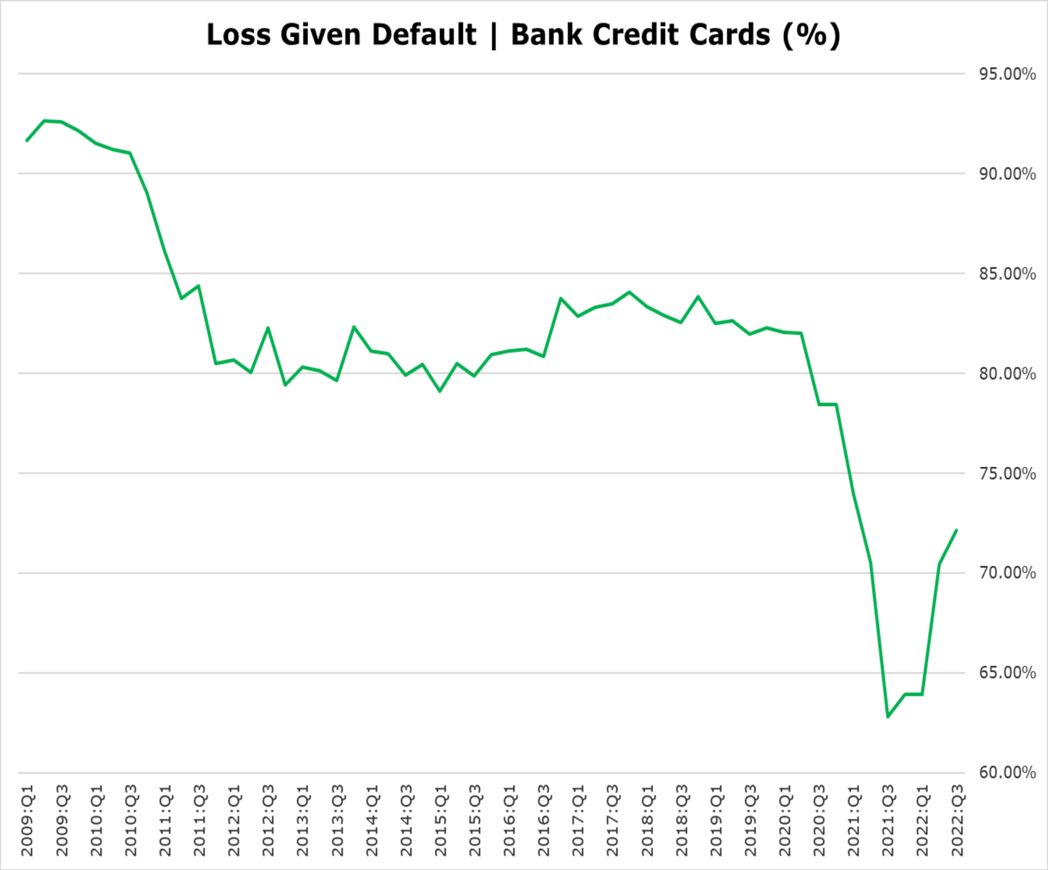
Residential and Commercial Construction

Source: FDIC

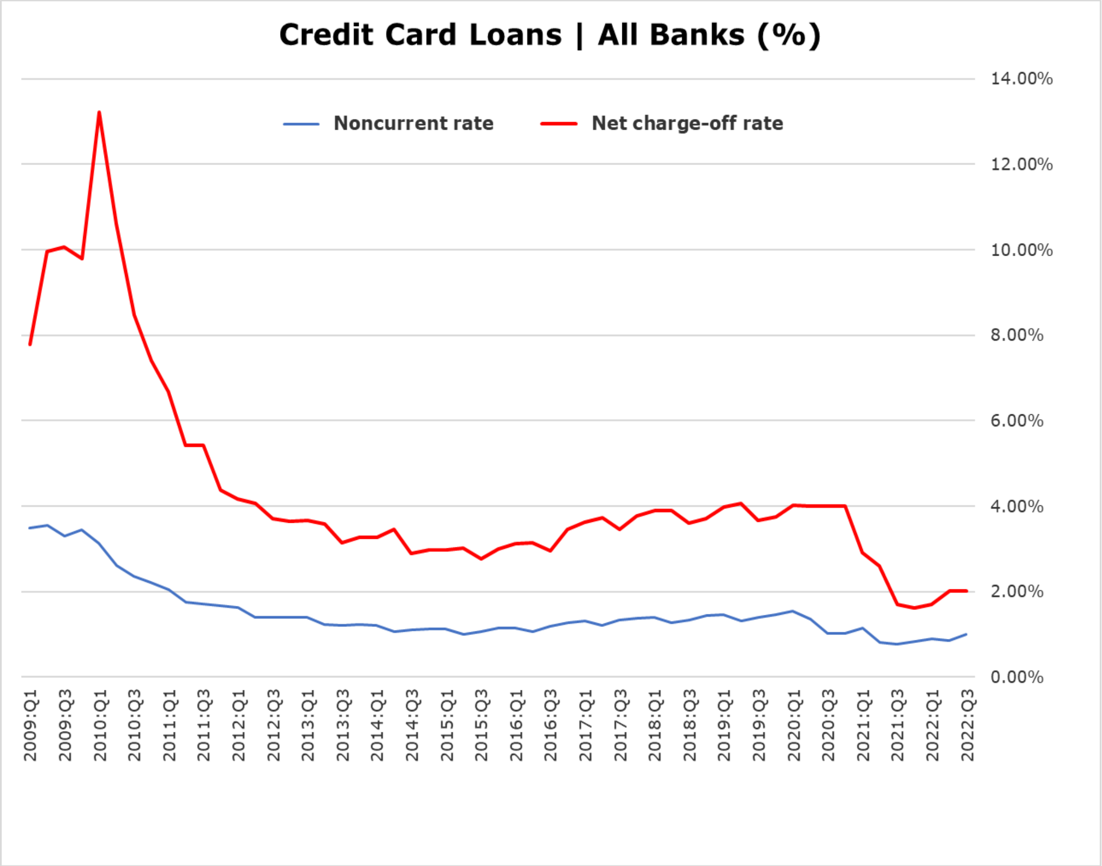


Source: FDIC

Credit Card Receivables

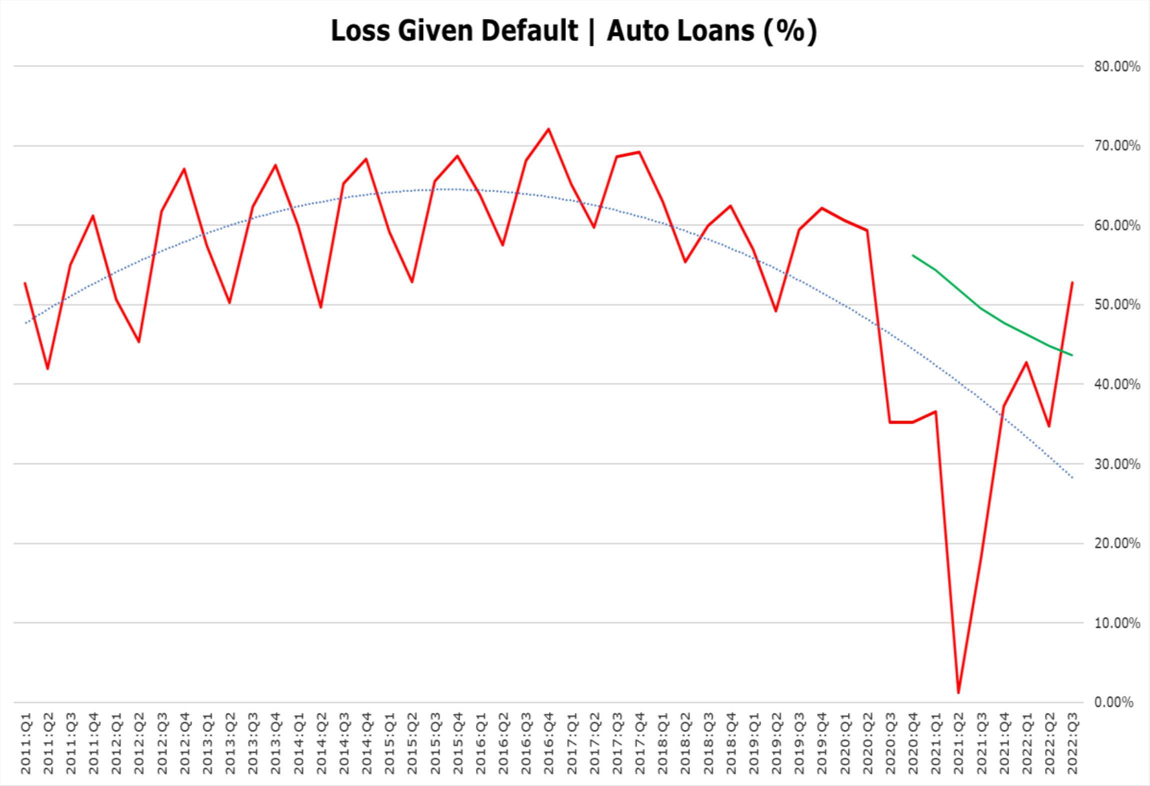


Source: FDIC/WGA LLC

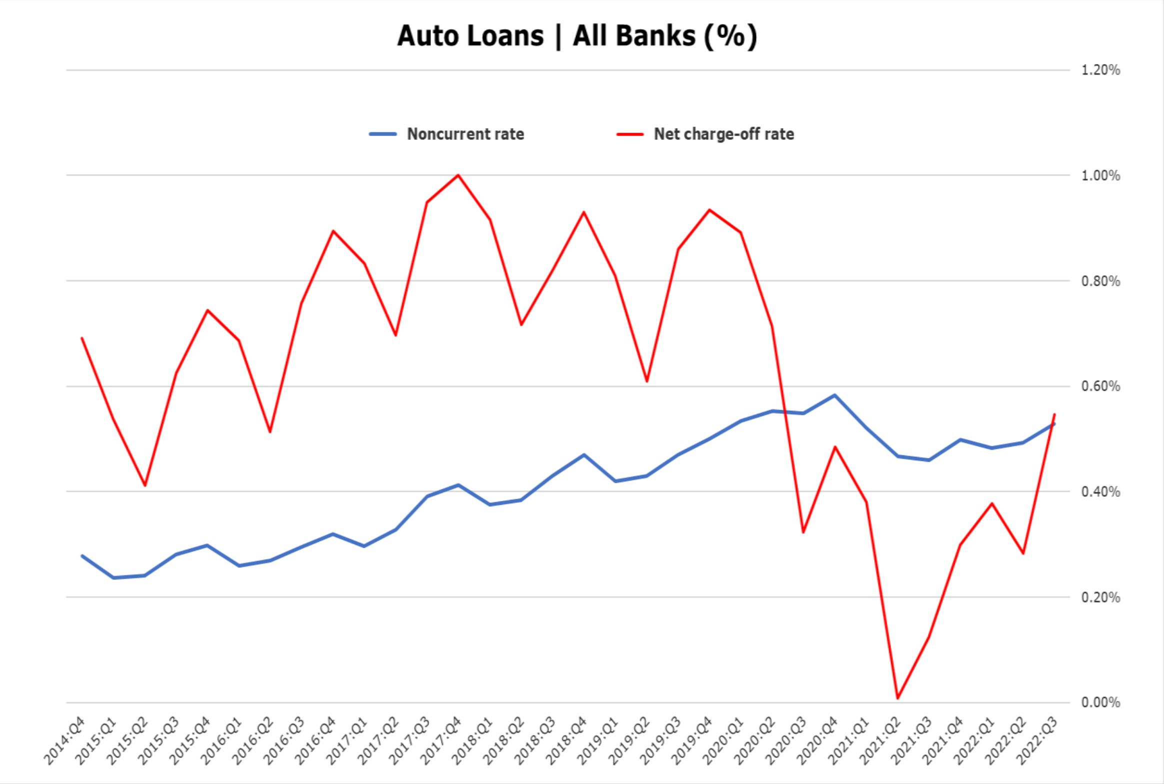


Source: FDIC

Bank Auto Loans



Source: FDIC/WGA LLC

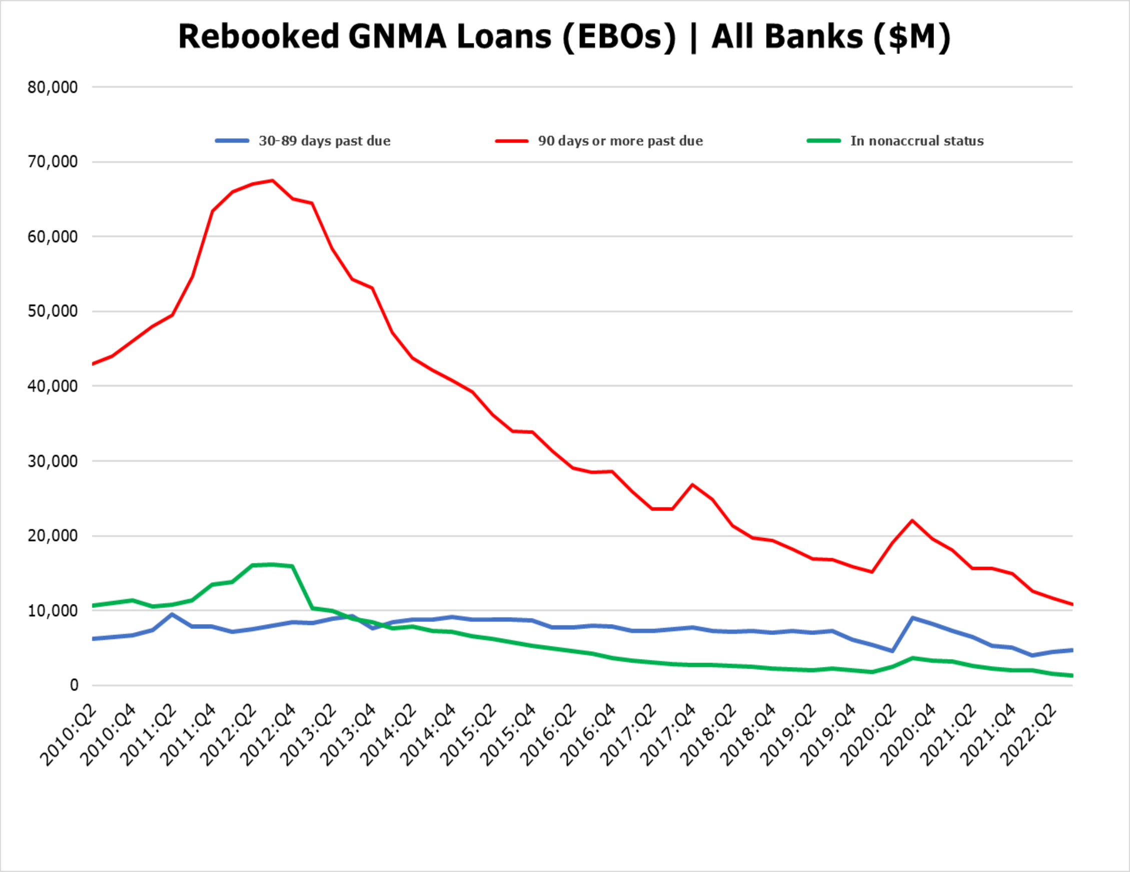


Source: FDIC

Ginnie Mae Early Buyouts (EBOs)

Increased interest rates and bond market volatility left many issuers sitting on piles of defaulted, low coupon government loans that are hundreds of basis points out of the money, volatile and costly to hedge, and difficult to modify or sell.

"The rate of loans and leases 30 to 89 days past due (past-due loan balances) increased 3 basis points from the last quarter and 7 basis points from the year-ago quarter to 0.51 percent," the FDIC reports. Advances on loans in GNMA MBS continue to climb, suggesting that reported levels of loan delinquency are understated.

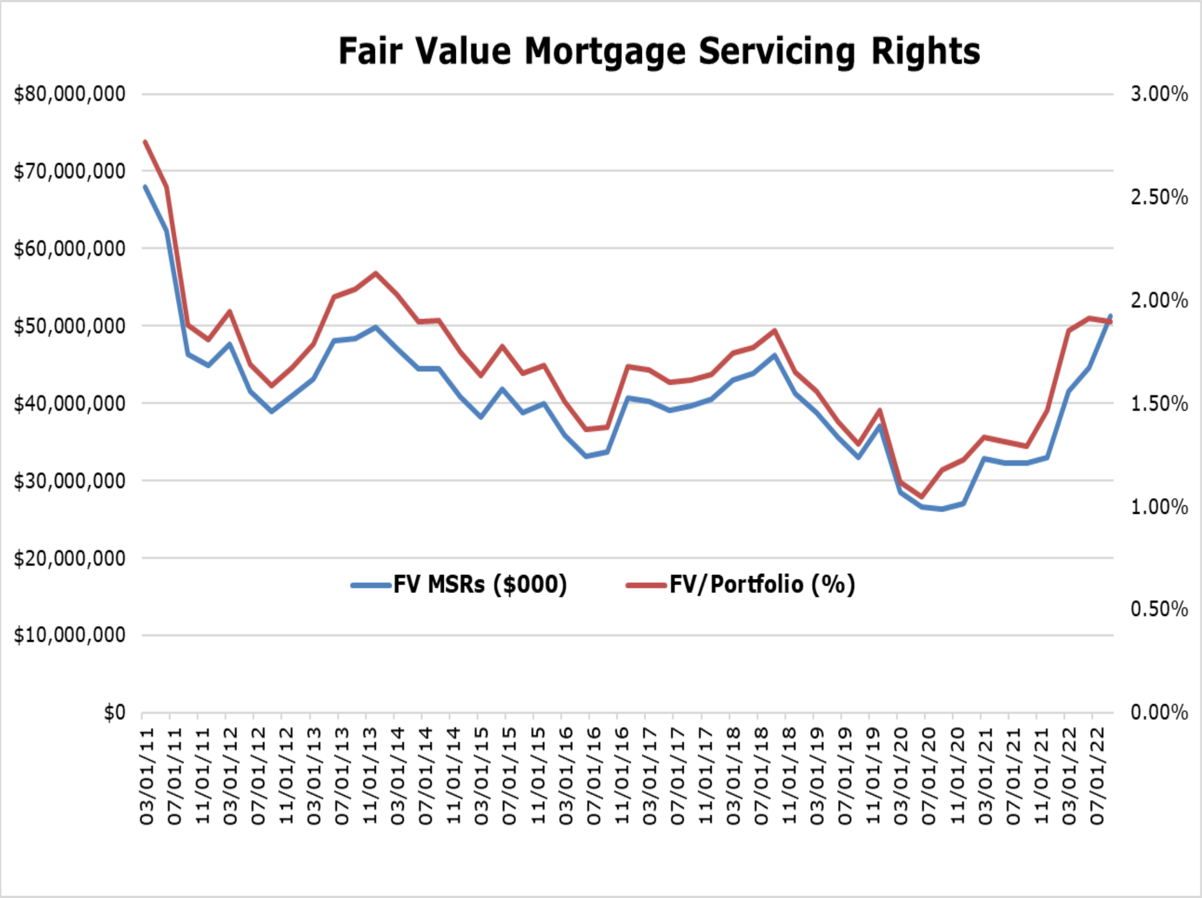


Source: FDIC

Mortgage Servicing Rights

Despite concerns about the impact of a recession and new capital requirements for nonbank mortgage issuers, MSRs continue to increase in value. The value of bank-owned MSRs rose above $50 billion for the first time since June 2011.

The relationship between FV of MSR and the UPB of the underlying loan portfolio continues to track strongly as shown in the chart at right. MSR/UPB was 1.9% in Q3 2022 vs the 10-year average of 1.65%, suggesting that the MSR market is overvalued.



Source: FDIC

Outlook 2023

Winners/Loser Post-QE

- Selected banks in our surveillance group will be able to take advantage of rising loan yields and low funding costs, including BAC, WFC, USB, PNC, TFC, WAL. Banks with low funding costs, moderate capital markets exposure and relatively small lending portfolios include: SCHW, UBS, RJF, TD, WSFS, FRC. Of note, RJF remains the best performing name in our surveillance group YTD.

- Banks with limited core deposits and/or larger market/credit exposures include: C, JPM, GS, COF, AXP, DFS, ALLY, OZK CS. Look for possible losses due to sales of low-coupon loans and/or securities in Q4 2022 earnings results.

- We are increasingly concerned about potential blowbacks from the demise of the crypto fraud on nonbanks and banks. As we've noted in past comments, crypto focused institutions such as **Silvergate Capital (SI)** are likely to face increased scrutiny from regulators and counterparties.

IRA Bank Surveillance Group

"When I started covering bank stocks, it was generally believed that interest rate increases were not good for banks. That theory was driven by the view that when rates went up real book values went down and, therefore, the value of the enterprise was less. Valuation was based on book values which represented the base of a bank's earnings power."

Dick Bove (12/6/2022)

NAME	%YTD	Beta 6 MOS
RAYMOND JAMES	15.7	1.0
UBS GROUP	4.8	1.1
GOLDMAN SACHS GP	2.9	1.0
SCHWAB (CHARLES)	3.4	0.9
AMERICAN EXPRESS	4.6	1.1
WSFS FINANCIAL	7.6	0.9
BANK OZK	8.5	1.0
MORGAN STANLEY	8.5	1.0
WELLS FARGO & CO	9.0	1.0
DISCOVER FINANCI	10.4	1.1
TORONTO-DOM BANK	12.4	0.8
DEUTSCHE BANK	15.2	1.0
JPMORGAN CHASE	17.0	0.9
US BANCORP	21.8	0.9
BANK OF AMERICA	22.5	1.0
PNC FINANCIAL	23.6	1.0
BANK NY MELLON	24.2	1.0
CITIGROUP INC	24.4	1.1
TRUIST FINANCIAL	27.3	1.0
CAPITAL ONE FINACAL	34.5	1.3
FIRST REPUBLIC BANK	41.9	1.3
WESTERN ALLIANCE	42.2	1.3
ALLY FINANCIAL	47.3	1.4
SIGNATURE BANK	61.1	1.4
CREDIT SUISSE	65.2	1.6
SOFI TECHNOLOGIES	71.3	1.7
SILVERGATE CAPITAL	83.6	1.6

Source: Bloomberg (12/06/22)

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