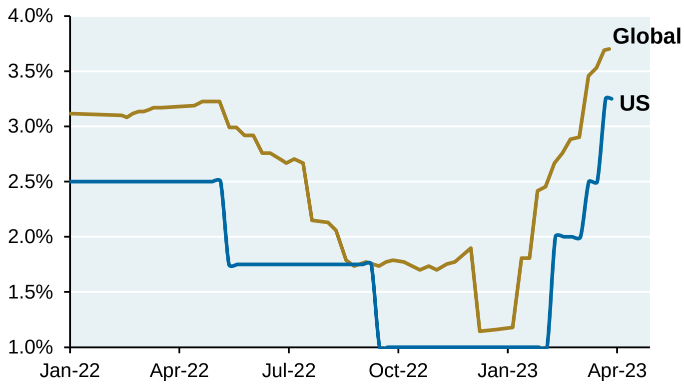
Frankenstein's Monster: US banks and the unintended fallout from the Fed's monetary experiment; the wipeout of Credit Suisse contingent convertible securities; commercial real estate, regional banks and the post-COVID occupancy shock; Presented Without Comment: San Francisco

First, a brief market and economic update. Contemporaneous US data look good:

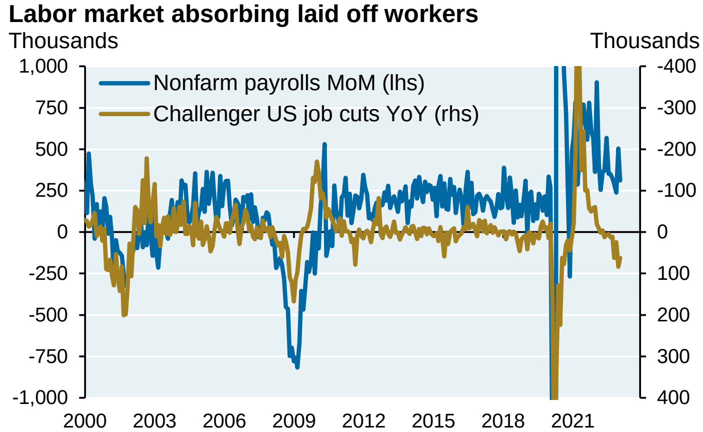
- Global GDP estimates for Q1 continue to rise, including the US where growth has been revised up to 3.3%. Q1 profit margins and earnings should be similarly resilient
- Challenger job layoffs are picking up but the job market appears strong enough to absorb many of the newly unemployed. Wage growth and job openings still point to a very tight labor market, outside tech
- Many US and global companies termed out their fixed rate debt and have the lowest interest expense to cash flow in decades. Some may not feel a material impact from rising interest rates until 2030[1]
- US household obligations (debt, leases, property taxes and rents) are still very low relative to disposable income, suggesting any slowdown or recession would be a modest one

Q1 2023 global and US GDP growth forecast
Percent change, forecast by date made



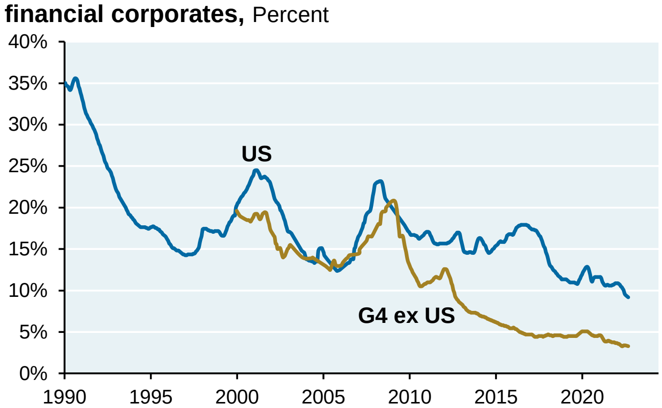
Source: J.P. Morgan Global Economics. April 5, 2023.

Labor market absorbing laid off workers
Thousands



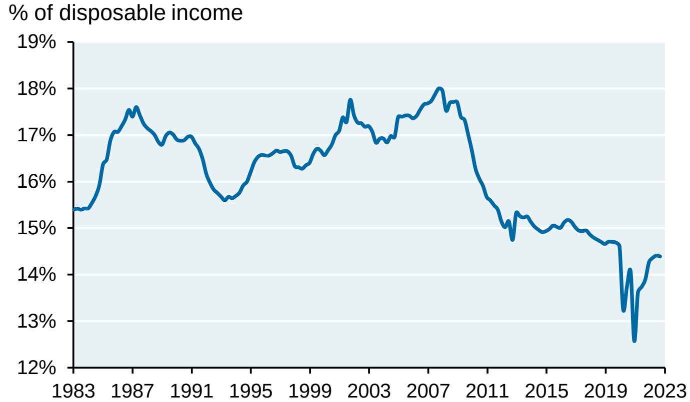
Source: Steno Research, Bloomberg, JPMAM. February 2023.

Interest expense as % of operating cashflows for non-financial corporates, Percent



Source: JP Morgan Global Markets Strategy. Q3 2022.

US financial obligations ratio
% of disposable income



Source: Bloomberg, JPMAM. Q4 2022.

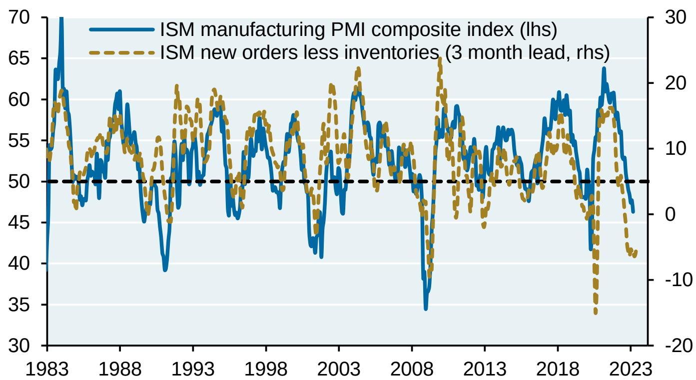
[1] "*Why have equities and credit been so resilient?*", Nikolaos Panigirtzoglou, JP Morgan Global Market Strategy Flows & Liquidity Report, March 1, 2023

That said, we still see weakness in some important leading indicators:

- Falling new orders and rising inventories point to a manufacturing downturn later this year
- Young unprofitable companies continue to suffer large cash flow losses; while the stock market has already repriced them, the economic impact of their spending contractions is ongoing
- Lending standards are tightening in the US and Europe. There was a very large weekly decline in US banking system loans for the week ending March 29th, driven mostly by weakness in C&I and commercial real estate lending. Some comments I've seen describe it as "the large decline ever", which is technically true but not when adjusted for inflation. During the 2001 and 2008 recessions, similar drawdowns took place multiple times when measured in real terms
- The money supply is contracting everywhere but China

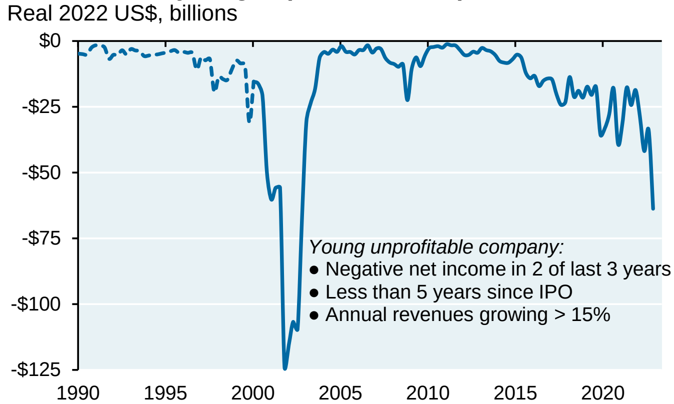
Banking stresses in the US and Europe are moderating thanks to another round of Central Bank intervention and extraordinary aid. As we wrote in the 2023 Outlook, we do not expect a severe recession or a market correction below the lows of 2022. Even so, we believe there will be lower equity market levels at which to add risk sometime during the summer or fall of this year.

US new orders less inventories predicting ISM downturn
Index (50+ = expansion) Index, 3 month average



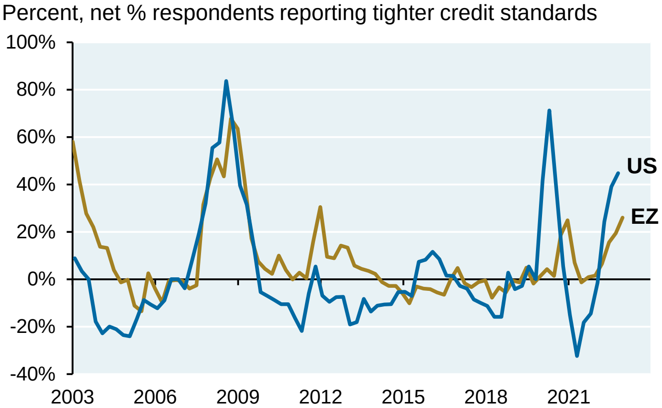
Source: Bloomberg, JPMAM. March 2023.

Net income of young unprofitable companies
Real 2022 US$, billions



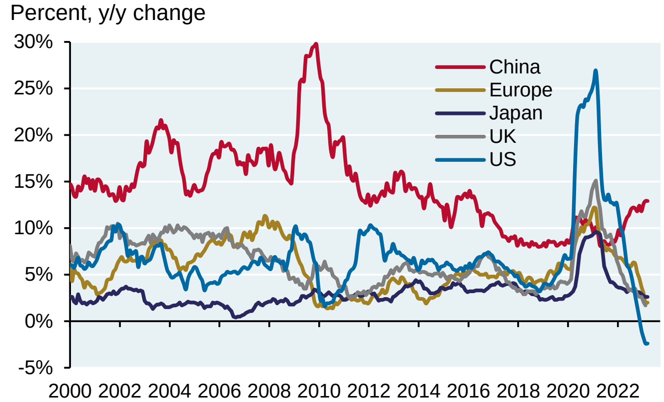
Source: Factset, JPMAM. Q4 2022.

Tightening of lending standards in US and Eurozone
Percent, net % respondents reporting tighter credit standards



Source: Bloomberg, JPMAM. Q1 2023.

Global M2 money supply growth: China is an outlier
Percent, y/y change



Source: Bloomberg, Bank of England, JPMAM. March 2023.

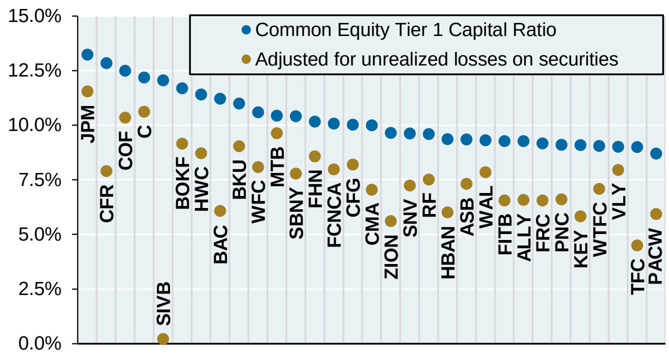
Frankenstein's Monster: US banks and the unintended consequences of the Fed's monetary experiment

Creating life in inanimate body parts from deceased criminals using energy from a lightning storm sounds great on paper and was inspired by 18th century Galvanism experiments. However, Dr. Frankenstein's invention ended up having negative unintended consequences that he didn't anticipate. Same for the Fed; ten years of negative real policy rates followed by sub-1% 10 year Treasury yields and a doubling of the Fed's balance sheet from $4.5 trillion to $9 trillion in just two years, the largest monetary experiment in US history, has negative unintended consequences as well. Like the townspeople fleeing Frankenstein's Monster, some depositors are now wary of banks with substantial underwater loans and securities whose yields the Fed had manipulated.

In our March 10 piece, I included a chart on the pro-forma impact of unrealized securities losses on bank capital ratios; that's the chart on the left. In the rush to write on the day of the Silicon Valley Bank (a.k.a. Silicon Venture Bank[2]) failure, I neglected to mention another Fed casualty: **residential mortgage and other loans underwritten at reasonable loan to value and debt to income/cash flow, but at very low coupon rates**. Now that mortgage rates have doubled from 3% to 6%, there's another issue to consider: unrealized loan losses due to higher rates. The chart on the right shows the impact of this additional adjustment on capital in red.

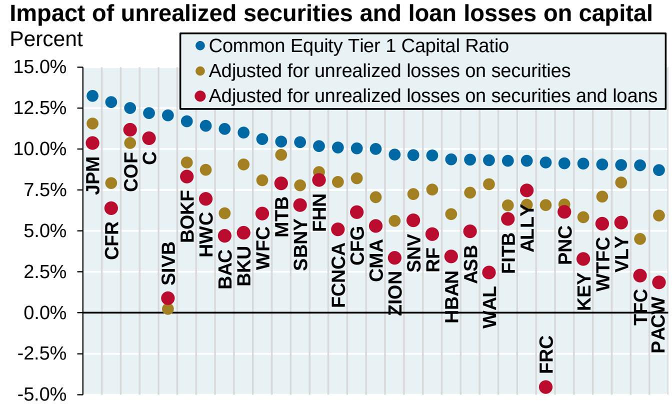
To be clear, some banks did a better job than others navigating the Fed's monetary experiment. But as shown in the third chart, being flooded with COVID-era deposits made navigating that monetary experiment much harder to do. Some banks with the largest pro-forma capital adjustments due to rising interest rates have seen their preferred stock yields rise sharply, as shown in the fourth chart.

Impact of unrealized securities losses on capital ratios
Percent



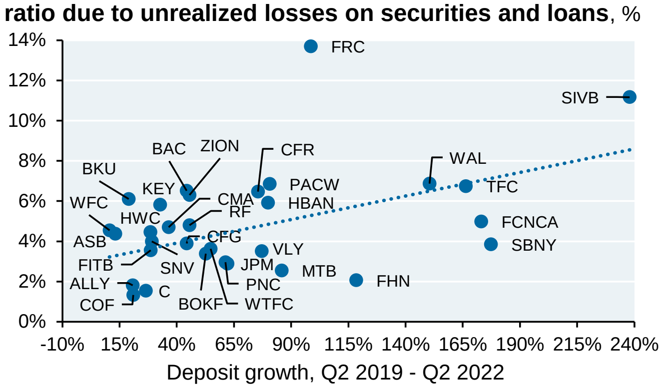
Source: JPMAM, Q4 2022. All calculations based on 10-K reports

Impact of unrealized securities and loan losses on capital
Percent



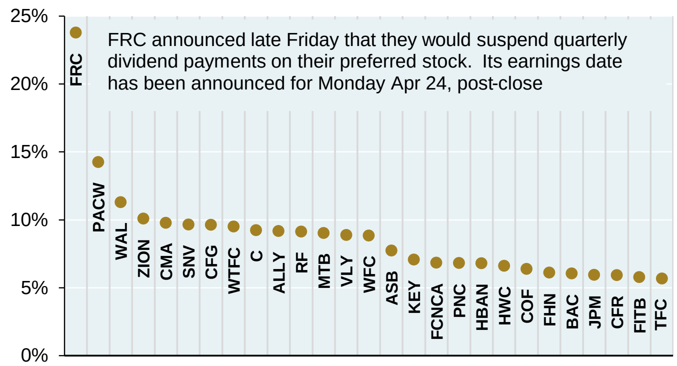
Source: JPMAM, Q4 2022. All calculations based on 10-K reports

More money, more problems: Decline in pro-forma capital ratio due to unrealized losses on securities and loans, %



Source: Bloomberg, JPMAM. Q4 2022.

Preferred stock yield
Percent



Source: Bloomberg, JPMAM. April 10, 2023 10:42 AM.

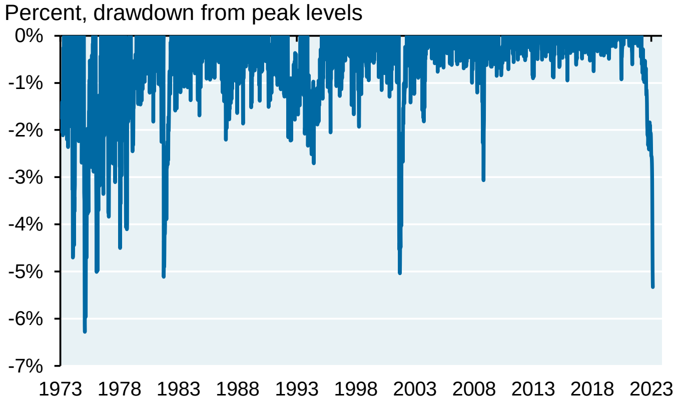
[2] **Silicon Valley Bank** deposits rose and fell synchronously with the IPO calendar; it offered venture loans in exchange for deposit exclusivity; its avg account balance was over $4 mm, 89% of its deposits were uninsured, and its top ten depositors had $13 billion in uninsured deposits, all of whom were bailed out despite the long history of losses imposed on uninsured depositors in FDIC resolutions discussed in our March 10 note. **If the next bank's uninsured depositors are not bailed out, I can't wait for the FDIC's explanation as to why**

The presence of unrealized losses on bank balance sheets is not abnormal, and is entirely consistent with a rising interest rate cycle. The problem this time: some banks were flooded with so many stimulus-related deposits at a time of low rates that their balance sheets are stuffed with low-yielding assets. And to reiterate, this is only a problem when large deposit outflows cause unrealized losses to be realized.

The Fed's new rules for the Discount Window allow banks to borrow against securities at book value rather than market value, so that should help. But it doesn't address banks with underwater, high-quality loans or the flood of deposits departing for higher money market fund yields. Here's what we know on the big picture, with charts for each. **Many system indicators are now stabilizing**, but one news story, one rating agency action or an announcement from a single bank could reignite market/depositor concerns.

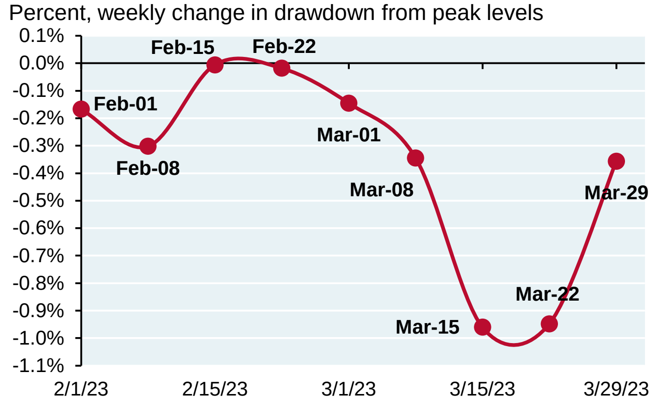
- The drawdown in commercial bank deposits is one of the largest on record since the early 1970's. The pace of this drawdown has slowed from the mid-March peak when 1% of system deposits fled in one week
- Since Feb 1 of this year, the drawdown in small banks as a share of their deposits has been 4.6% compared to 2.2% for large banks
- Discount Window and Bank Term Funding Program borrowing has stabilized
- Money Market Funds have been flooded with inflows, but it appears that they're slowing based on balances these funds deposit with the Fed. Money Market Fund balances have reached a new high at $5.6 trillion, with $348 billion of inflows since the SIVB failure (at some point, this money will depart and be invested)

Drawdown of US commercial bank deposits
Percent, drawdown from peak levels



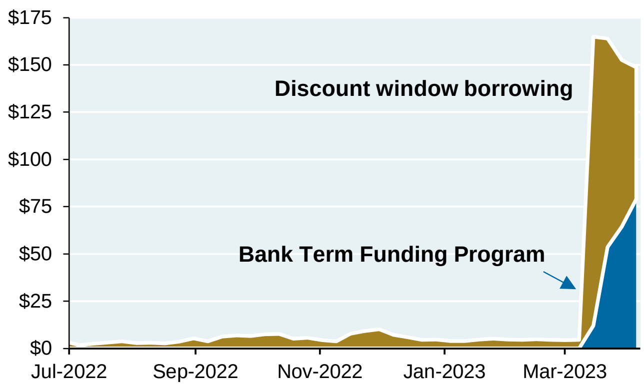
Source: Bloomberg, JPMAM. March 29, 2023.

Change in drawdown of US commercial bank deposits
Percent, weekly change in drawdown from peak levels



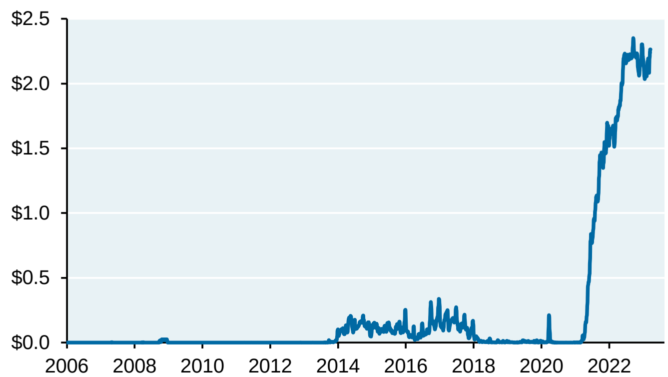
Source: Bloomberg, JPMAM. March 29, 2023.

Bank borrowing from the Fed
US$, billions



Source: Bloomberg, JPMAM. April 5, 2023.

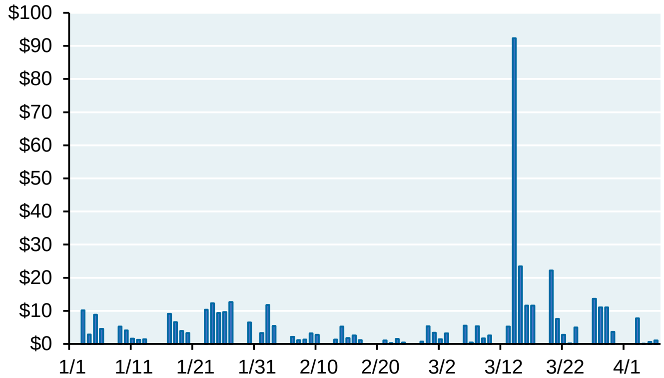
Money placed overnight at the Fed Reverse Repo Facility
US$, trillions



Source: Fred, Bloomberg. April 6, 2023.

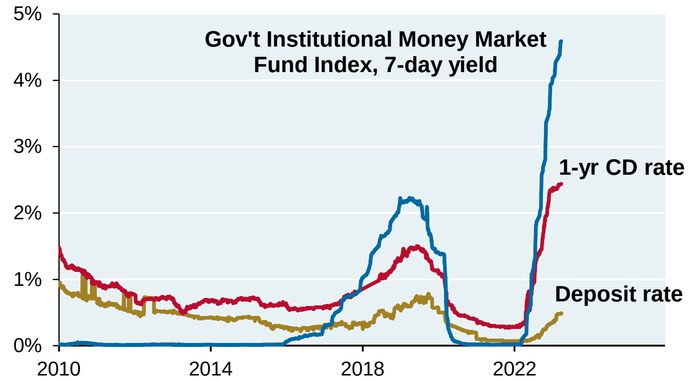
- FHLB borrowing (which reflects the degree to which member banks borrow from it) has declined as well from the peak in mid-March
- While one year and overnight bank deposit rates are rising, there's still a large gap between deposit rates and money market fund rates
- Regional bank stocks have stabilized and are priced similarly to money center banks, losing the valuation premium that persisted from 2020 to the beginning of this year
- Loan loss reserves vary substantially by bank

Federal Home Loan Bank daily debt issuance in 2023
US$, billions



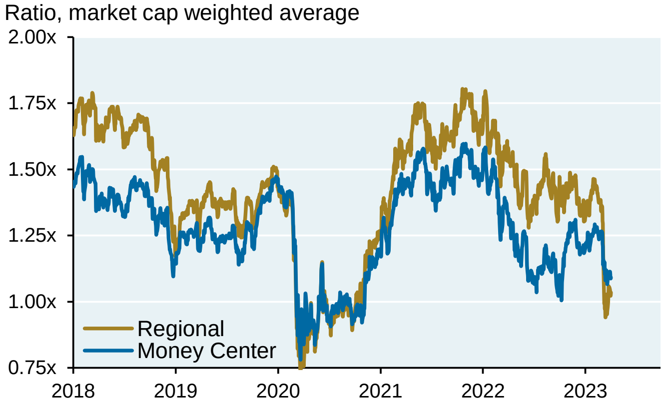
Source: Bloomberg, JPMAM. April 6, 2023.

How you can invest your cash
Percent



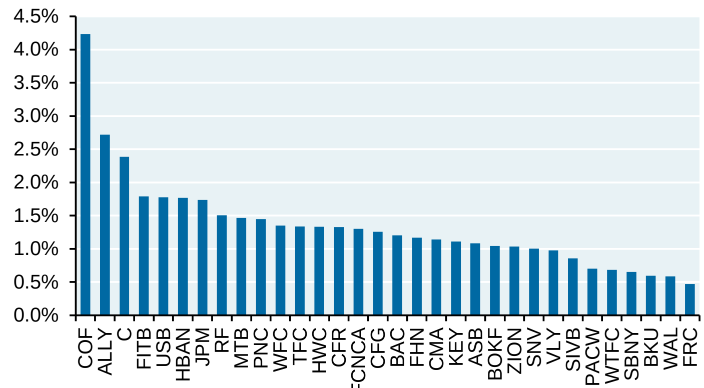
Source: Crane Money Fund Data, Bankrate.com, JPMAM. April 7, 2023.

Bank price to book value
Ratio, market cap weighted average



Source: Bloomberg, JPMAM. April 6, 2023.

Bank loan loss reserves, share of total loans
Percent



Source: Bloomberg, JPMAM. Q4 2022.

Some final comments on unrealized security and loan losses:

- For systemically important banks, no adjustment for AFS is needed since AFS unrealized gains and losses are already reflected in capital ratios. As a result, only gains and losses in HTM portfolios are included in our adjustment. For these four banks, we tax-adjust the difference between amortized cost and fair value of the HTM securities assuming a tax rate of 24%, and subtract this amount from Common Equity Tier 1 Capital
- Regional banks shown elected to add back AFS losses to regulatory capital (an option not available to larger banks). For purposes of this analysis, to make regional bank ratios comparable to larger banks, we reversed add-backs associated with unrealized AFS losses since the four larger banks have already reflected them
- Direct hedging of interest rate risk in HTM portfolios is generally prohibited by rule ASC 320 since HTM treatment implies that a bank will not ever sell the bonds, in which case there is no reason to hedge variations in price as a function of changing rates. Direct hedging of interest rate risk is allowed in AFS portfolios. However, accounting treatment of these hedges requires quarterly recognition of gains and losses in the income statement and capital accounts. Therefore, under our working assumption in the chart that banks had to liquidate AFS portfolios, there would be no offsetting hedge gain to recognize at that time

Europe: Credit Suisse contingent convertible wipeout was always part of the risk

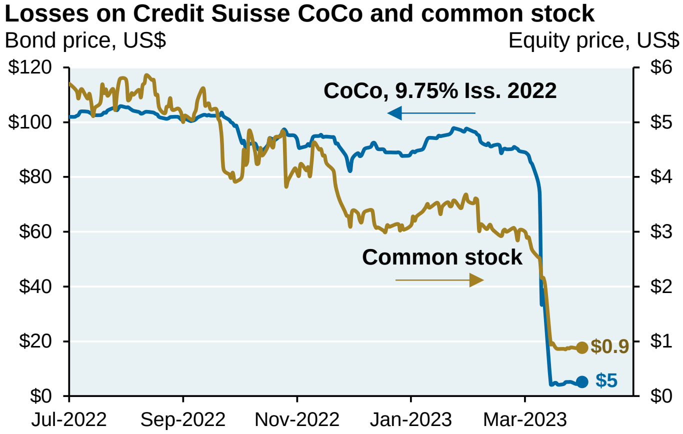
Another monster sighting: Swiss regulators reenacted a scene from Struwwelpeter and completely wiped out Credit Suisse contingent convertible "CoCo" securities, delivering even larger losses than those experienced by owners of Credit Suisse common stock.

When I looked into the European CoCo market in 2016, I was skeptical about their investment merit in times of stress: "Buyers are essentially selling a variety of short options on the issuer's earnings power and capital base, the business cycle and regulatory discretion". We also estimated that this optionality was extremely underpriced, and were concerned that incentives might even prompt issuers or govt's to wipe out CoCos in advance of a capital raise (see Appendix on page 13 for the full text of what I wrote at the time).

Sections from a Credit Suisse CoCo prospectus appear on p.13 and clearly state that a "writedown event" will cause principal to be written to zero; and that a writedown triggered by a "viability event" is at the **sole discretion of Swiss regulators** if they conclude that it's necessary to prevent insolvency, or that Credit Suisse received an irrevocable commitment of extraordinary public support. The Risk Factor section even warns that the CoCo could be wiped out before equity capital. According to Swiss National Bank Vice President Schlegel, had CS not been sold to UBS, CS would have gone bankrupt the next day.

The intrigue in the case of the Credit Suisse CoCo was two-fold: (a) when the Swiss government lent 50 bn Swiss Francs to CS on Thursday March 16, it claimed that CS was still a going concern, so the migration to "unviable" by the following Sunday was incredibly rapid; and (b) the Swiss government opted not to "preserve the creditor hierarchy" and imposed a full writedown on CoCos but allowed a small recovery for the equity. As unorthodox as this may be, this risk was highlighted in the prospectus and is entirely consistent with risks of investing in CoCos that we highlighted 7 years ago: there's a lot of regulatory discretion involved.

Losses on Credit Suisse CoCo and common stock



Source: Bloomberg, JPMAM. April 6, 2023.

Aftermath

The merger entitled Credit Suisse shareholders to 1 share of UBS for every 22.48 shares of CS they held. That explains the final resting place for CS shares in the chart, which are down 71% YTD.

As for Credit Suisse CoCos, the Swiss Financial Market Supervisory Authority announced they would be written to zero. They are still quoted on Bloomberg at $5 (-95% YTD), presumably representing litigation value against someone. Good luck with that.

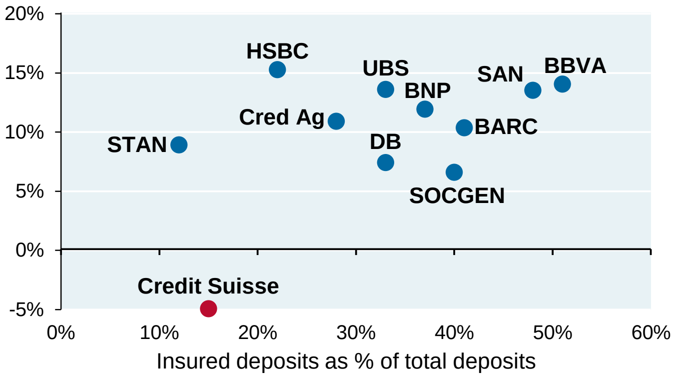
CoCos are sometimes referred to as AT1 securities since in Europe they count as additional Tier 1 capital.

I've read a lot of articles from analysts forcefully arguing that not all European CoCo securities have the same writedown features as the Swiss versions. Some are converted to equity instead of being written down; some require dividends to be turned off for some period and a subset allow for make-up provisions on missed payments. **However, these provisions are only applicable in cases where the bank is still a going concern and has only breached its Tier 1 Capital Ratio trigger**. In a drawn out process, this "still viable but undercapitalized" condition would in fact lead to less drastic outcomes in UK and EU CoCos; the analysts are right about that. But Credit Suisse went straight from "viable" to "unviable" without any undercapitalized phase in between. **And if the same thing should occur with a UK/EU bank, the same writedown provisions would apply since ALL CoCo securities require full writedown in the case of unviability (i.e., needing massive public support of some kind)**. The only thing that the UK and EU will promise you: unlike the Swiss, they will maintain creditor hierarchy and wipe out the equity first. That Schadenfreude is of little comfort when your own security goes to zero.

Why weren't traditional capital and liquidity measures of any use to investors in Credit Suisse? I am not 100% sure I know the answer, but I have some suspicions. Last October[3], S&P argued that Credit Suisse fears were totally overblown, citing several capital and liquidity statistics for which CS ranked at or near the top vs large European banks (see table). But liquidity can change rapidly if you don't make any money, and the banking indicators below don't capture that. Credit Suisse was a clear outlier in terms of its low profitability combined with a very low level of insured deposits. From Jan 2022 to March 2023, Credit Suisse suffered retail and wholesale funding outflows that reduced its assets by 40%.

To wrap up, it's unnerving that capital and liquidity statistics relied upon by regulators ended being of such little use in assessing insolvency risks at Credit Suisse. Its declining balance sheet, its lack of profitability and litany of legal and regulatory issues ended up being more informative.

CS: a profitability and uninsured deposit outlier
Return on tangible book value, 2023 estimate



Source: Autonomous Research, Bloomberg, JPMAM. Q4 2022.

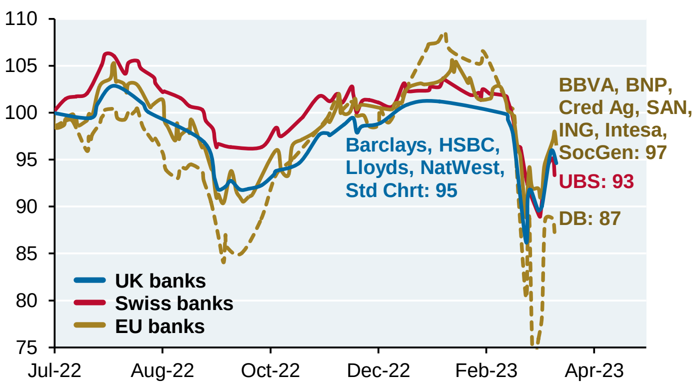
Credit Suisse ranked at or near the top vs other EU banks on capital/liquidity ratios, but this was of no help in assessing its insolvency risks
For each indicator, higher is "better"

Indicator	Credit Suisse	Peer group
Liquidity coverage ratio	144%	129%-165%
Leverage ratio	5.5%	4.3% - 5.9%
Common equity T1 ratio	14.1%	12.3%-14.2%
Risk based capital ratio	20%	16%-21%
Net stable funding ratio	132%	113%-137%

Source: S&P Global, Bloomberg, JPMAM. Q4 2022.

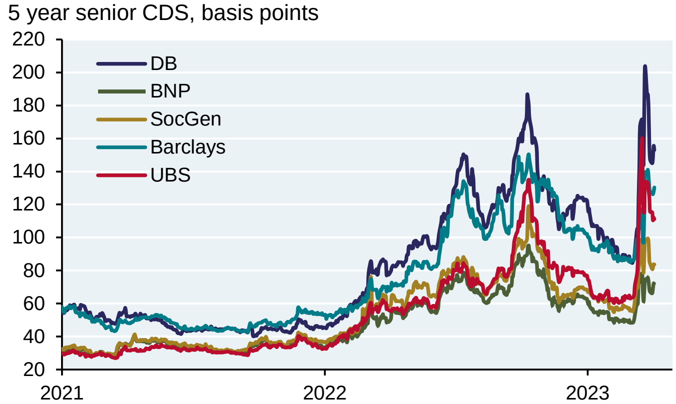
In the wake of the UBS takeover of Credit Suisse, the Credit Suisse CoCo writedown and a $9 billion Swiss gov't second-loss guarantee (UBS takes the first $5 bn loss), the rest of the European CoCo market and European bank credit spreads have stabilized for now.

Indicative European Tier 1 capital securities
Index (100 = June 2022)



Source: Bloomberg, JPMAM. April 6, 2023.

European credit default swap spreads
5 year senior CDS, basis points



Source: Bloomberg, JPMAM. April 6, 2023.

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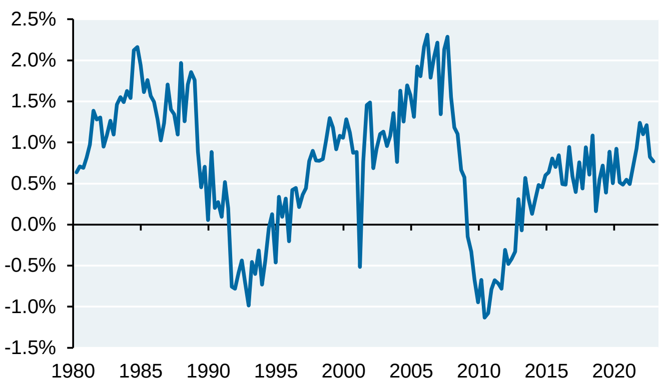
3 "***Credit Suisse's robust capital and liquidity suggest market fears overblown***", S&P Global Market Intelligence, October 6, 2022

Out of Office: commercial real estate adds to the pressure on US regional banks

At first glance, the excesses in commercial real estate (CRE) don't look that bad in this cycle. CRE borrowing as a % of GDP is well below the two prior peaks in the 1980's[4] and 2000's[5], and underwriting standards in the Commercial Mortgage-Backed Securities (CMBS) markets are better than they were before 2008:

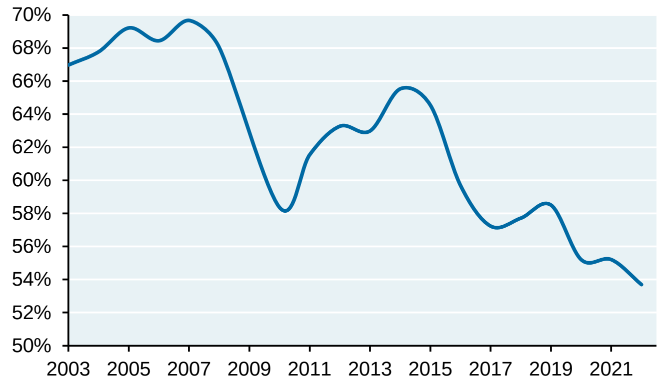
- Decline in average loan to value across all CMBS deals from 70% to ~55%
- Averages can hide outliers so the second chart is important as well, showing a decline in the share of the CMBS market with LTVs over 70%
- Increasing credit enhancement below different tranches of CMBS securities

Commercial real estate borrowing well below prior peaks
% of GDP



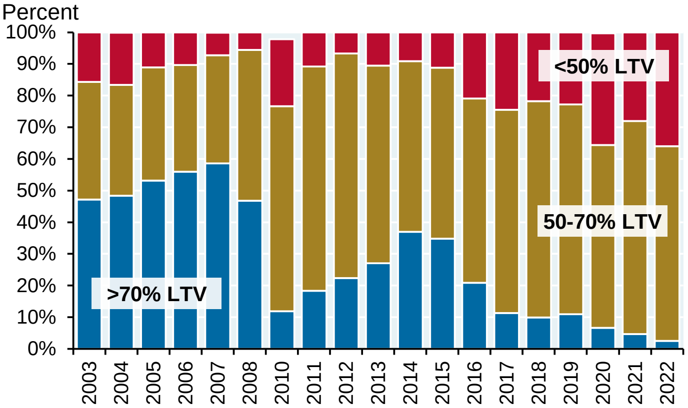
Source: Federal Reserve Board, BEA, JPMAM. Q4 2022.

CMBS weighted average loan-to-value by vintage year
Percent



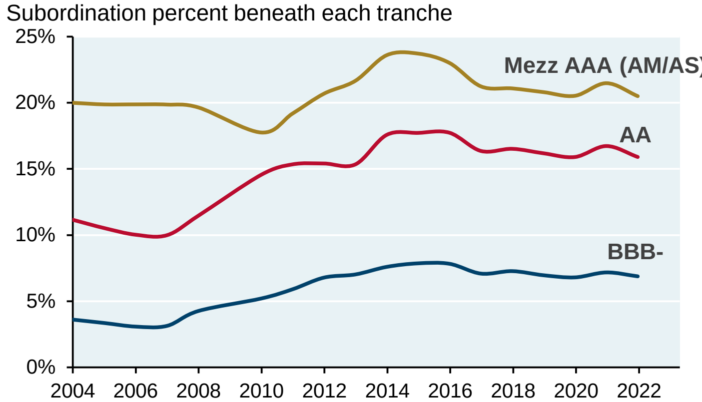
Source: JPMAM. 2023.

CMBS loan-to-value ratios by vintage year
Percent



Source: JPMAM. 2023.

CMBS credit enhancement by vintage year and rating
Subordination percent beneath each tranche



Source: JPMAM. 2023.

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[4] **1980's**. The 1981 Economic Tax Recovery Act ushered in accelerated depreciation allowances for real estate and the ability to offset active income with passive losses. This fueled a massive expansion in commercial property construction. The 1986 Tax Reform Act ended this tax arbitrage. Unoccupied buildings never needed in the first place drove vacancies to 30%-40% in some cities, prices collapsed and banks suffered losses of 15% or more on commercial property loans.

[5] **2000's**. Part of the collapse in CRE during the GFC resulted from poorly underwritten loans sold to CMBS conduits. The fourth chart shows that AAA investors had ~20% credit enhancement beneath them in 2007. However, this is true only when using the underwriting bank's estimates of LTV. At the time, rating agencies recomputed credit enhancement using "stressed" LTVs, in which case AAA credit enhancement in 2007 was closer to 5%. Even so, the rating agencies did not change their CMBS credit enhancement requirements at the time, and are part of the securitization food chain that failed investors.

Here are three big "buts":

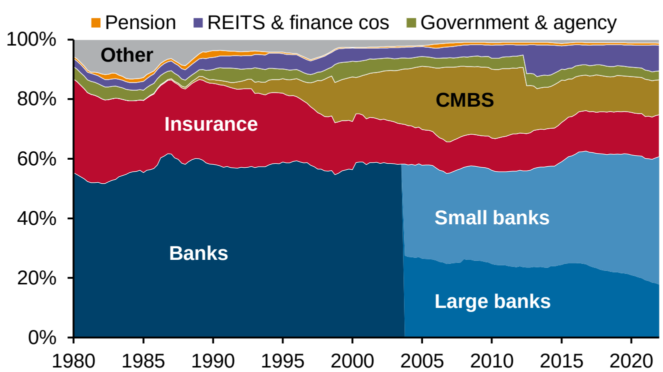
(A) While CMBS may be underwritten more conservatively after the financial crisis, CMBS are a small share of CRE lending, particularly compared to (mostly regional) banks which have larger exposures to office, retail, hotel and industrial loans. Regional banks account for 90% of the increase in bank CRE loans since 2015

(B) there are structural post-COVID occupancy problems in the office market which may result in extremely conservative lending standards, even to trophy properties

(C) 2023 and 2024 are peak years for CRE maturities

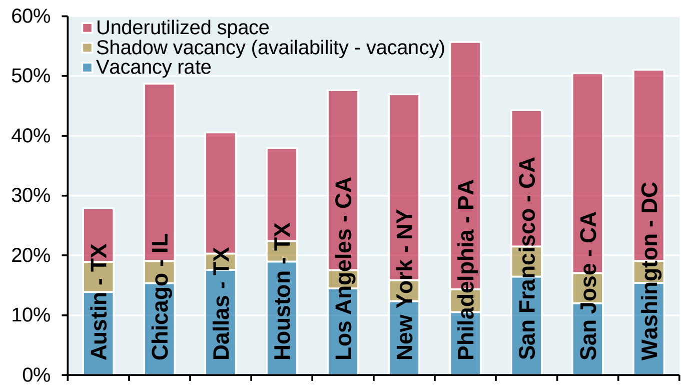
The chart on office stress shows three components: vacancy, shadow vacancy and underutilization. Vacancy refers to currently available space while "shadow vacancy" refers to space that could be available soon (expiring sublet space, space under construction or space which could be vacated upon demand). **The controversial part is the estimate of "underutilized" space**. When COVID began, we started tracking Kastle data on key fob swipes as a measure of office utilization. Some Kastle utilization stats feel very low to us. For example: the recovery in NYC subway/bus, Metro North and LIRR ridership is much higher than Kastle NYC office utilization data. Most transit users are not coming to NYC to see *Bad Cinderella*[6], but to work. Even so, as an imperfect measure of underutilized office space[7] and potential pressure on office rents, key fob data is one place to start.

Banks hold over half of the overall stock of CRE loans
% ownership of commercial mortgages



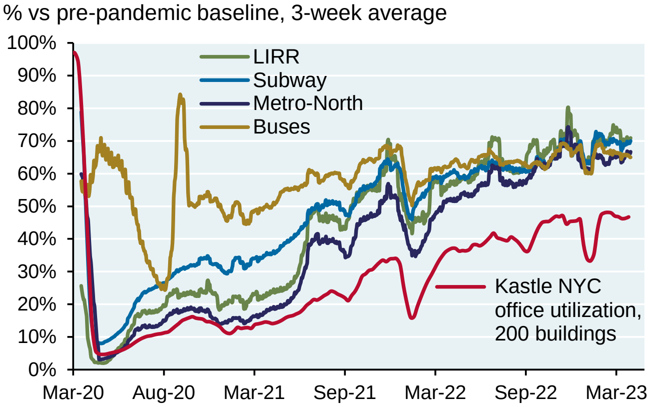
Source: Federal Reserve Board, Bloomberg, JPMAM. Q4 2022.

Office stress measures by market
Percent



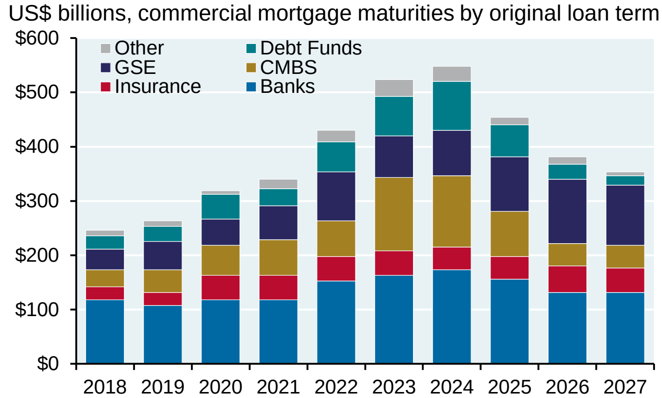
Source: Kastle Systems, CoStar, First American, JPMAM. Q4 2022.

Mind the gap: NYC transit use vs office utilization
% vs pre-pandemic baseline, 3-week average



Source: Kastle, MTA, JPMAM. April 4, 2023.

US has $1.1tn of debt maturing in 2023 and 2024
US$ billions, commercial mortgage maturities by original loan term



Source: GS, NMRK, RCA. March 22, 2023.

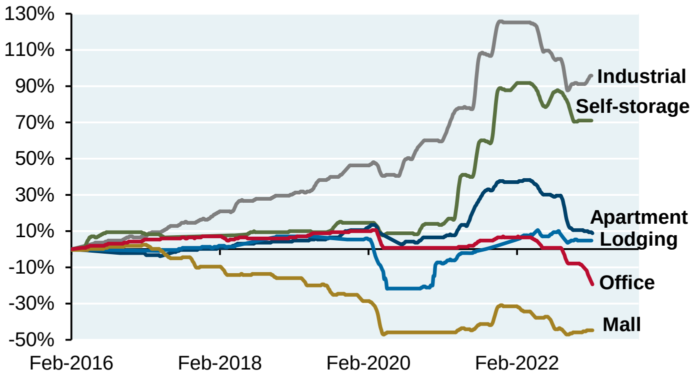
[6] Most of the reviews say something along the lines of "Bad Cinderella: The Title Warned Us"

[7] Vornado Realty Trust's Steve Roth: "**Friday is dead forever, and Monday is touch and go**". The share of hours worked remotely is now ~30%, down from a peak of 60% but much higher than 4% pre-pandemic levels. The gap between what employers expect (2.25 WFH days) and what employees desire (2.75 WFH days) has been stable at 0.5 days for the last year.

How representative is Kastle data? There are 11,000 office buildings in the US with at least 200,000 sq ft of space. Kastle covers 2,600 office buildings in 47 states which is a reasonable sample size. **But even if Kastle overestimates underutilized space, fundamentals still point to deteriorating supply-demand in NYC office.** Manhattan office vacancy reached an all-time high of 16% (JLL), sublease space is 25% of all available vacancy, and around two thirds of all leasing activity is renewals rather than new leases. Shrinking demand from Google and Amazon are also on the horizon in NYC. According to WFH Research (a Stanford/University of Chicago/ITAM effort), NYC is experiencing the largest reductions in annual per person spending due to work from home trends.

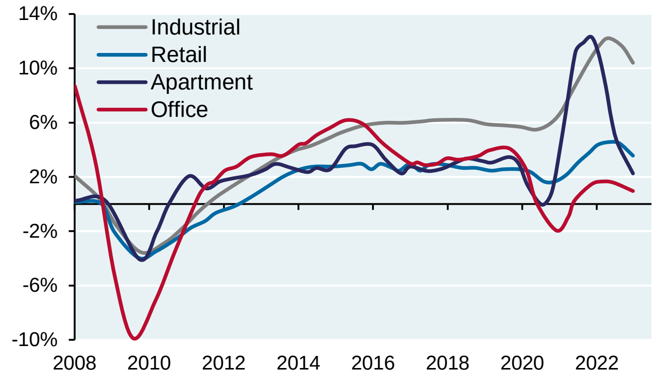
On a national level, Green Street estimates that office appraisal values have fallen by 25% in the last year alone, the largest of any y/y property type decline. Since 2020 office rent growth has been well below other property types, even retail; office leasing activity is back down near pandemic lows; and sales of office buildings are down 66% from 2022 (as a result, office cap rates are not that informative on realizable value). The head of KKR's CRE acquisitions group projects a "very significant distress cycle in the office sector"[8], which will likely focus mostly on older, obsolete buildings where absorption data is very weak. As shown in the fourth chart, modest changes to cap rate, LTV and NOI assumptions can force property owners to raise a lot of expensive mezzanine financing if loans mature in the current environment. **A recent Morgan Stanley REIT report assumed even more stark terms for new office underwriting**: 7.5% cost of debt, 40% LTV and -1% annual NOI declines, culminating in 9.75% cap rates and a 40% decline in office values from current levels over the next 2-3 years[9].

US Commercial Property Price Index by sector
Percent, cumulative change since Feb 2016



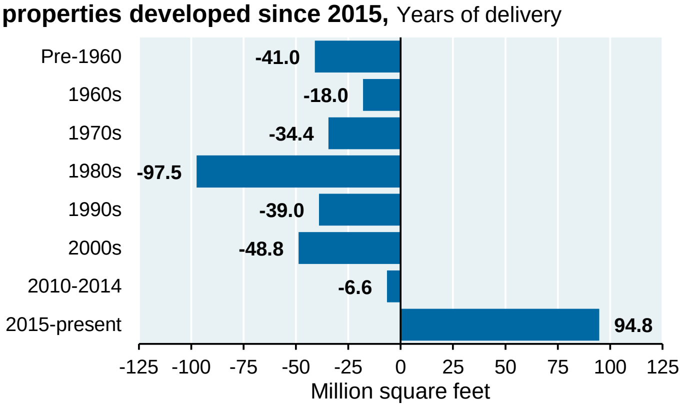
Source: Green Street. March 6, 2023.

Rent growth by property type
%, y/y change, market rent growth in the US



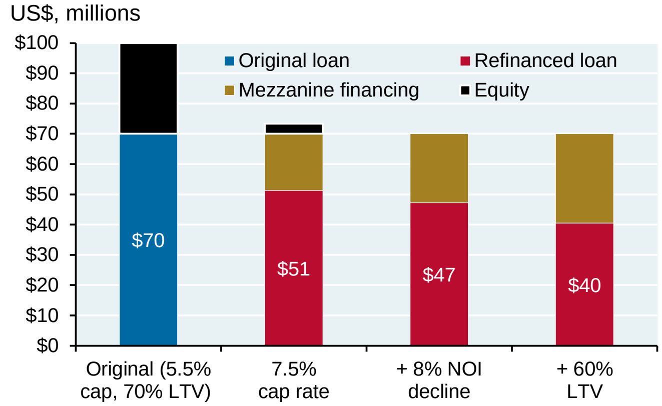
Source: CoStar. Q1 2023.

Absorption since COVID has only been positive in properties developed since 2015, Years of delivery



Source: JPMAM, Trepp. February 2023.

Property value as a function of cap rate, NOI and LTV
US$, millions



Source: JPMAM. 2023. NOI = Net Operating Income.

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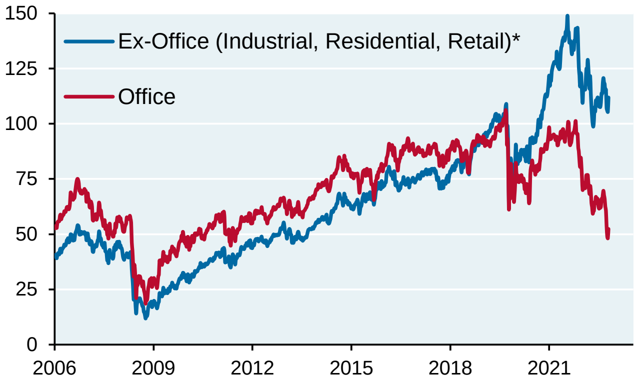
[8] "*New York's Office Vacancy Rate Hits Record High as Troubling Signs Stack Up*", Costar, April 3, 2023

[9] "*What's going on with CRE property prices*", Morgan Stanley REIT weekly, March 27, 2023

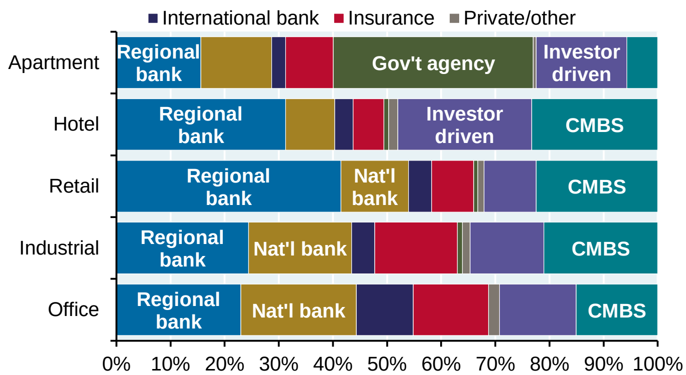
Equity investors have been reducing office exposure, but it's not as easy for CRE lenders. Institutional and individual equity investors have been shunning office exposure relative to other property types. Office now makes up less than 10% of the Wilshire US Real Estate Index, and a rapidly declining share of the MSCI institutional real estate index. And according to Blackstone, B-REIT's office exposure is just 2% (~80% is rental housing and industrial, although that has not slowed the demand for redemptions[10]). But for US banks, exiting the office exposure that represents ~20% of their aggregate CRE lending might not be as easy.

Office REITs underperforming other CRE sectors
Total return index (100 = Dec 2019)



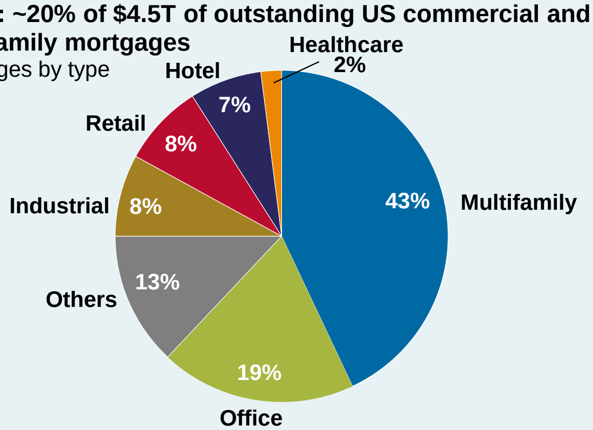
Source: Bloomberg, JPMAM. March 31, 2023. *Ex-Office is equal-weighted.

Regional banks are the dominant CRE lenders
Percent composition of US debt market by lender group



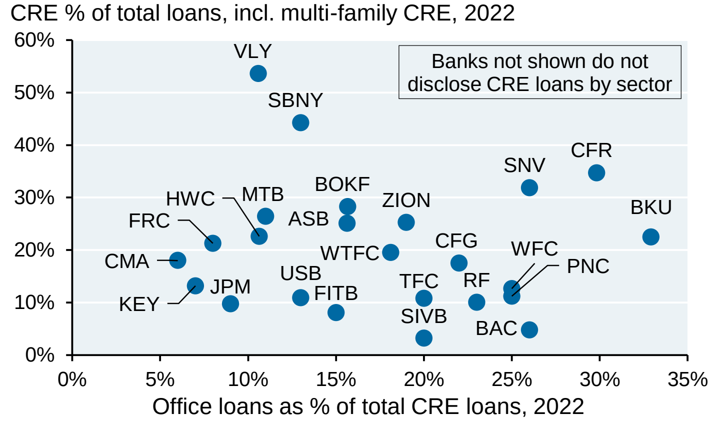
Source: Goldman Sachs Global Investment Research. 1H 2022.

Office: ~20% of $4.5T of outstanding US commercial and multifamily mortgages
Mortgages by type



Source: Goldman Sachs Global Investment Research. 2023.

Commercial real estate exposure
CRE % of total loans, incl. multi-family CRE, 2022



Source: Bloomberg, GS, JPMAM. Q4 2022.

JP Morgan's Investment Bank conducted a bank stress test that assumed 21% delinquency rate for office, 15% for retail and a recovery rate of ~60% for both, with losses incurred over 3-5 years[11]. The results: at most a 30-40 basis point reduction in Tier 1 capital for some smaller regional banks. **That doesn't seem very large, but this analysis assumed that 2022 levels of pre-provision income would persist over the 3-5 year period of loss experience.** Pre-provision income is likely to decline for many banks due a higher cost of customer deposits and a possible recession. As a result, the estimated hit to capital could be larger.

[10] Investors requested $4.5 billion in redemptions from **BREIT** in March and received 15% ($666 mm). Redemption requests were higher in March than in February, but lower than in January. Withdrawals are reportedly still limited to 5% per quarter. If the $4 billion investment in BREIT from the University of California with an 11.25% guaranteed return was meant to slow the rate of redemptions by showing institutional interest in the fund, it's unclear if BREIT's strategy is succeeding yet.

[11] "*Commercial Real Estate Overview: stressing banks, insurance and REITs for CRE weakness*", JP Morgan North American Credit Research, Kabir Caprihan, March 23, 2023

Presented without Comment: San Francisco

The table speaks for itself. According to the Census Bureau's American Housing Survey released in September 2022, 7.6% of San Franciscans still plan to move to another city, the highest response rate of any major city in the survey. San Fran has the country's highest office sublet space available at 7.2%, an office utilization rate of just 41%, its highest office vacancy rate ever[12] at 29.4% and in San Fran's latest budget outlook, office vacancy is projected to peak at 33% in 2025. The changing office and retail landscape in San Francisco raises questions on municipal solvency, public transit and the impact of rezoning.

Downtown recovery rankings, 2019-2022

1	Salt Lake City, UT	135%	32	Atlanta, GA	61%
2	Bakersfield, CA	125%	33	Houston, TX	61%
3	Fresno, CA	121%	34	Charlotte, NC	59%
4	El Paso, TX	117%	35	Denver, CO	59%
5	San Diego, CA	99%	36	Austin, TX	58%
6	Omaha, NB	95%	37	Cincinnati, OH	57%
7	Baltimore, MD	95%	38	St. Louis, MO	57%
8	Columbus, OH	93%	39	Tulsa, OK	54%
9	Albuquerque, NM	90%	40	Boston, MA	54%
10	Colorado Springs, CO	84%	41	Toronto, ON	53%
11	Wichita, KS	83%	42	Edmonton, AB	52%
12	Tucson, AZ	81%	43	New Orleans, LA	52%
13	London, ON	79%	44	Quebec, QC	51%
14	Las Vegas, NV	79%	45	Ottawa, ON	51%
15	Honolulu, HI	78%	46	Minneapolis, MN	51%
16	Tampa, FL	78%	47	Raleigh, NC	51%
17	Sacramento, CA	75%	48	Chicago, IL	50%
18	New York, NY	74%	49	Oakland, CA	49%
19	Washington DC, DC	73%	50	Detroit, MI	49%
20	Memphis, TN	71%	51	Winnipeg, MB	48%
21	Jacksonville, FL	71%	52	Philadelphia, PA	47%
22	Milwaukee, WI	71%	53	Kansas City, MO	47%
23	Fort Worth, TX	70%	54	Vancouver, BC	47%
24	Miami, FL	69%	55	Montreal, QC	46%
25	San Antonio, TX	68%	56	Seattle, WA	44%
26	San Jose, CA	68%	57	Calgary, AB	43%
27	Los Angeles, CA	65%	58	Louisville, KY	39%
28	Halifax, NS	65%	59	Indianapolis, IN	38%
29	Nashville, TN	65%	60	Portland, OR	37%
30	Pittsburgh, PA	64%	61	Cleveland, OH	36%
31	Phoenix, AZ	61%	62	San Francisco, CA	31%

Source: University of Toronto. November 2022.

University of Toronto Downtown Recovery Statistics

- Uses mobile phone data to assess the degree of recovery in urban areas
- Focused on various places of interest, including restaurants, retail stores, museums, libraries and grocers
- GPS locations and movements based on 18 mm smartphones throughout North America
- Machine learning algorithms used to determine "stops"

Karen Chapple, Director of the School of Cities, University of Toronto; and Professor Emerita of City and Regional Planning at UC Berkeley

[12] Salesforce, Airbnb, Meta, DropBox and Uber alone account for 2.3mm sq ft of available sublet space in San Francisco. Other large San Francisco tenants such as **Twitter** have reportedly decided to stop paying for leased space instead. For the latest on Twitter's financial prospects, I thought this was interesting:

"*How much longer can Twitter last, really*", Dave Karpf, Professor of Internet Politics at George Washington University, April 3, 2023

Appendix: From the Eye on the Market Archives, February 8, 2016

The text below is what I wrote in February 2016 on the CoCo market and the risks to investors

The contingent convertible ("CoCo") market, which refers to securities subject to regulatory payout suspension, equity conversion or write-down, has grown to $450 billion globally since 2009 (note: no issuance by US banks since in the US, they don't count as Additional Tier 1 capital). These securities are among the more complex investments I have seen. Buyers are essentially selling a variety of short options on the issuer's earnings power and capital base, the business cycle and regulatory discretion. My colleague Anton Pil believes these options were underpriced when the securities were issued, in some cases at only 25% of fair value.

- While capital ratio triggers which force principal write-down or conversion to common equity are clear, **rules which determine whether payouts must be suspended are more complicated**. In many countries, a computation of "Additional Distributable Items" is required, a concept related to profitability and retained earnings. According to a European rating agency, "estimation of ADI involves an ad hoc analysis of national legislation to correctly identify and separate distributable from non-distributable reserves, a process that may require specific language or legal skills." *Source: Scope Financial Institution Ratings, January 2016*
- Payouts can also be dependent upon regulatory capital buffers related to liquidity, the business cycle, stress tests and the institutional significance of the bank itself, rules which may change over time. Once all these capital buffers are added to the 4.5% minimum, total required core capital can exceed 10% and constrain payouts
- Like many perpetual securities with short term call dates, prices can drop sharply if the market shifts from assuming a call to assuming the security will be left outstanding indefinitely, particularly when after the call date passes, the payout shifts from fixed rate to floating
- Some academics believe that common shareholders and management of banks experiencing substantial problems could have an incentive to force losses on CoCos before engaging in a rights offering to bolster capital. *[Berg and Kaserer, University of Bonn and Technische Universitat Munchen, Jan 2015; the authors argue that incentives created by these securities do not seem to be in the interest of financial stability*]
- Given the regulatory discretion involved with payout rules, I can imagine a country's Finance Ministry impacting the outcome based on whether they are inclined to either demonstrate the bail-in feature, or reduce market fears

From the summary section of CS $1.65 billion 9.75% Perpetual Tier 1 Contingent Write-down Capital Notes

"A Write-down means that, on the Write-down Date, (i) the full principal amount of each Note will be written-down to zero, (ii) the Holders will be deemed to have irrevocably waived their rights to, and will no longer have any rights against the Issuer with respect to, repayment of the aggregate principal amount of the Notes, (iii) all rights of any Holder for payment of any accrued but unpaid interest or any other amounts under or in respect of the Notes (including, without limitation, any amounts arising as a result of, or due and payable upon the occurrence of, an Event of Default) will become null and void, irrespective of whether such amounts have become due and payable or such claims have arisen prior to the occurrence of the Write-down Event, the date of the Write-down Notice or the Write-down Date and (iv) the Notes will be permanently cancelled. As a result, Holders will lose their entire investment in the Notes"

A "**Write-down Event**" means either a Contingency Event or a Viability Event

A "**Viability Event**" will occur if customary measures to improve CSG's capital adequacy being at the time inadequate or unfeasible, CSG has received an irrevocable commitment of extraordinary support from the Public Sector (beyond customary transactions and arrangements in the ordinary course) that has, or imminently will have, the effect of improving CSG's capital adequacy and without which, in the determination of the Regulator, CSG would have become insolvent, bankrupt, unable to pay a material part of its debts as they fall due or unable to carry on its business

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