

Vulnerable Banks Face Commercial Real Estate Loan Losses

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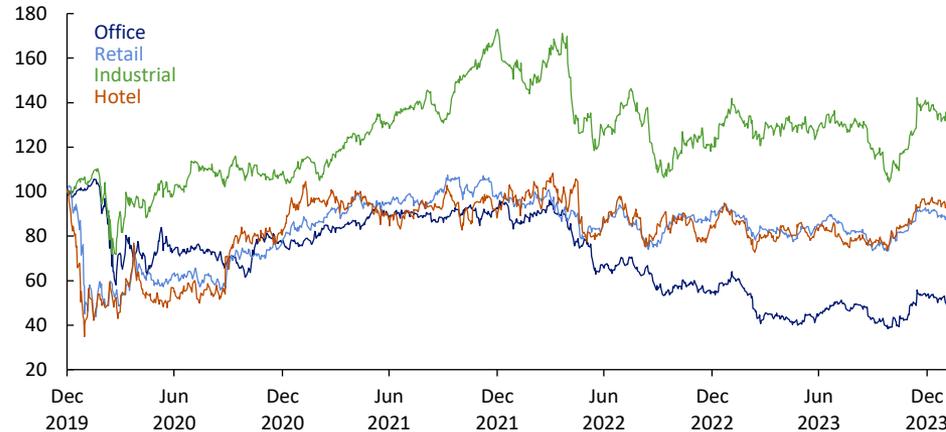
March 28, 2024

- Nearly one year after the three large 2023 bank failures, there remain hundreds of vulnerable banks with large unrealized securities losses and uninsured deposit balances. Many also have significant commercial real estate (CRE) loan exposures.
- These vulnerable banks may be at an added risk of CRE loan losses as office sector underperformance has led to deterioration of CRE loan credit quality.
- Should future CRE loan losses near levels reached in the aftermath of the 2008 financial crisis, there will be hundreds of banks with realized CRE loan losses plus unrealized securities losses that exceed their shareholders' equity.
- Uncertainty over their resilience could set conditions for investor and depositor lack-of-confidence towards vulnerable banks.

CRE Performance and Bank Failures

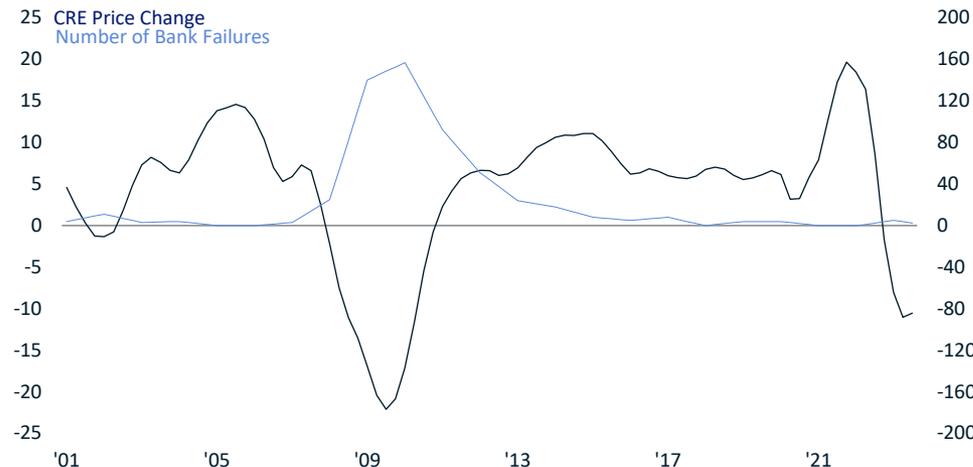


NAREIT Real Estate Indices (index)



Note: 12/31/2019 = 100
Source: Bloomberg.

CRE Price Change (% year over year, left) and Number of Bank Failures (right)



Sources: MSCI Real Capital Analytics, FDIC.

- The office sector is weighing down CRE performance due to the work from home phenomenon. The stock market performance of office REITs reflects the state of this market.
- As of Q4 2023, banks held \$2.2 trillion of CRE loans comprising 9% of assets. Banks are the largest holders of CRE debt.
- Historically, CRE loan losses have been identified as the catalyst for most of the bank failures during the 2008 financial crisis.

Significant Loss of Value in the Office Sector



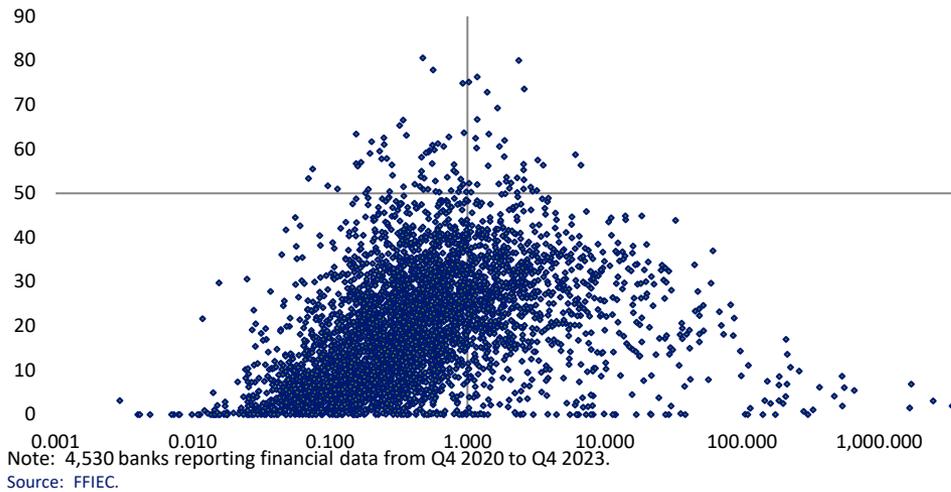
- Studies estimate a total decline in office sector value of 26% to 50%, equating to a \$832 billion to \$1.6 trillion loss of value.
- Bank CRE loans are insulated from the projected loss of value, primarily by equity.

| Study | Date | Decline in Value | |
|--|------------------|--------------------|-------------|
| | | Total (\$billions) | % |
| <i>Decline in CRE Value During GFC</i> | <i>2008-2010</i> | <i>n/a</i> | <i>-22%</i> |
| <i>NAREIT Office Index</i> | <i>2/3/2024</i> | <i>n/a</i> | <i>-52%</i> |
| Columbia/NYU Stern | 6/9/2022 | -1,408 | -44% |
| Morgan Stanley | 4/5/2023 | -1,280 | -40% |
| McKinsey | 4/13/2023 | -832-1,120 | -26%-35% |
| FRBNY | 4/20/2023 | -1,120-1,600 | -35%-50% |
| BCG | 5/11/2023 | -1,280 | -40% |
| Capital Economics | 6/22/2023 | -1,120-1,600 | -35%-50% |
| OFR | 8/23/2023 | -896 | -28% |
| Sternlich | 1/30/2024 | -1,000 | -31% |

Which Are the Vulnerable Banks?



All Banks, Q4 2023. Total Assets (Logarithmic Scale, \$Billion, X) and CRE Loans-to-Total Assets (% , Y)



- Some of the banks that are vulnerable to CRE loan losses have (1) CRE loan exposure, (2) significant unrealized securities losses, and (3) large unsecured deposit balances, making them susceptible to bank runs and liquidity strains.
- Small banks with \$1 billion, or less, of assets are particularly exposed to CRE.
- 102 banks with \$109 billion in combined assets have a ratio of CRE loans-to-assets of 50% or more. 1,523 banks with \$3.1 trillion of combined assets have a CRE concentration of 25% or more.

All Banks, 4Q 2023 CRE Concentration Tiers (\$billions)

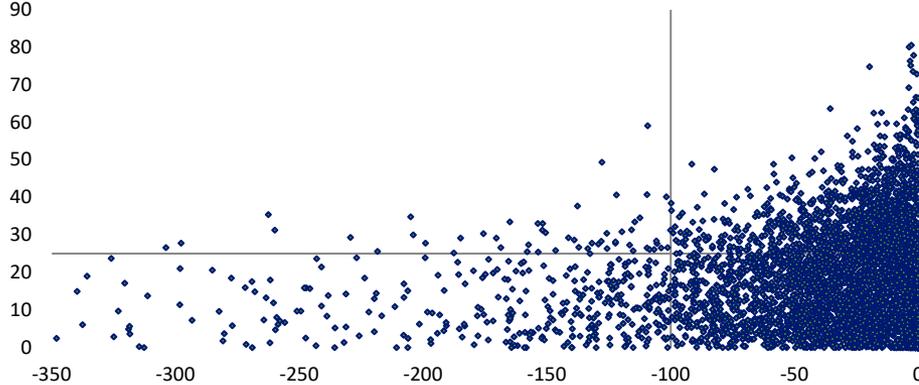
| CRE Concentration Tier | Number of Banks | Assets | CRE | CRE/Assets |
|------------------------|-----------------|---------------|--------------|------------|
| 50% or more | 102 | 109 | 63 | 57% |
| 40-50% | 262 | 422 | 184 | 44% |
| 30-40% | 654 | 1,526 | 514 | 34% |
| 25-30% | 505 | 1,032 | 278 | 27% |
| Less than 25% | 3,007 | 20,535 | 1,194 | 6% |
| Total | 4,530 | 23,625 | 2,233 | 9% |

Source: FFIEC.

Which Are the Vulnerable Banks?



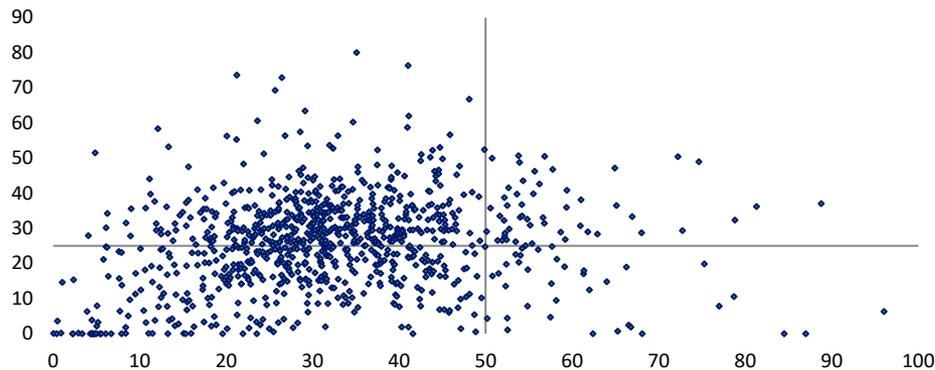
All Banks, Q4 2023. Unrealized Securities Losses/Shareholders' Equity (%), X and CRE Loans/Assets (%), Y



Note: 4,530 banks. An X-axis value of -100% or less means that a bank's unrealized securities losses exceeds its shareholder's equity.

Source: FFIEC.

Reporting Banks, Q4 2023. Uninsured Deposits/Deposits (%), X and CRE Loans/Assets (%), Y



Note: Includes the 952 banks that report uninsured deposits.

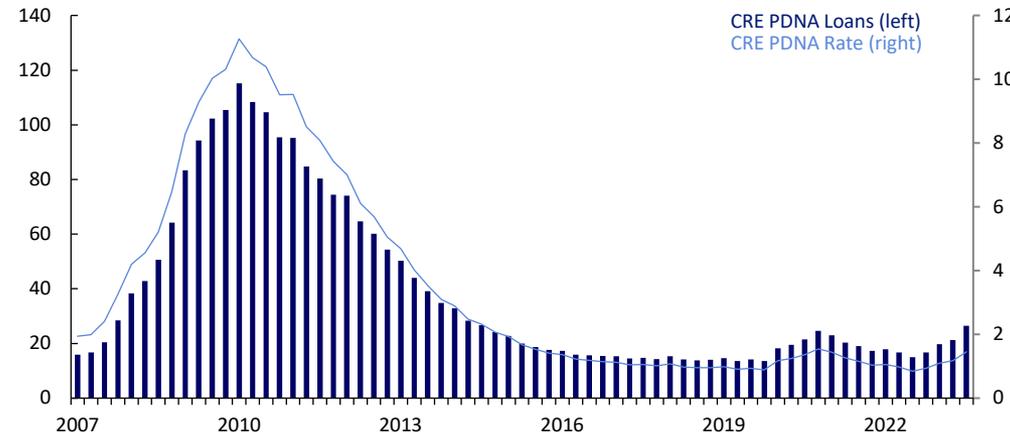
Source: FFIEC.

- Many banks with high CRE concentration also have large unrealized securities losses and uninsured deposit balances.
- 185 banks with \$524 billion of assets had unrealized securities losses that exceed their shareholders' equity. Of these, 21 banks with \$21 billion of assets have a CRE concentration of 25% or more.
- There are at least 54 banks with \$187 billion in assets with jointly a CRE concentration of 25% or more and an uninsured deposit ratio of 50% or more.

CRE Loan Quality is Falling



All Banks. PDNA Loans (\$billions, left) and PDNA Rate (% , right)

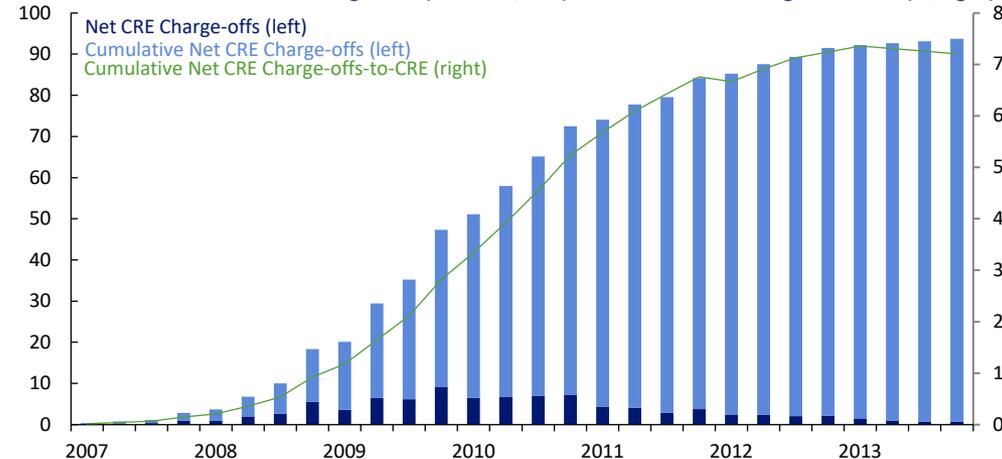


Note: PDNA = past due and non-accrual.

Source: FFEIC.

- In Q4 2023, past due and non-accrual (PDNA) CRE loans increased to \$28.7 billion, up \$12 billion or 72% from the previous year.
- These loans had a PDNA rate of 1.28%, up from 0.77% from a year ago. This is the highest PDNA rate for bank CRE loans since Q3 2015.

Net and Cumulative Net CRE Charge-offs (\$billions, left) Cumulative Net Charge-off Rate (% , right)



Source: FFEIC.

- CRE loan losses lag PDNA. After the 2008 financial crisis, cumulative net CRE losses totaled \$93 billion, equivalent to a 7.3% CRE net charge-off rate.

Critical CRE Loan Loss Rate Thresholds



- 185 banks with \$524 billion of assets have unrealized securities losses that exceed their shareholders' equity.
- If CRE losses reach 8%, more banks will be at risk -- 278 banks with \$613 billion in assets will have realized CRE loans losses plus unrealized securities losses that exceed their shareholders' equity.

All Banks, Q4 2023. CRE Loan Loss Rate such that CRE Loan Losses Plus Unrealized Securities Losses Exceed Shareholders' Equity (\$billion)

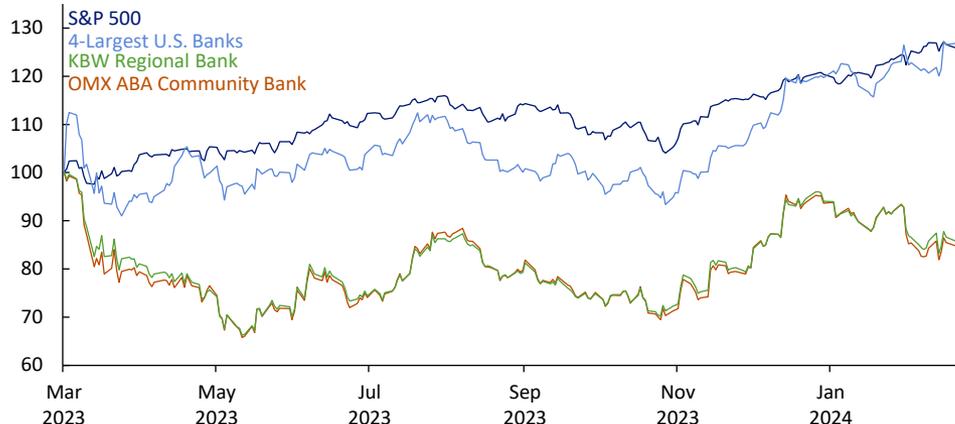
| Cummulative CRE Loan Loss Rate | Number of Banks | Assets | CRE | CRE/ Assets | Unrealized Securities Loss % | % of Deposits Uninsured |
|--------------------------------------|--------------------|---------------|--------------|----------------|------------------------------------|-------------------------------|
| 0% | 185 | 524 | 15 | 3% | -9% | 15% |
| 0% to 2% | 16 | 5 | 1 | 20% | -10% | 29% |
| 2% to 4% | 28 | 13 | 3 | 23% | -12% | 54% |
| 4% to 6% | 20 | 25 | 8 | 32% | -14% | 39% |
| 6% to 8% | 29 | 46 | 10 | 22% | -11% | 34% |
| 8%+ | <u>4,252</u> | <u>23,011</u> | <u>2,195</u> | <u>10%</u> | <u>-8%</u> | <u>38%</u> |
| Total | 4,530 | 23,625 | 2,232 | 9% | -8% | 37% |

Source: FFIEC.

Confidence in Banks Appears Varied

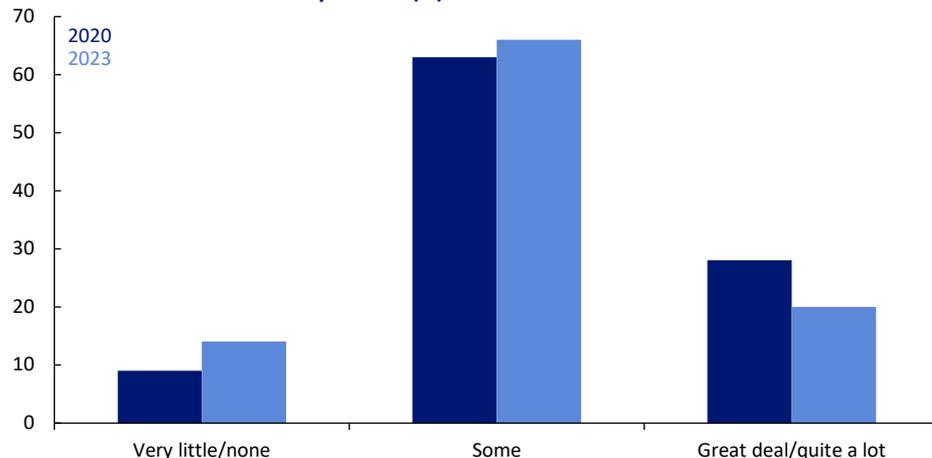


S&P 500 and Bank Indices (index)



Note: 2/28/2023 = 100
Source: Bloomberg.

Confidence in Institutions Survey: Banks (%)



Source: © Statista.

- Public confidence in banks is paramount to their financial condition.
- Investors appear less confident in regional and smaller banks than larger banks, or the broader market, as recent stock prices indicate.
- The public also appears to have mixed views on banks. In 2023, 20% of depositors expressed a great deal or quite a lot of confidence in banks down from 28% in 2020. During the same period, 14% expressed very little to no confidence in banks, up from 9%.

- Office sector underperformance has led to deterioration of CRE loan credit quality and banks are the largest holders of CRE debt.
- There are hundreds of banks that are vulnerable to CRE loan losses. They have significant CRE concentration and large unrealized securities losses and uninsured deposit balances.
- Significant future CRE loan losses will produce hundreds of banks with realized CRE loan losses plus unrealized securities losses that exceed their shareholders' equity.
- Uncertainty over the resilience of vulnerable banks could set conditions for investor and depositor lack-of-confidence in the sector.
- For example, consider the aftermath of the three large bank failures during Spring 2023. For months, many regional banks were pressured by the exit of depositors that fled to the safety of the largest banks.