Questions Today

Bank “Turmoil”
- What happened in March?
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- Are we going into recession?
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What happened?

*Banks had a lot of deposits they needed to invest following the COVID-stimulus*

• Total bank deposits swelled in the wake of the pandemic, as the U.S. passed massive stimulus equating to 25% of pre-pandemic GDP.

• Much of the stimulus ended up in individual and bank deposit accounts.

• Total deposits grew by 35% from February 2020 to the peak in April 2022, reflecting an annual growth rate of 16%.

Source: Federal Reserve
Not All Bank Deposits Are Insured…

Normally ~40 to 45%-ish are uninsured

Source: S&P Market Intelligence
## Current Commercial Bank Landscape

*Smaller banks rely (much) less on uninsured deposits*

<table>
<thead>
<tr>
<th></th>
<th>Community</th>
<th>Regional</th>
<th>Quasi-Regional</th>
<th>Big</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Asset Size</strong></td>
<td>Under $10B</td>
<td>$10B to $100B</td>
<td>$100B to $250B</td>
<td>Over $250B</td>
</tr>
<tr>
<td><strong># of Banks</strong></td>
<td>4,555</td>
<td>126</td>
<td>21</td>
<td>13</td>
</tr>
<tr>
<td><strong># Employees (FTE)</strong>*</td>
<td>472,044</td>
<td>301,790</td>
<td>231,370</td>
<td>1,119,070</td>
</tr>
<tr>
<td><strong>Total Assets</strong></td>
<td>$3.5 trillion</td>
<td>$3.7 trillion</td>
<td>$3.5 trillion</td>
<td>$13.1 trillion</td>
</tr>
<tr>
<td><strong>Average Assets per Bank</strong></td>
<td>$759 million</td>
<td>$29 billion</td>
<td>$167 billion</td>
<td>$1.0 trillion</td>
</tr>
<tr>
<td><strong>% Deposits Insured</strong></td>
<td>67.9%</td>
<td>58.3%</td>
<td>52.9%</td>
<td>42.3%</td>
</tr>
</tbody>
</table>

Source: FDIC
It’s Also Hard to Grow Organic Lending That Fast

- Banks had to increase cash on hand and Treasury/MBS holdings in order to absorb the increase in deposits
- Deposits grew by $4.3 trillion during the pandemic while lending increased by $2 trillion
- Cash increased by $1.4 trillion and Treasury/MBS by $1.3 trillion

Source: Federal Reserve
How Banks Can Classify Securities Holdings

Available for Sale

Intend to offload from balance sheet

Interest rate hedging less costly to P&L

<table>
<thead>
<tr>
<th></th>
<th>19Q4</th>
<th>23Q1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>$2.9T</td>
<td>$2.8T</td>
</tr>
<tr>
<td>% Assets</td>
<td>13.2%</td>
<td>10.1%</td>
</tr>
</tbody>
</table>

Held to Maturity

Intend to hold to maturity

Interest rate hedging more costly to P&L

<table>
<thead>
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<th></th>
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<th>23Q1</th>
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<tbody>
<tr>
<td>Total</td>
<td>$0.9T</td>
<td>$2.5T</td>
</tr>
<tr>
<td>% Assets</td>
<td>4.1%</td>
<td>9.1%</td>
</tr>
</tbody>
</table>

Total assets grew from $21.7T to $27.5T

Source: Federal Reserve, Federal Reserve Bank of New York
Context of Securities Assets Matters

*HTM dominated by U.S.-backed securities, essentially zero credit risk*

Source: Federal Reserve, Federal Reserve Bank of New York
Shocker: Securities Prices Change With Interest Rates!

Unrealized gains/losses on securities portfolios (billions)

Current:
AFS = $232B
HTM = $284B
Total = $516B

Source: FDIC
Unrealized Losses on Securities

Relative exposure by bank size

Nominal Unrealized Losses (Billions)

- <$10 billion
- $10-$100 billion
- $100-$250bn
- >$250bn+

Nominal Unrealized Losses Relative to Capital

- <$10 billion
- $10-$100 billion
- $100-$250bn
- >$250bn+

- Book Value Minus Fair Value (Unrealized Loss)
- Average Unrealized Loss (RHS)
- Unrealized Loss % Equity
- HTM Unrealized Losses % of Equity (RHS)

Source: FDIC, Moody’s Analytics
So...Banks Sought Liquidity

FHLB advances as a % of GDP

Source: FHFA, BEA, Federal Reserve
And the Fed Came to the Rescue

Bank Term Funding Program

• The Bank Term Funding Program (BTFP) acted as a backstop for banks facing these unique liquidity challenges, and it shored up confidence so that deposit outflow didn’t continue in a more systemic way.

• The BTFP kept the situation from becoming a full-blown larger “run on banks.”

• Apart from monitoring bank liquidity, it’s important not to get too hung up on the SVB bank event...as the big picture conditions are what really matter for CRE.

Source: Federal Reserve
Taking a Step Back….
….this isn’t the GFC all over again

5 Reasons This Is NOT the GFC

1. Bank liquidity is tight, but this is not a banking crisis in the sense that failures were idiosyncratic and acute stress is relatively more isolated.

2. Current economy is MUCH stronger vs. the GFC.

3. Financial system is MUCH stronger (and additional oversight/rules borne out of this are likely to strengthen banking system further)*

4. Policymakers had MUCH faster response.

5. GFC was a housing crisis – which hit everywhere – this one is not.

To read more on the banking sector – recent turmoil and what it means for CRE – see our Bank FAQ.

Source: FDIC, Federal Research, Cushman & Wakefield Research. *Additional regulatory requirements following the Fed’s Annual Stress Test and Basel III Endgame requirements may require further oversight and capital buffers, which would further buttress banking system foundations.
Banks are Important Lender for CRE

Typically accounting for 40 to 45% of originations

- Banks typically account for around 40% to 45% of total CRE financing in any given year.
- Throughout 2022, banks played an even larger role in CRE financing as CMBS and GSE activity retreated.
- Banks also account for about 40% of outstanding income producing debt throughout the CRE universe which totals $4.5 trillion.
- So, any conversation on broader CRE debt and lending should start with a deeper dive into the conditions facing banks leading up to today and heading into the next chapter.

Source: MSCI Real Capital Analytics, Mortgage Banker’s Association, Cushman & Wakefield Research. Note: *Figures based on CRE debt on income-producing properties.
• Some segments have recorded net declines since SVB – including C&I (-2.3%), multifamily (-1.9%) and consumer auto (-0.7%). Single-family residential has been flat.
• Other categories like consumer credit card (+2.5%), ADC (+2.1%) and other consumer loans (+1.2%) have been positive. Note that ~20% of ADC loans are for single-family while ~80% are for nonfarm nonresidential construction.
• Believe it or not, nonfarm nonresidential (+0.2%) has been mildly positive. Note that ~35% of nonfarm nonresidential loans are owner-occupied (and are not income producing per se).

Source: Federal Reserve. Note: ADC = Acquisition, development and construction.
CRE Exposure is Manageable for Most Banks

…but now we are thinking about credit (not liquidity) risk
Small & Community Banks Have More Exposure

…but their shares of outstanding CRE debt is relatively low

Source: FDIC, Mortgage Bankers Association. Note: Share of Total Debt Outstanding does not equate to 100% because other non-bank lender types were excluded from the visualization.
Lenders Were More Disciplined This Go Around

Share of CRE Loans Over 65% LTV by Time Frame

- Leading up to the GFC, LTVs were upwards of 73% for Banks and in the mid- to high-60s% for Life Cos and CMBS. More than 60% of loans were made above 65% LTV across lender types.
- Owners now have more skin in the game, with LTVs trending lower at high-50s to mid-60s%, helping to insulate them from facing underwater circumstances as values reset.

CMBS Underwriting: Better Buffers for Debt-service Post-GFC

- DSCRs were very healthy in recent years, averaging 2.5 over the 2017-2022 period, so owners have had more than double the NOI needed to pay their monthly mortgage (even if dramatically rising debt costs will stress floating rate and maturing mortgages).
- Keep in mind that it’s primarily the lower quality assets that are more exposed to weakening NOI (think low quality office) that will face the greatest challenges.

Source: MSCI Real Capital Analytics, JP Morgan, Trepp, Cushman & Wakefield Research
And Better Supply Fundamentals

Occupancy going into recession for CRE sector

Source: Cushman & Wakefield Research, *CoStar/Cushman & Wakefield Research
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Key Measures of Inflation are Still Running Too Hot

*Year-over-year changes mask recent stabilization or reacceleration on a 3- and 6-month basis*

**Core Inflation (Less Food & Energy)**

**Supercore Inflation (Core Services Excluding Shelter)**

Source: U.S. Bureau of Labor Statistics. Note: *Shelter costs lag in terms of their impact on CPI inflation.* *The Fed’s estimated target for Core CPI is 2.5%; an estimated target for supercore is not widely or formally noted from the Fed, but 3.0% is provided as a reference point.*
Wage Growth Must Cool to Bring Inflation Down

Labor market tightness contributing to sustained wage pressure

U.S. Economy Expected to Enter Recession ‘Soon’

Real GDP Growth, Annualized Rate (%)

Job Growth (000’s)

Recession is over after Q3 2024

Must Pass Other Macroeconomic Milestones First

The credit-flow story extends to all types of businesses (not just the CRE sector)

- Approximately 1-2 quarters ahead of a recession, >40% banks report tightening lending standards.
- As standards tighten, business, consumer and investor sentiment typically falters as well.
- Banks and other lenders typically begin loosening credit standards towards the end of a recession.
- In the current downcycle, pencil in a gradual thawing in the credit markets (both the business and CRE sectors) to start H1 2024.

Source: Federal Reserve Senior Loan Officer Opinion Survey (SLOOS)
Impact of Tighter Lending Standards on CRE Investment

% of Loan Officers Tightening Standards (Inverted) Alongside CRE Transaction Volume

- CRE Quarterly Sales Volume (Billions, RHS)
- All CRE Loans
- Construction
- Commercial
- Multifamily

% of Banks Report Stronger Loan Demand Alongside CRE Transaction Volume

- CRE Quarterly Sales Volume (Billions, RHS)
- All CRE Loans
- Construction
- Commercial
- Multifamily

Source: Federal Reserve (SLOOS), MSCI Real Capital Analytics. Note: *Commercial denotes nonfarm nonresidential CRE lending.
C&W’s Baseline Glide Path

Glide path timeline for key indicators

Source: Cushman & Wakefield Research
In Case You Didn’t Get the Memo…

...U.S. CRE is already in a recession

Source: MSCI Real Capital Analytics, Cushman and Wakefield Research, CoStar/Cushman & Wakefield Research*
Higher Debt Costs Mean U.S. Cap Rates go to 6.0% - 7.5%

CRE cap rates must adjust upward to remain attractive as a comparative asset class

Rule of thumb: Every 100-bps increase in cap rates results in a ~20% decrease in property values if there is no corresponding increase in NOI to offset that.

This implies that property values will fall by ~40% from peak to trough.

Source: Federal Reserve, Moody’s Investor Services, NCREIF, MSCI Real Capital Analytics, Cushman & Wakefield Research. Note: *All-property cap rate comprised of industrial, multifamily, office and retail, weighted by each sector’s share of sales from 2018-2022.
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Historically, Fed Pivot Signals Nadir in Pricing

Source: Federal Reserve, Cushman & Wakefield Research
Triggers to Stress & Distress = Confluence of Factors

Quantifying stress/distress involves overlaying several factors against the context of constrained lending conditions.

- Diminution of Underlying Value
- Deteriorating Cash Flows
- Floating Rate Loans, Bridge Loans and Oncoming Loan Maturities
- Constrained Lending Conditions

- Against the context of rising interest rates, cap rates adjust upward, which leads to declines in property values.
- Holding property income constant, and still accounting for recent appreciation, many recently originated loans may face underwater circumstances.
- Against context of heightened uncertainty and greater lender scrutiny….
- Borrowers will be facing higher costs of capital and potential challenges in servicing their debt at new (much higher) interest rates.
- Refinancing may require additional capital infusions to meet new loan thresholds (DSCR and LTV).
- Increasing vacancy leads to deteriorating cash flows that undermine debt service ability and loan performance status.
- Arises as a result of either broad softening in demand (cyclical influences) or structural influences.
- Includes the structural adjustments occupiers are making to their space strategies to adapt to WFH – leads to increasing risk of functional and competitive obsolescence.
- Lenders will be faced with decision to amend, modify or extend maturing loans.
- All as they focus on conservatism and selectivity.

Source: Cushman & Wakefield Research, *MSCI Real Capital Analytics.*
Cross-Sector Loan Maturities Vary by Magnitude

Loan Maturities by Sector (Billions)

$318B of Office Loan Maturities Through 2025

<table>
<thead>
<tr>
<th></th>
<th>Billions</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Maturities</td>
<td></td>
<td>$394</td>
<td>$501</td>
<td>$464</td>
</tr>
<tr>
<td>Office Maturities</td>
<td></td>
<td>$98</td>
<td>$117</td>
<td>$103</td>
</tr>
<tr>
<td>Bank Maturities</td>
<td></td>
<td>$115</td>
<td>$171</td>
<td>$88</td>
</tr>
<tr>
<td>Bank Office Maturities</td>
<td></td>
<td>$28</td>
<td>$40</td>
<td>$33</td>
</tr>
</tbody>
</table>

- Loan maturities will remain a challenge and will fuel demand for rescue capital, particularly because borrowers will be facing higher capital costs, constrained lending availability, and increasingly restrictive standards and terms.
- Many recently originated loans were of floating rate debt structure and will face acute challenge. As a result, loan maturity arises as a particular trigger to oncoming stress / distress.
- As the wave of maturities pushes properties to adjust to today's new environment, this will likely pave the way for price discovery and the potential for more transaction activity.

Source: MSCI Real Capital Analytics
Quantifying One Layer of Distress: Increasing Obsolescence
…and drilling specifically into office…

Distress Linked Directly to Obsolescence

<table>
<thead>
<tr>
<th>Total Asset Value Facing Risk of Distress</th>
<th>$42 Billion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obsolete SF at Risk</td>
<td>330 MSF</td>
</tr>
<tr>
<td>Value Prior to Reset (average P/SF since 2014, Bottom Tier)</td>
<td>$130 P/SF</td>
</tr>
</tbody>
</table>

Average Per Year $6.0B / year

- One approach to quantifying distress is to utilize excess vacancy (330 MSF) and apply average psf value estimates prior to the pricing reset to arrive at estimated total value figures, which can be extended across a distress transaction cycle (last distress cycle unfolded over seven years during/after GFC) – See chart on the right.

- Overlaying the $42 billion estimated annual distressed volume across a seven-year forecast horizon shows that distressed volume will reach and exceed GFC-peak levels.

- On a share (%) of total volume basis, obsolescence-related distress is expected to average 7.3%, and trend below the GFC prior peak of 11% recorded in 2009.

Source: MSCI Real Capital Analytics, Cushman & Wakefield Research
Anything “Not Trophy” Faces Even Greater Pressure

Office sector cap rates by quality tier

The historic spreads in low quality tiers will widen materially in the forecast given the pronounced weakness that lower quality assets will confront.

Source: NCREIF, MSCI Real Capital Analytics, Cushman & Wakefield Research
Anything “Not Trophy” Faces Even Greater Pressure

Low quality (Bottom Tier) office to face much more significant price corrections

Year-over-Year Percentage Changes in Office Tiers**

<table>
<thead>
<tr>
<th></th>
<th>Top Tier</th>
<th>Bottom Tier</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>-5.8%</td>
<td>-9.4%</td>
</tr>
<tr>
<td>2023</td>
<td>-28.5%</td>
<td>-49.9%</td>
</tr>
<tr>
<td>2024</td>
<td>-11.7%</td>
<td>-17.0%</td>
</tr>
<tr>
<td>2025</td>
<td>4.5%</td>
<td>-6.5%</td>
</tr>
<tr>
<td>2026</td>
<td>3.9%</td>
<td>-0.5%</td>
</tr>
<tr>
<td>2027</td>
<td>3.8%</td>
<td>-0.1%</td>
</tr>
</tbody>
</table>

- 25-45% potential peak-to-trough decline in top tier office
- Versus 50-75% peak-to-trough decline in bottom tier office, which also extends out longer as the impact of obsolescence risk flows through the segment.
- This does not imply that all properties will encounter these actualized annual or peak-to-trough losses.
- Many owners with cash-flow positive properties (particularly those with low or no leverage) may seek to ride-out the downturn and will hold through this period without having to actualize such peak-to-trough losses.
- During downcycles, fewer assets trade and realize such real-time market repricing thereby allowing time for the market to recover.
- For assets that are held through the worst of the price declines, realized value diminution would deviate from these estimates, and possibly significantly.

Source: Cushman & Wakefield Research. Note: *Value index = 100 in year 2021. **C&W Research Baseline Recession Scenario
Buy-side: An Income-Focused Era is Upon Us….

NOI growth by asset type

NOI Growth Still Historically Strong (excl. Office)

Income Prospects to Define Next Chapter (19Q4 = 100)

Source: NCREIF, Cushman & Wakefield Research. Note: Figures are based on year-end.
CRE Stacks Up Well Against Other Assets

…even with oncoming price reset

Source: NCREIF, Various, Cushman & Wakefield Research. All types cap rate calculated for four main property types using weights based on capital investment share from 2018-2022. For each horizon, the sell dates are: 5-year = 22Q4, 7-year = 24Q4, 10-year = 27Q4.
Strong Vintage Years Follow Periods of Dislocation

Rolling five-year forward returns (all-property)

- The age-old adage still holds.
- Periods following times of dislocation are typically great vintage years for investment.
- Periods of acute uncertainty offer opportunities for those that are nimble, with deployable capital and with an ability to identify relative value, distress or long-term growth potential.
- Now is also an opportune time to consider actualizing returns (and creating liquidity for future buying opportunities) for high-quality assets that remain in favor for lenders.

Source: NCREIF, Cushman & Wakefield Research