EA Quarterly: The Full Picture

CHARTBOOK

U.S. Quarterly Outlook

ECONOMETRIC ADVISORS
September 14, 2023

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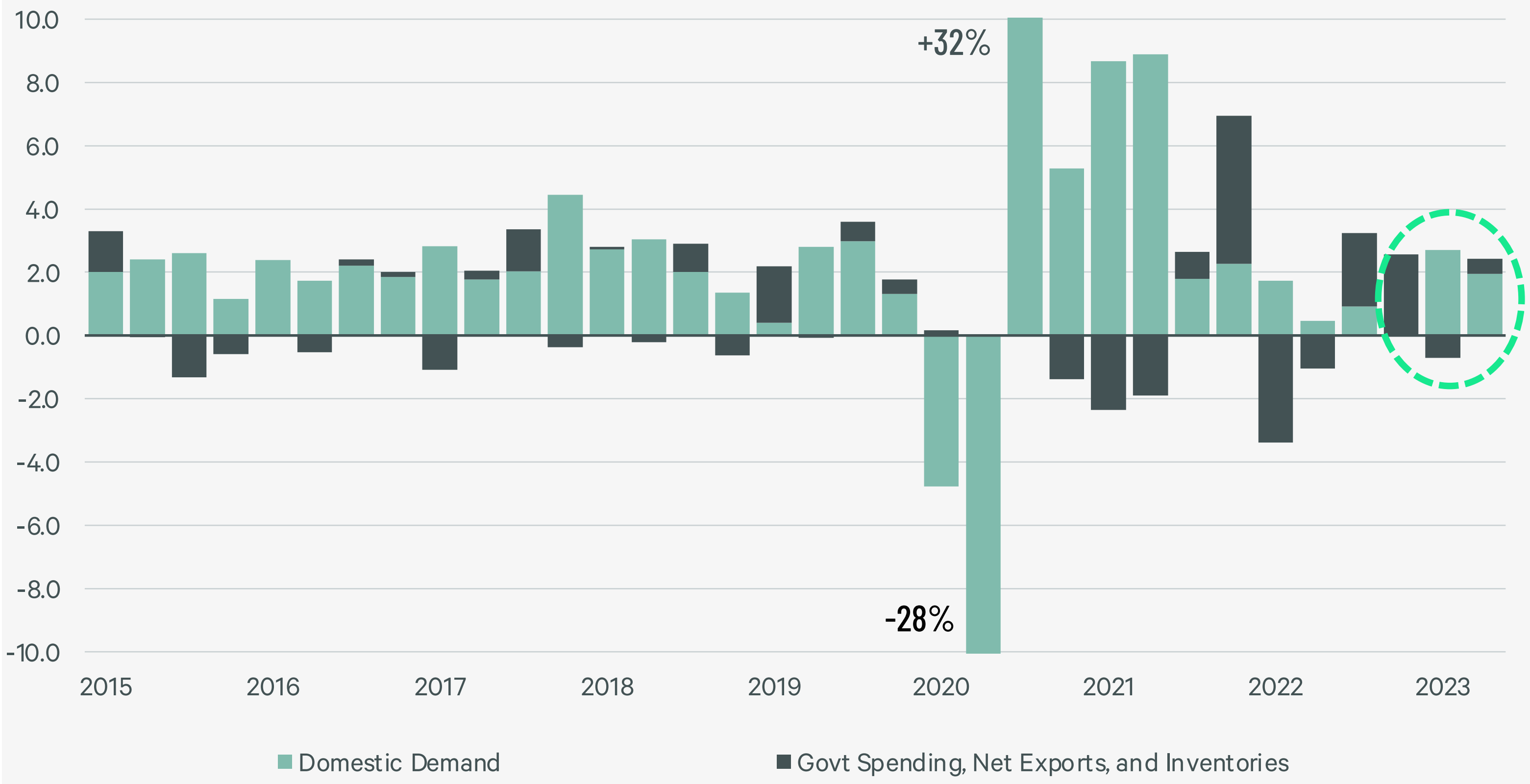
Macroeconomic Backdrop

There are some signs of positive momentum...

- Domestic demand began to stall in 2022 due to weaker business spending and notable declines in residential investment. During H1 2023 there was a pick-up in capital goods orders and housing activity appears to be stabilizing. But sustained growth is unlikely due to consumer headwinds, tighter credit conditions, weaker corporate profit margins and global growth.
- Personal consumption has played an outsized role in the economy's expansion in the wake of COVID-19 lockdowns; however, an acceleration in spending is unlikely.

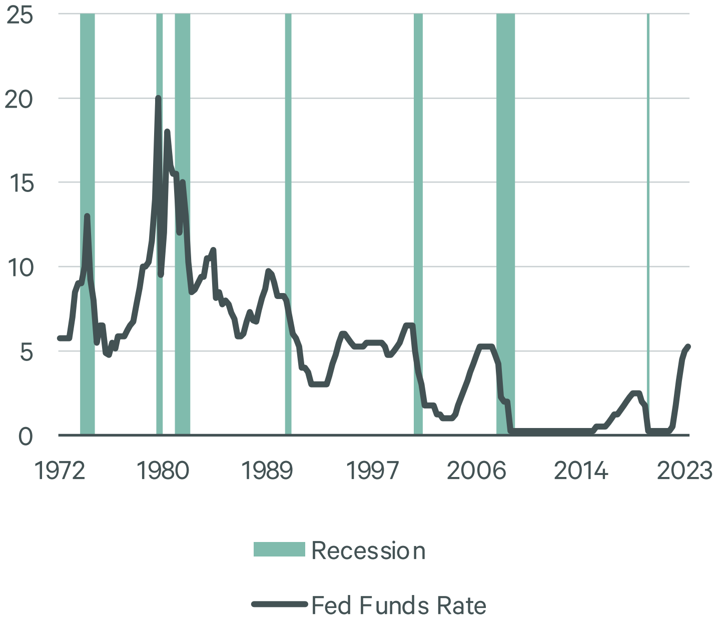
Annualized Quarterly GDP Growth (%)



Source: The Federal Reserve & CBRE Econometric Advisors

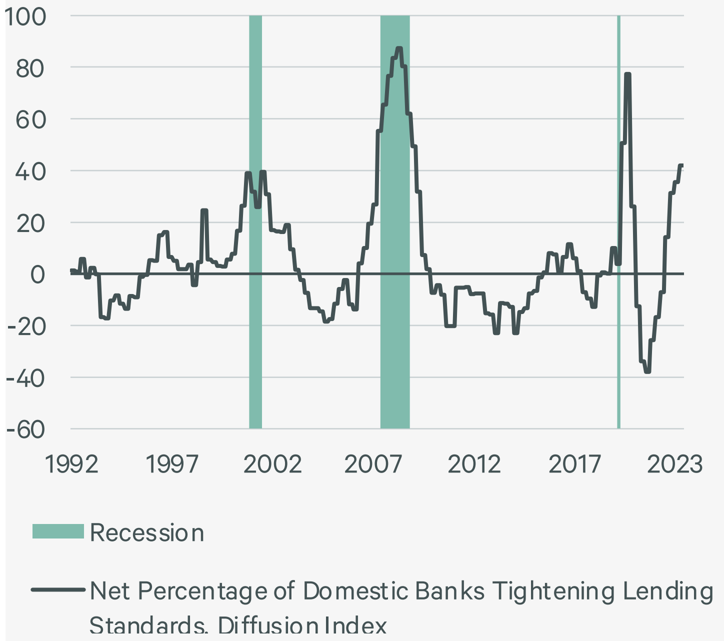
...but notable downside risks linger

Fed Funds Lift-Off and Recessions



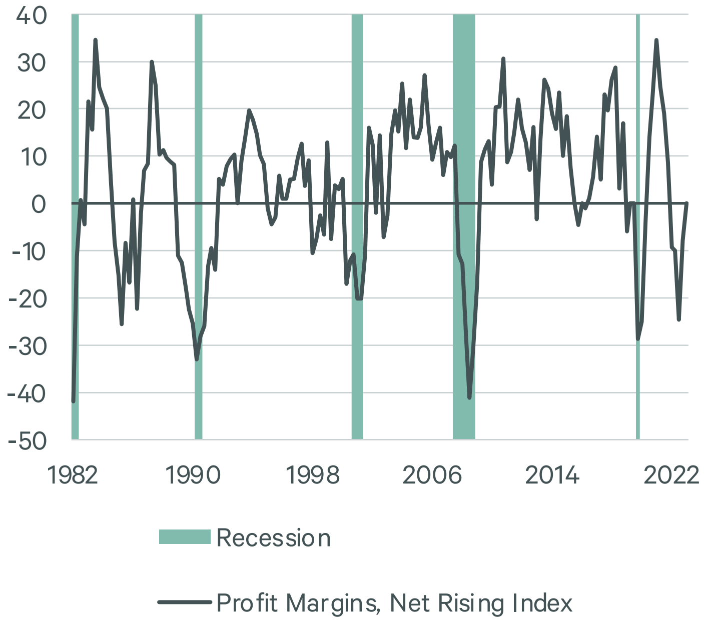
Source: Federal Reserve & NBER

Banks Tightening Standards and Recessions



Source: Federal Reserve & NBER

Corporate Profit Margins and Recessions

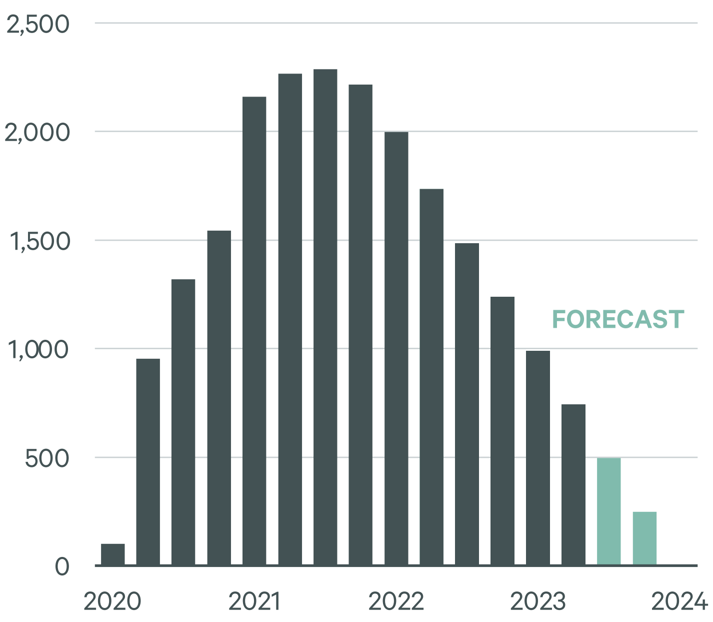


Source: National Association for Business Economics & NBER

- Many key financial and economic metrics suggest a downturn is on the horizon. During the past 50 years, tighter monetary policy has eventually led to a recession—albeit with quite variable time lags. A key exception was the 'soft landing' of the mid-1990s when the Fed began hiking rates well before unemployment approached NARU.
- Concerns surrounding bank deposit withdrawals and unrealized asset losses are forcing banks to curtail lending activity and tighten standards. Historically, a material tightening of lending standards has coincided with a recession.
- A combination of a higher cost of capital and labor costs combined with softening revenue is dampening corporate profit margins. International revenue is also a risk for U.S. multinationals.

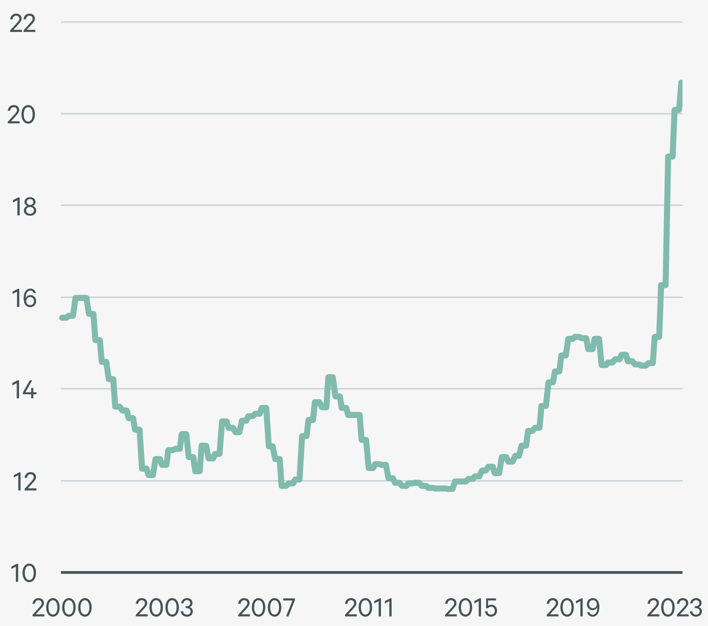
Consumption will struggle to accelerate from here

Stock of Excess Savings (USD, Billions)



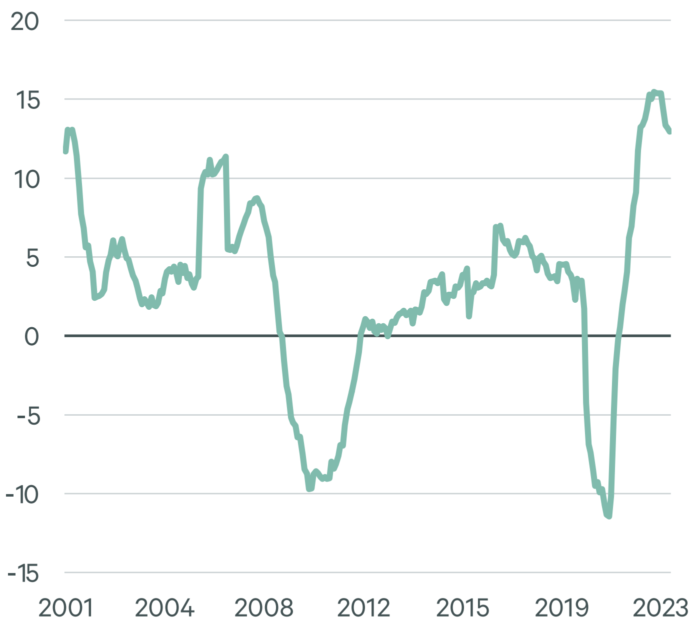
Source: Federal Reserve

Interest Rate on Credit Card Plans (%)



Source: Federal Reserve

Consumer Credit Change, Y-o-Y (%)



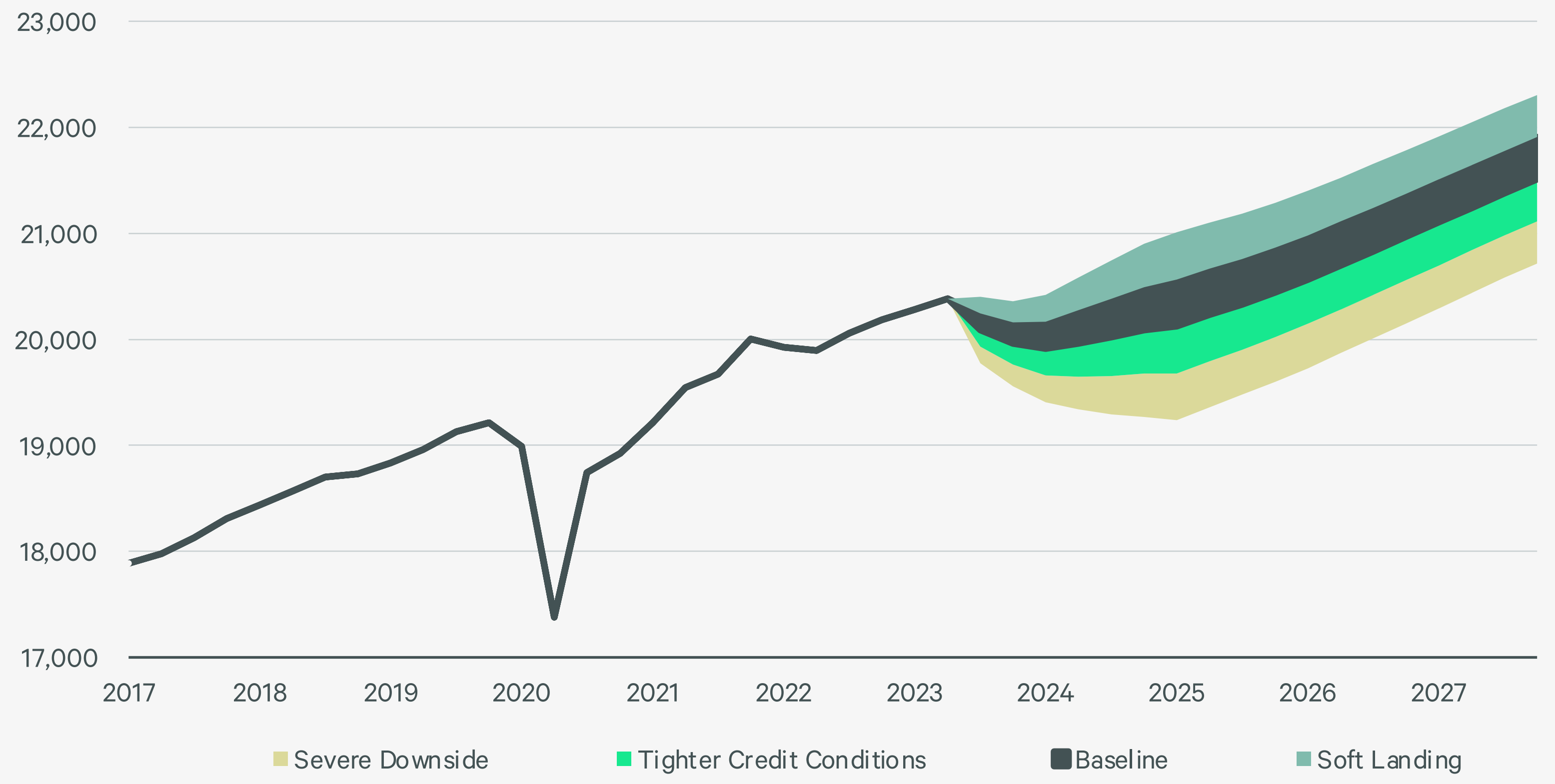
Source: Federal Reserve

- Decelerating inflation has bolstered consumer sentiment in recent months, but structural barriers will prevent a rebound in consumption.
- A key driver of weaker consumption is the dwindling stock of excess savings, and this will be aggravated by a resumption of student loan payments.
- It is unlikely that U.S. consumers can maintain spending via borrowing as credit costs are prohibitive. The ability of households to service existing debts is sturdy but recent data shows the pace of credit growth is slowing.

Growth is expected to stall in early 2024

- With volatile financial events becoming a macroeconomic catalyst, viewing the outlook through a lens of scenarios is increasingly important.
- Should consumers prove more resilient than our Baseline assumption then the outlook will track closely with our 'Soft Landing' scenario. Conversely, our 'Tighter Credit Conditions' scenario reflects a greater contraction should lending conditions prove more problematic.

GDP and Scenario Ranges, USD (Billions)

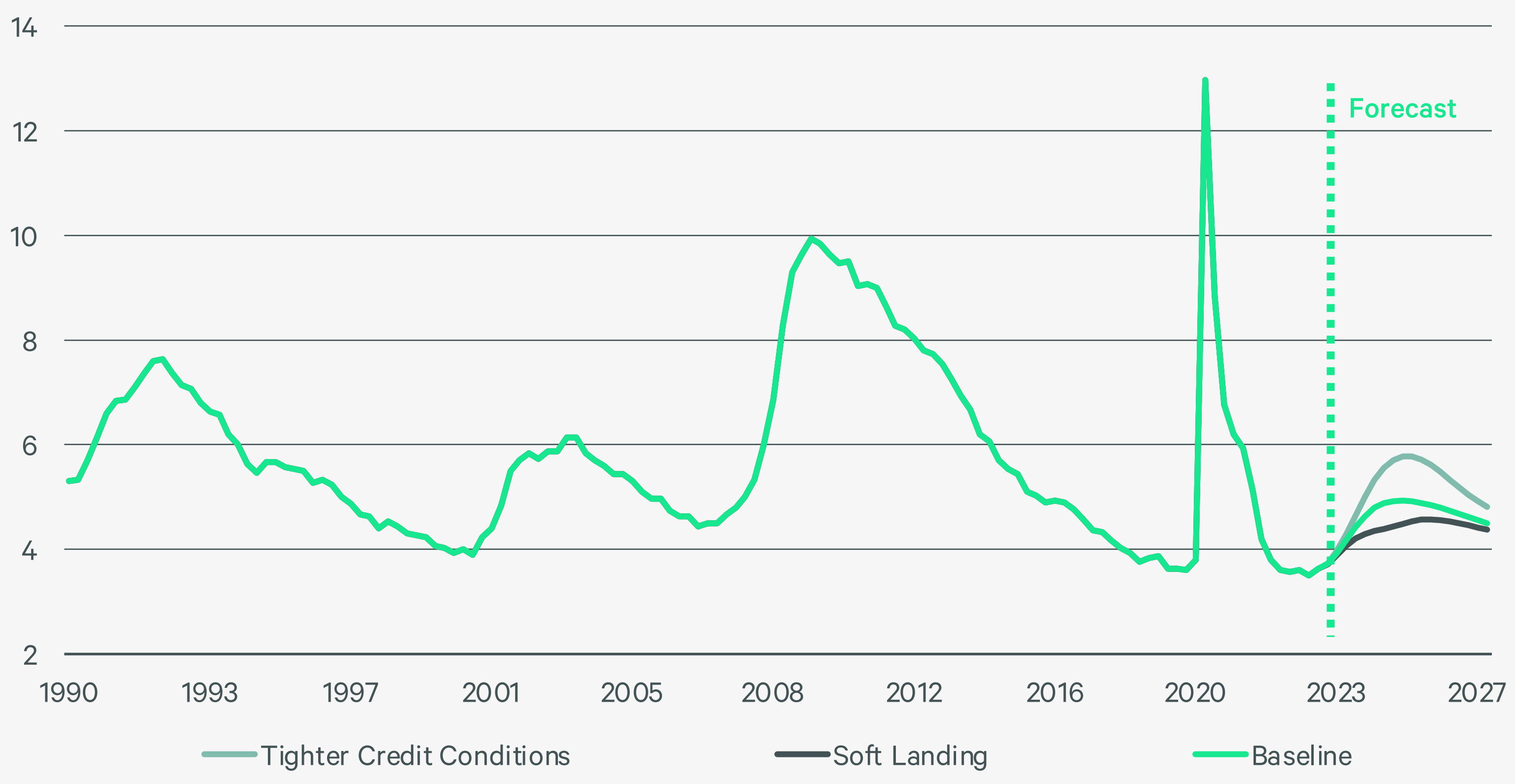


Source: The Federal Reserve & CBRE Econometric Advisors

The Baseline expects a moderate hit to the labor market

- The unemployment rate is at historic lows but there are signs the labor market is beginning to soften. The job openings rate is falling and the duration of unemployment is increasing. As the pace of broader economic growth slows this will push the unemployment rate up to the upper-4% range. Some of this increase in unemployment could be driven by an increase in labor force participation.
- Should credit conditions erode economic vitality more than expected then the labor market would deteriorate significantly more. Specifically, unemployment would increase to just below 6% by 2025.

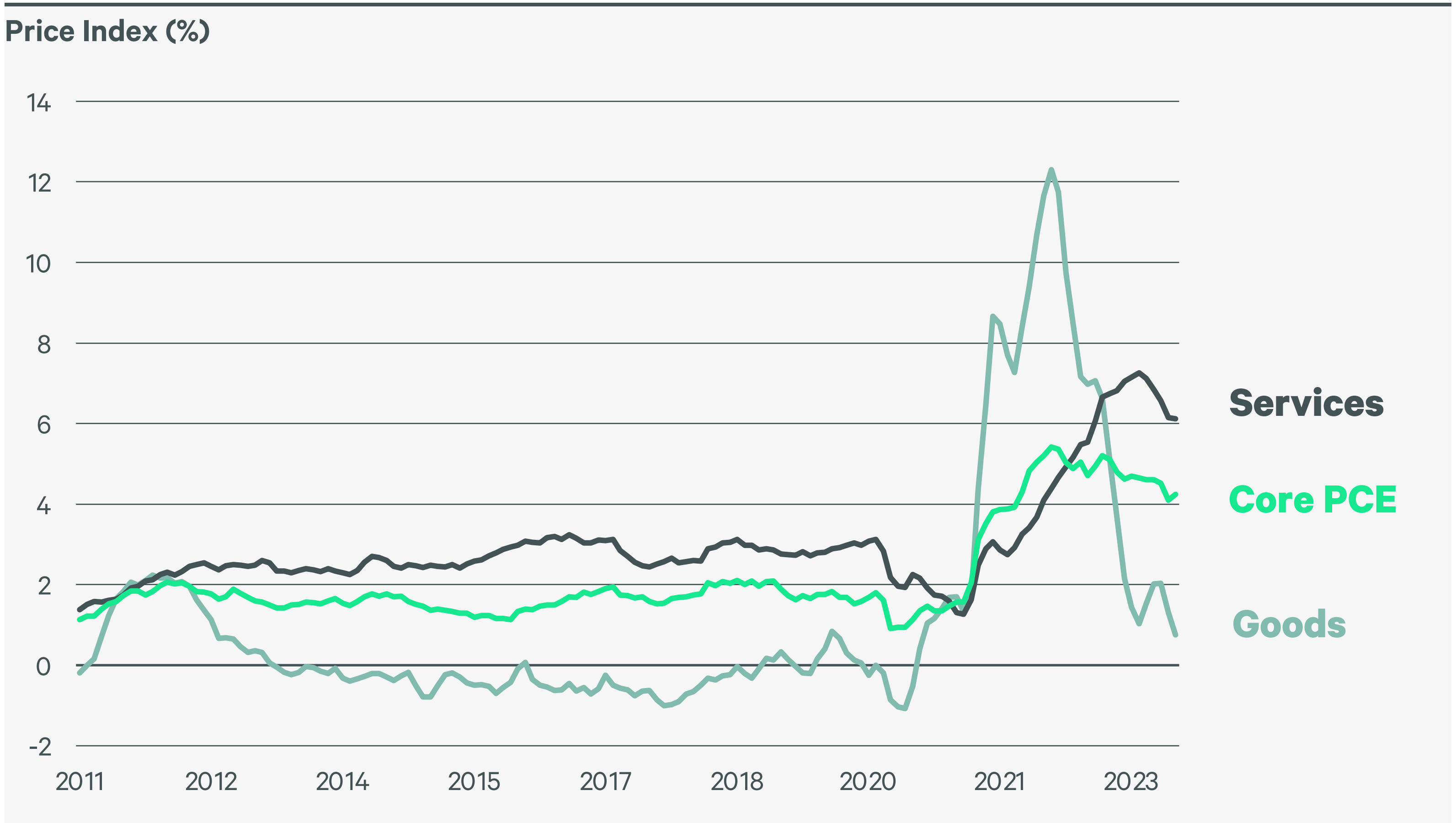
Unemployment Rate by CBRE EA Scenario (%)



Source: The Federal Reserve & CBRE Econometric Advisors

Wage growth will make bringing inflation to 2% difficult

- Many components of the CPI, especially goods, continue to decline at a steady pace as supply chains and production capacity normalizes. The transport component is trending down and housing inflation is poised to soften in coming quarters.
- Meanwhile, service costs are stubbornly high, due to heightened demand and high labor costs, and this will stall the overall pace of CPI deceleration. We anticipate CPI to return to 2% toward year-end 2024.

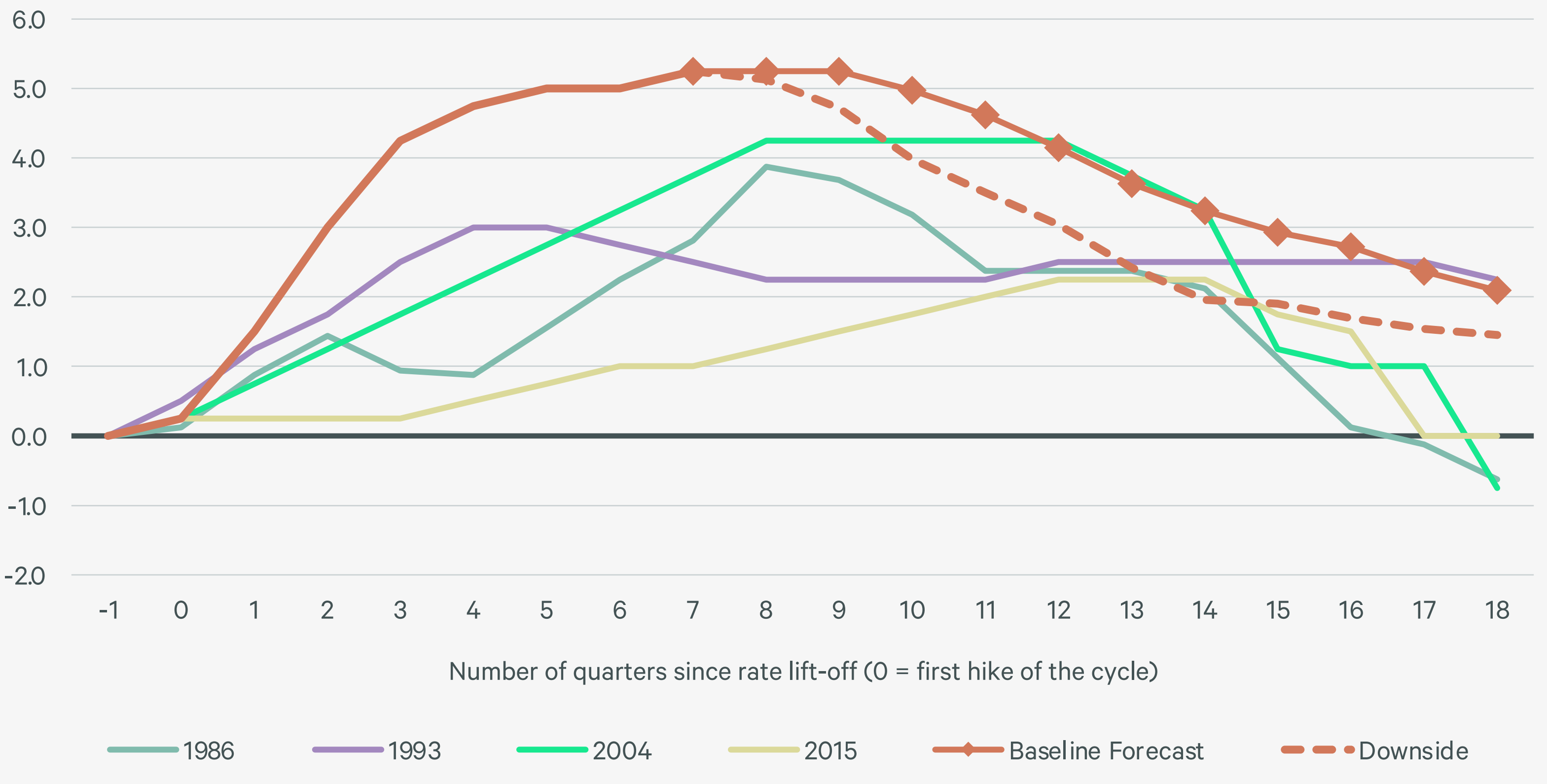


Source: The Federal Reserve, U.S. Bureau of Labor Statistics & CBRE Econometric Advisors

Rates are likely to stay higher than past cycles

- Easing inflation amid continued job growth suggests the Federal Reserve will take a pause on future hikes. But they are also unlikely to make significant cuts in the near-term, despite our outlook for a very moderate recession in early 2024. This hiccup will translate to very prudent rate cuts in coming quarters as the Committee keeps a clear eye on price stability.

Change In Fed Funds Rate From Beginning of Each Tightening Cycle (Percentage Points)



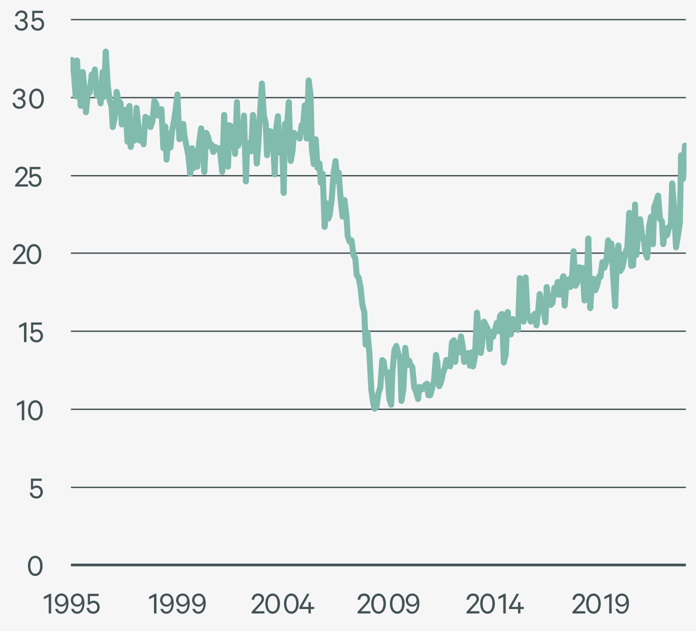
Source: The Federal Reserve & CBRE Econometric Advisors

The housing market is resilient amid higher interest rates

Home Sales (millions)

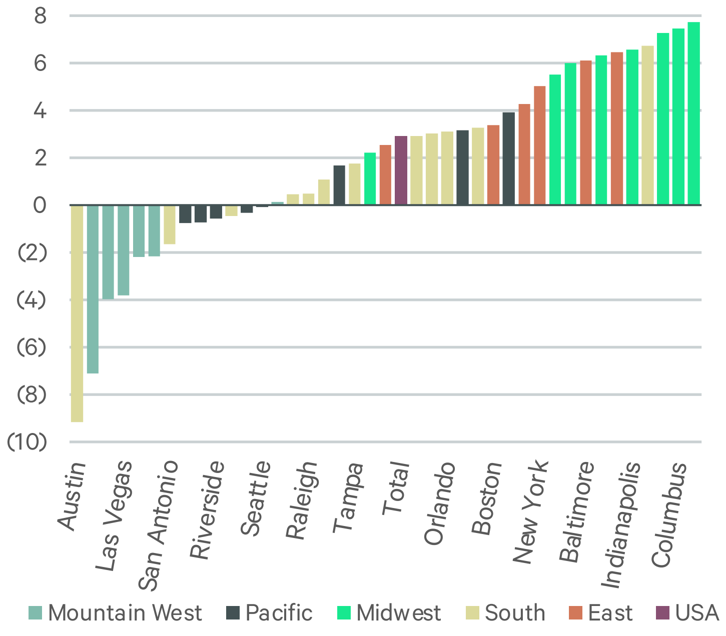
Source: U.S. Census

Single-Family Starts / Sales, annualized (%)



Source: U.S. Census & National Association of Realtors

Y-o-Y House Price Appreciation (%)



Source: Freddie Mac

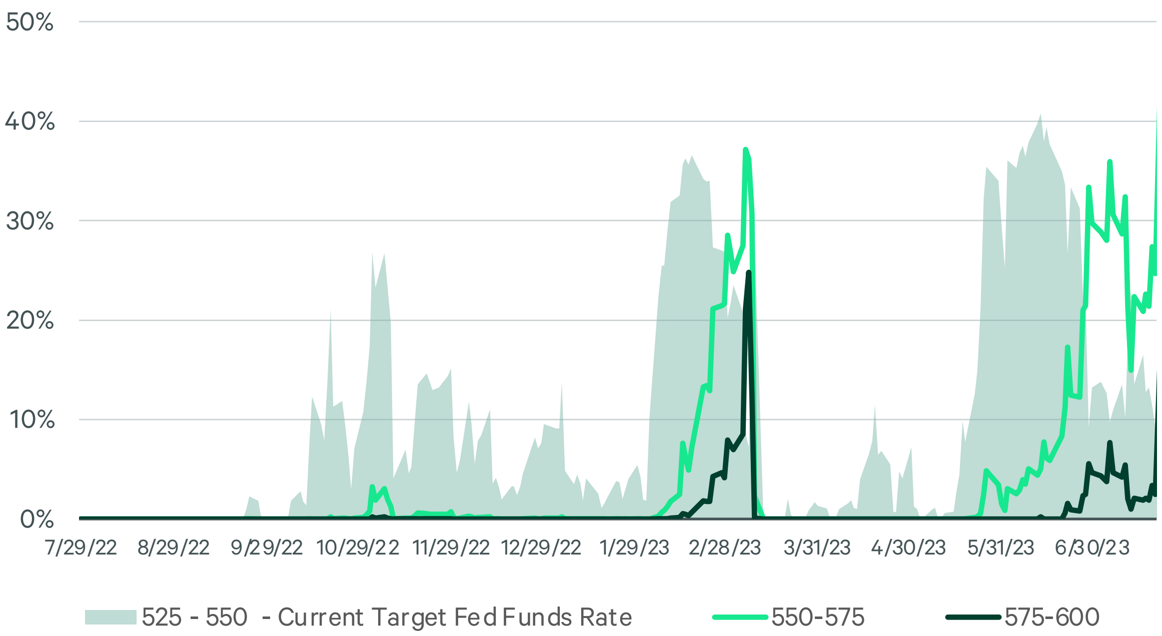
- The spike in mortgage rates means existing homeowners are reluctant to sell, resulting in limited for-sale inventory. A key driver of home sales is ground-up construction as homebuilders are incentivized to build and sell above replacement cost. Thus, the ratio of starts-to-home-sales is quickly rising back toward pre-*GFC* levels. Ultimately, residential investment could be less of a drag on GDP in coming quarters.
- Home prices are falling most acutely across the American West, the region where valuation became most stretched. More affordable housing markets across the Midwest continue to see Y-o-Y appreciation. Midwestern markets benefit from greater affordability levels.

2

Capital Markets & Commercial Real Estate

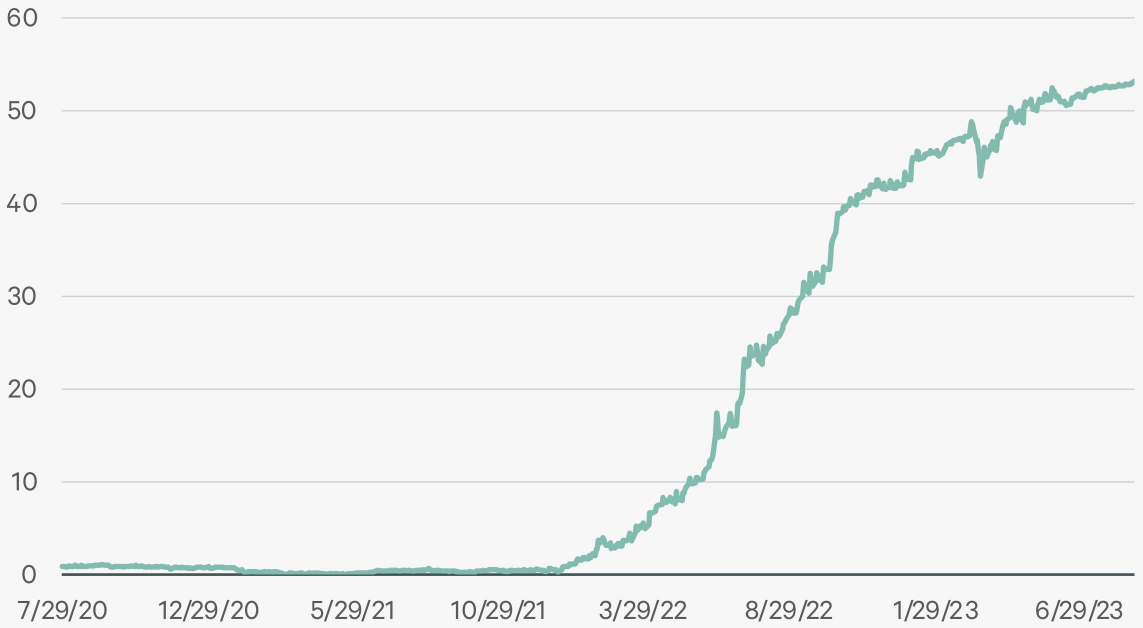
Interest rates are volatile with rate path uncertain

Implied Probability of Federal Reserve Target Rate at Year-End 2023 (%)



Source: CME Group

CBOE Short-Term Interest Rate Volatility Index

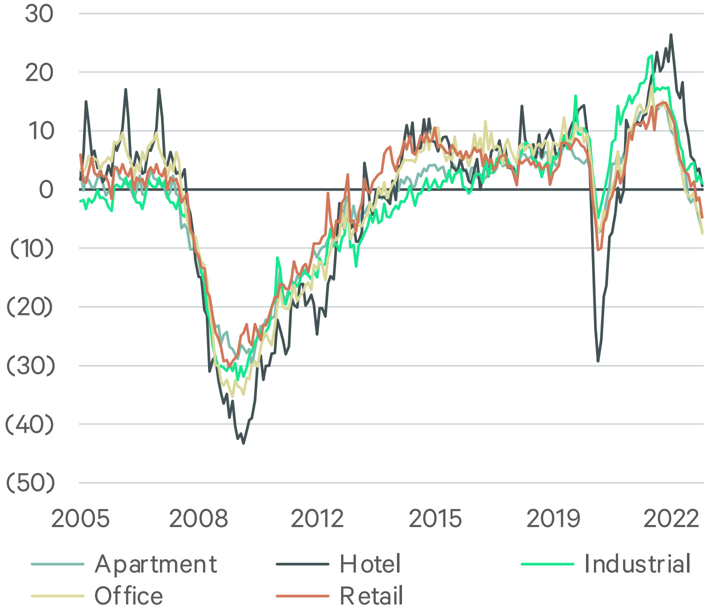


Source: CBOE & Macrobond

- While expectations for the 2023 terminal FFR have whipsawed throughout the year, markets are beginning to coalesce around one further rate hike to 550-575 bps. As of July 2023, the implied probability for this has reached over 50%.
- While the Fed's rate hikes have driven market interest rates higher in general, the uncertainty around inflation and future policy led to increased volatility.
- Interest rates are a key input for underwriting most real estate transactions. Near-term uncertainty hinders lending activity as warehousing becomes riskier and hedges are more expensive.

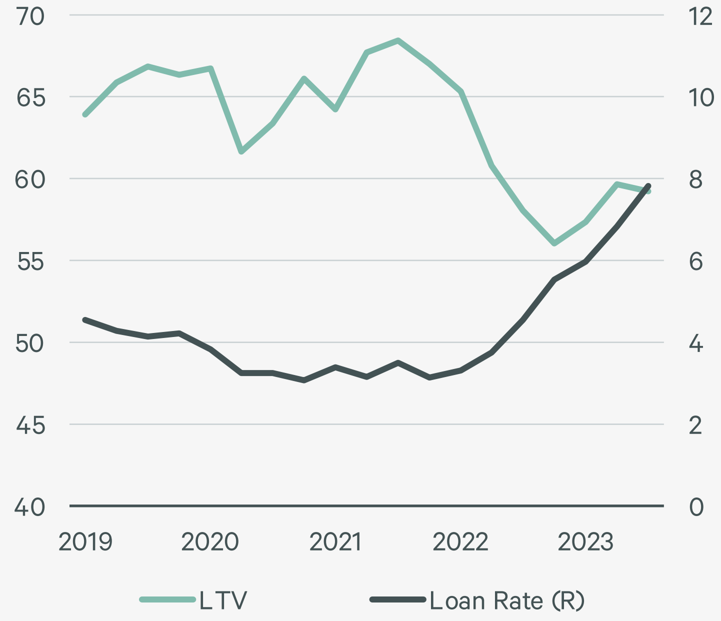
This uncertainty is chilling real estate markets

Price Expectations Gap for Normal Volume (%)



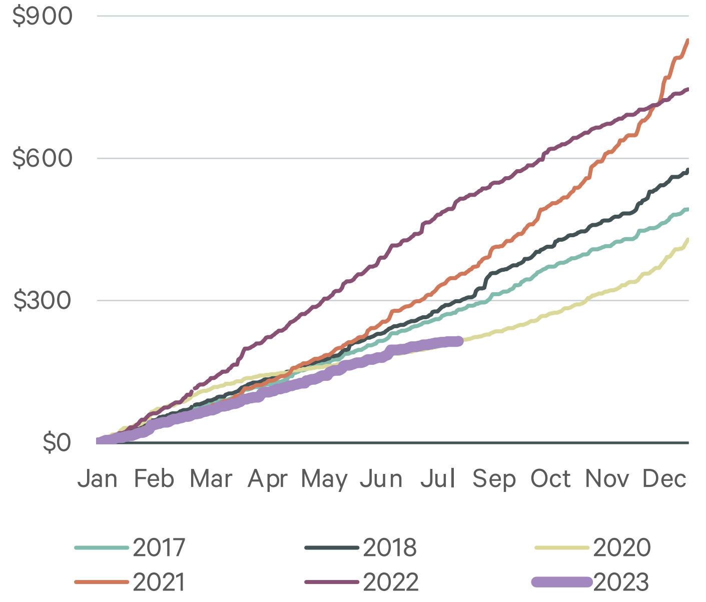
Source: MSCI Real Capital Analytics

Commercial Mortgage LTV and Interest Rate (%)



Source: CBRE Deal Slicer

Cumulative Daily CRE Investment Volume, Billions (USD)



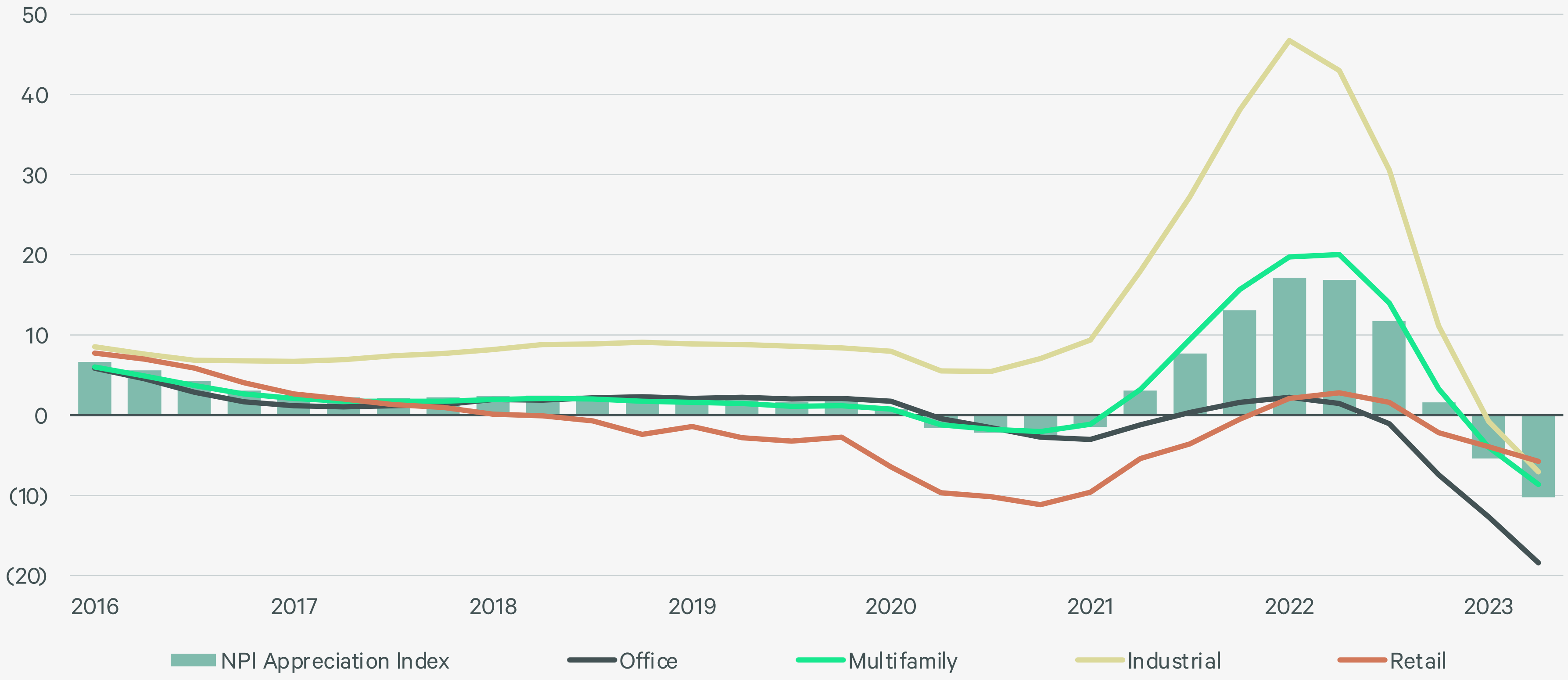
Source: MSCI Real Capital Analytics

- Lack of clarity around interest rates means confusion around cap rates. Thus, buyers and sellers are still substantially apart on appropriate pricing. The price-discovery process is still occurring which has also reduced sales volume. An analysis from MSCI Real Capital Analytics estimates pricing needs to fall by 7.4% and 7.1% for the office and multifamily sectors, respectively, to get sales volume back to normal levels.
- Lenders are more cautious and offering fewer loans with more restrictive terms. Weighted average LTV's are down more than 500 bps while mortgage rates have more than doubled.
- As of July, 2023 is on pace to match the investment volume levels seen in 2020.

Sellers not accepting reduced values, but appraisers are starting to

- The NCREIF NPI appreciation index has fallen four consecutive quarters as property values are getting marked down.
- The office sector faced the steepest write-downs from 2022 to Q2 2023, at nearly -19%. The broader NPI declined by just over 8%.

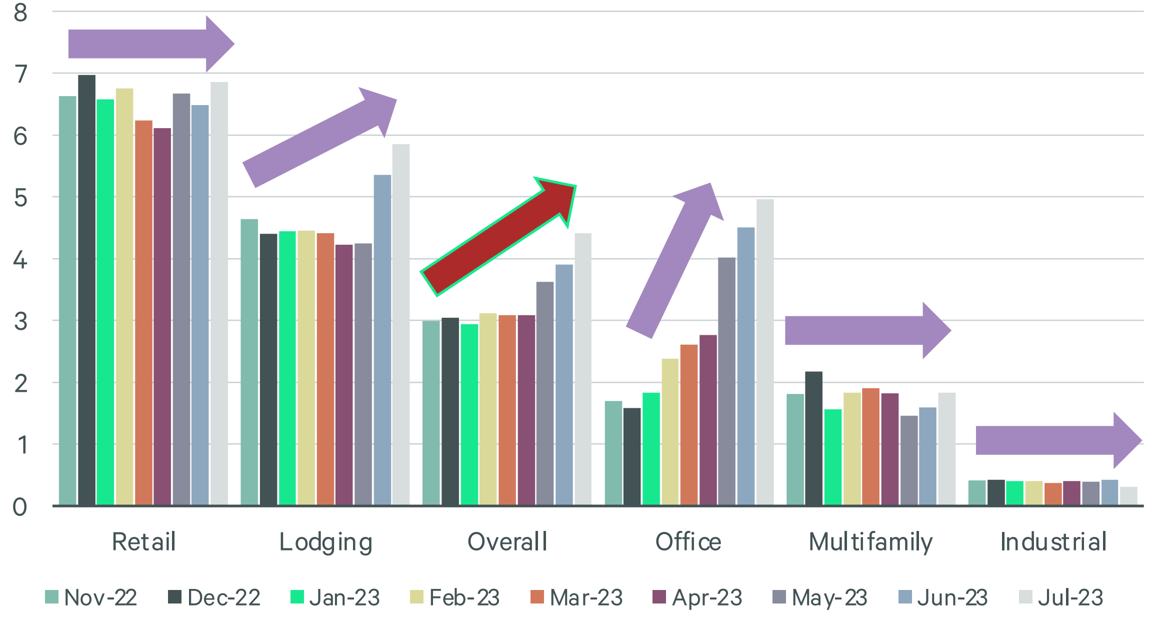
NCREIF NPI Appreciation by Sector, Y-o-Y (%)



Source: NCREIF

Value declines contributing to rise in delinquency and defaults

CMBS Delinquency Rate (%)



Source: Trepp

What Distress Looks Like

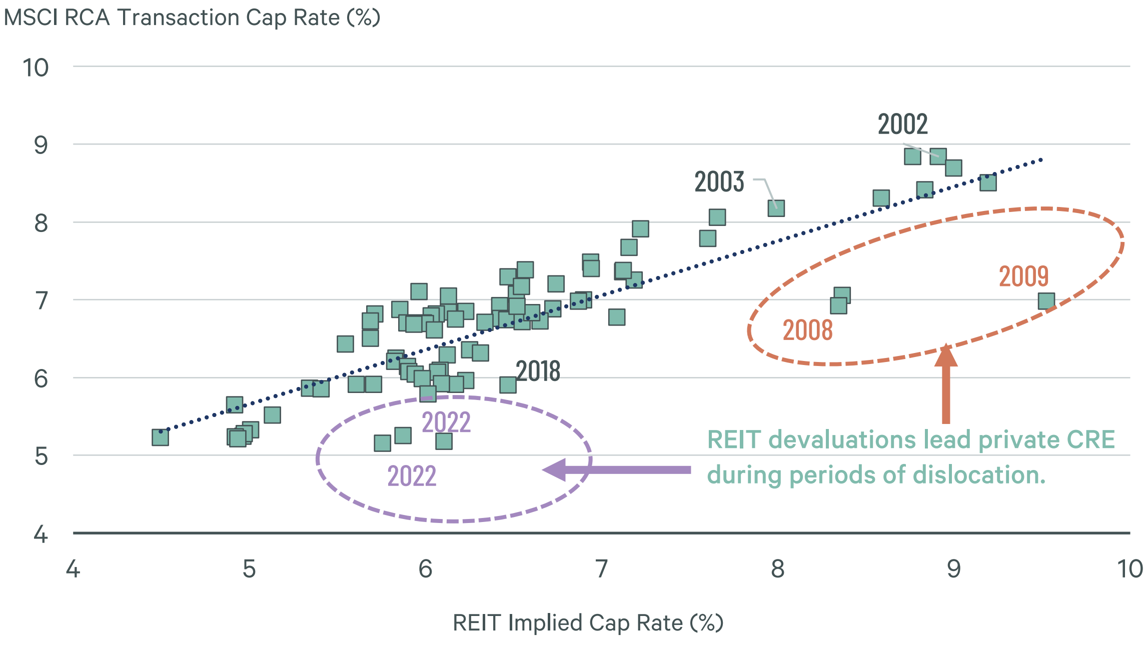
725 South Figueroa Street (EY Plaza)	1619 Broadway (Brill Building)	61 Broadway (Adams Express Building)	Columbia Property Trust Portfolio
Brookfield DTLA Trust in receivership after refinancing in 2020	Brookfield hands property to mezzanine lender after a 3-year refinance in 2019	Property refinanced in 2019. RXR agreed to deed-in-lieu after defaulting on senior mortgage	Portfolio of 7 office properties in New York City, San Francisco, Boston and Jersey City, defaulted on by Pimco. Appraised value down 30% from $2.3 (2022) to $1.6 billion (2023)

Source: The Real Deal, GlobeSt, Commercial Observer

- The typical triggers for mortgage defaults include: 1) Underwater equity; and 2) Lack of sufficient cashflow from the property. Value declines have caused the first condition for many properties while increasing vacancy and higher interest rates are contributing to the second, especially in the office sector. The overall CMBS delinquency rate has risen to 4.4% from 3% in November 2022 while the office rate has ballooned to 5.0% from 1.7%.
- The value declines reported by NCREIF to date do not reflect the carnage on the ground in some cases. High-profile REITs are pre-emptively seeking to give back properties and others are defaulting as their loans mature and fail to reach extensions. In some distressed sales office valuations have been cut more than 50% for troubled properties.

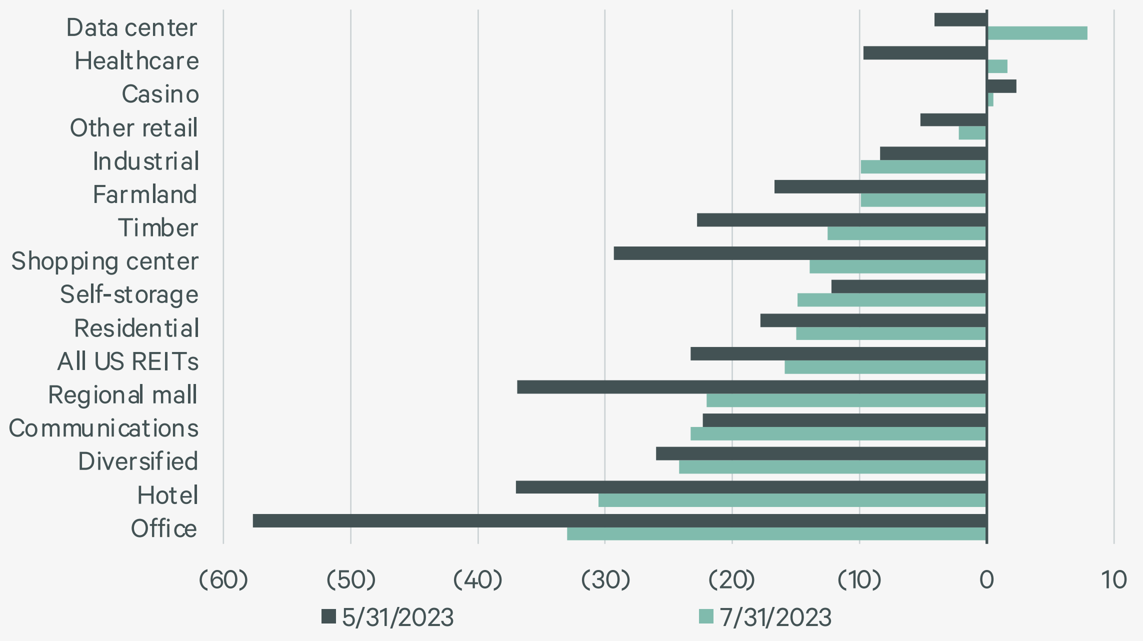
REITs suggests more significant re-pricing and opportunity

NAREIT T-Tracker Implied Cap Rates



Source: NAREIT & MSCI Real Capital Analytics

Median Premium or Discount to NAV (%)

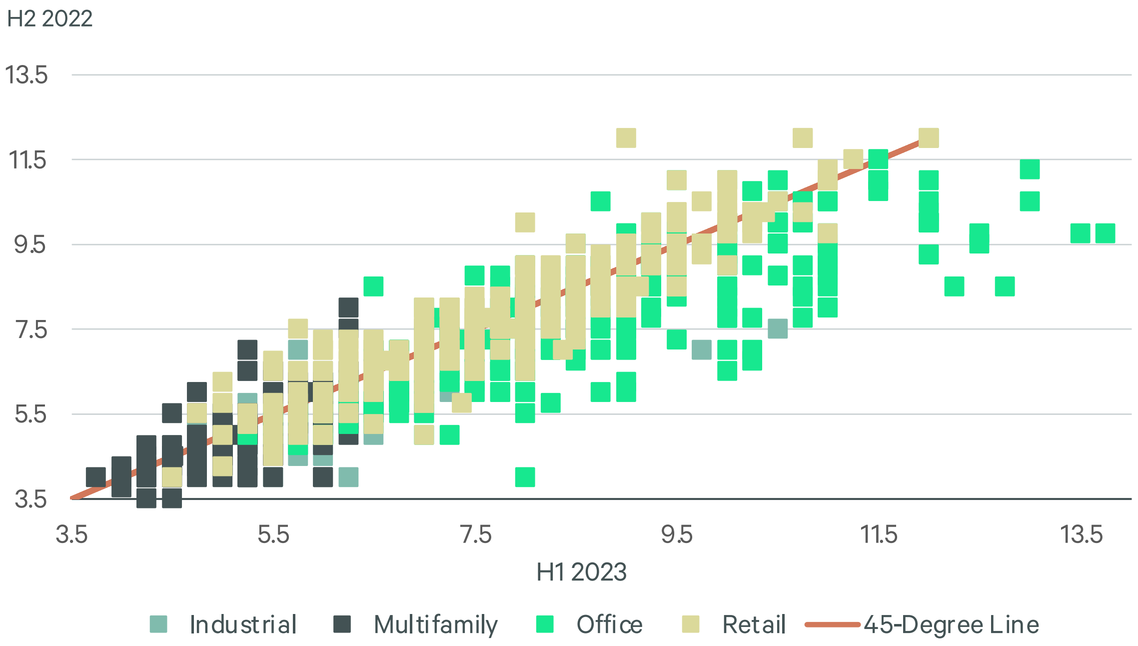


Source: S&P Global

- Historically, REIT implied cap rates have been slightly less than private equity transaction cap rates—except during periods of dislocation. Presently, the outward movement in implied cap rates appears to be a signal rather than noise.
- Many REIT sectors are trading at steep discounts to the net asset value of properties owned. The discount to NAV is most pronounced within the office space. Whilst public equity offers an early signal of distress it is also quick to harness the recovery. With REITs benefiting from the bull market in equities, this discount has been shrinking over the past few months.

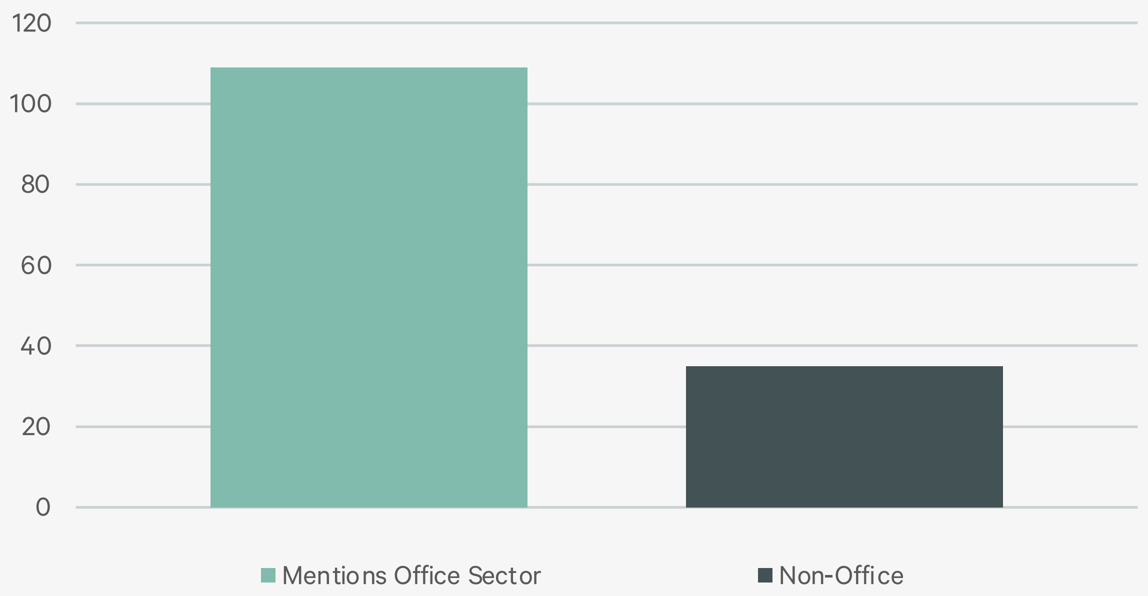
What CBRE's Cap Rate Survey says about market pricing

Cap Rate Estimates Between the H2 2022 and H1 2023 Cap Rate Surveys



Source: CBRE Econometric Advisors

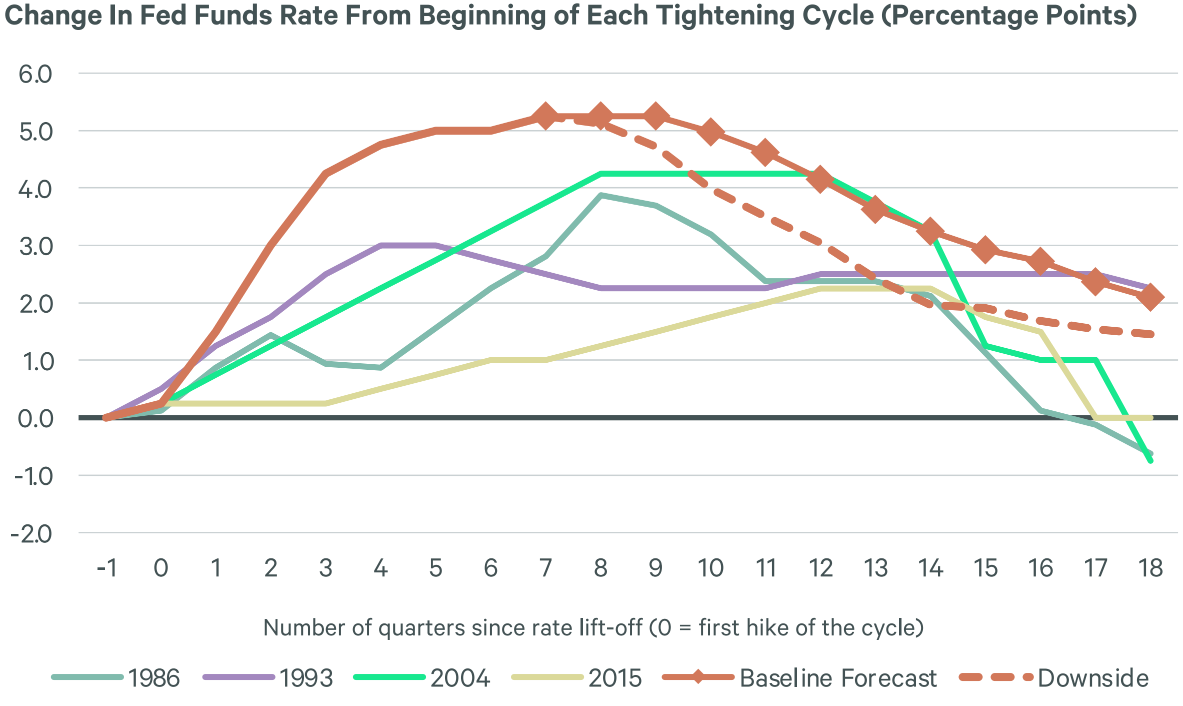
Number of Answers to the Question: 'Where do you expect distress to emerge over the next 18 months?'



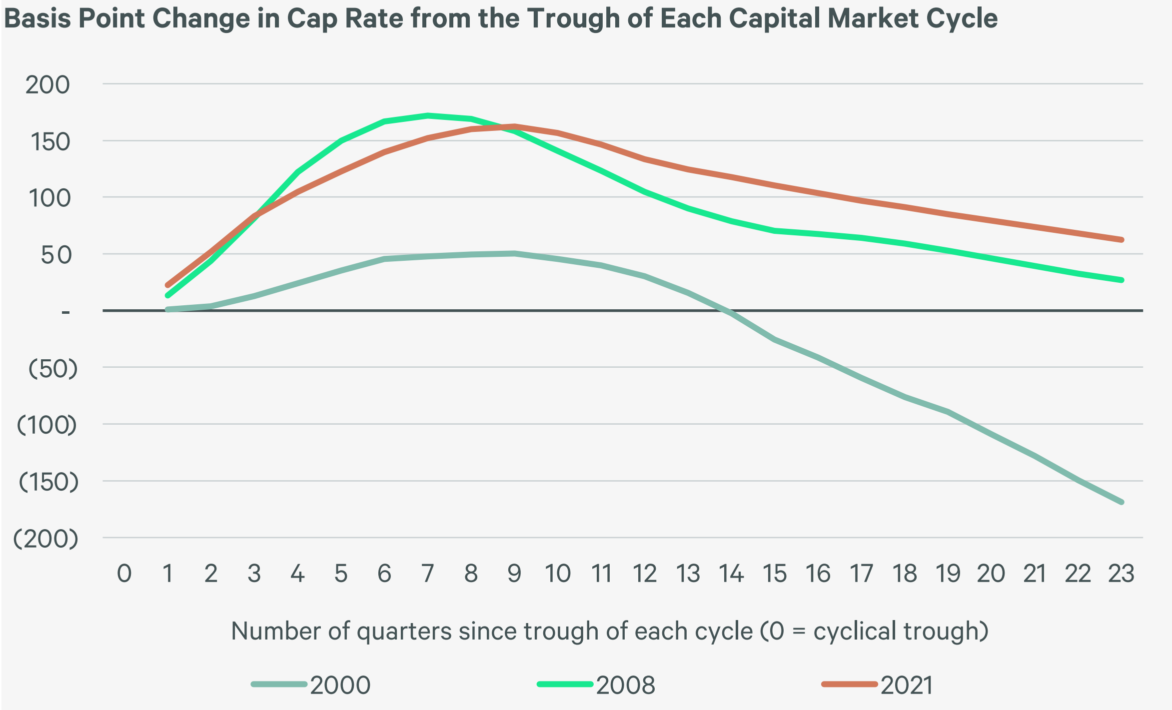
Source: CBRE Econometric Advisors

- When surveyed on where they expect to see distress emerge over the next 18 months, CBRE professionals overwhelmingly expect more pain for the office sector, especially for class B and C properties. As one person put it, "all Class C office is likely doomed."
- Another common theme for expected distress is older buildings, especially from the 1980s to 1990s. Respondents also expect issues with deals completed from 2019-2022, especially those with floating debt or value-add deals.
- Geographically, the concern is for over-supplied markets in the Sun Belt, secondary and tertiary markets, and coastal office markets like California.

Rates will remain higher—that matters for CRE



Source: Federal Reserve

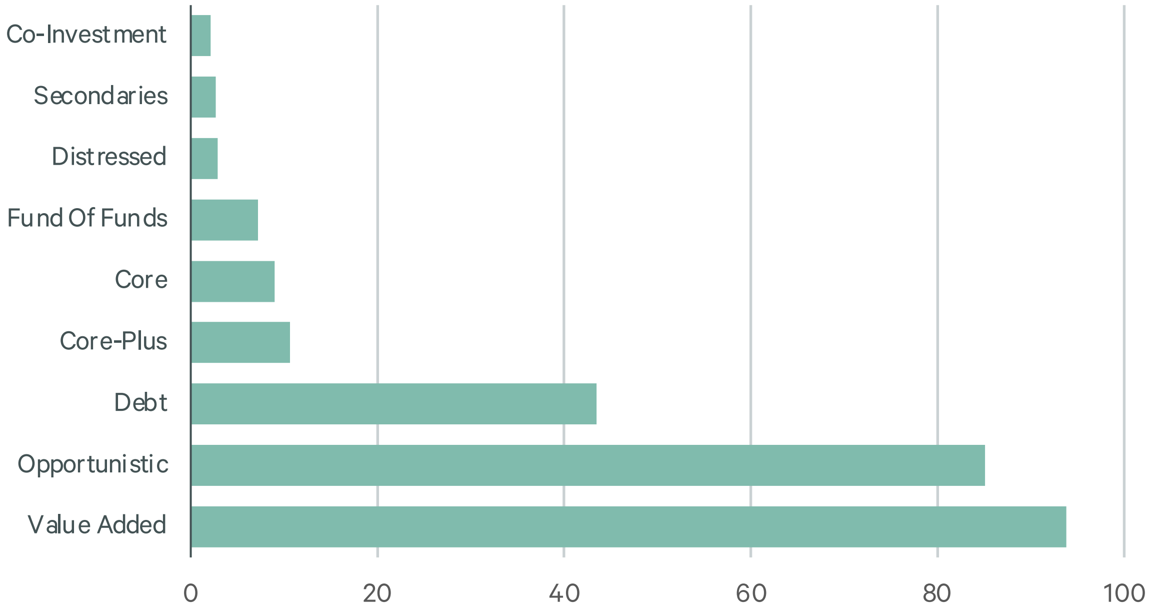


Source: CBRE Econometric Advisors

- Again, our Baseline forecast expects that interest rates will be slow to decline this cycle and this matters for CRE performance!
- Consequently, cap rate compression will likely happen at a slower pace than the previous cycle, and certainly slower than the post-dot-com era when the allocation to property increased to harness attractive yield spreads.

However, well-capitalized real estate funds are well-positioned

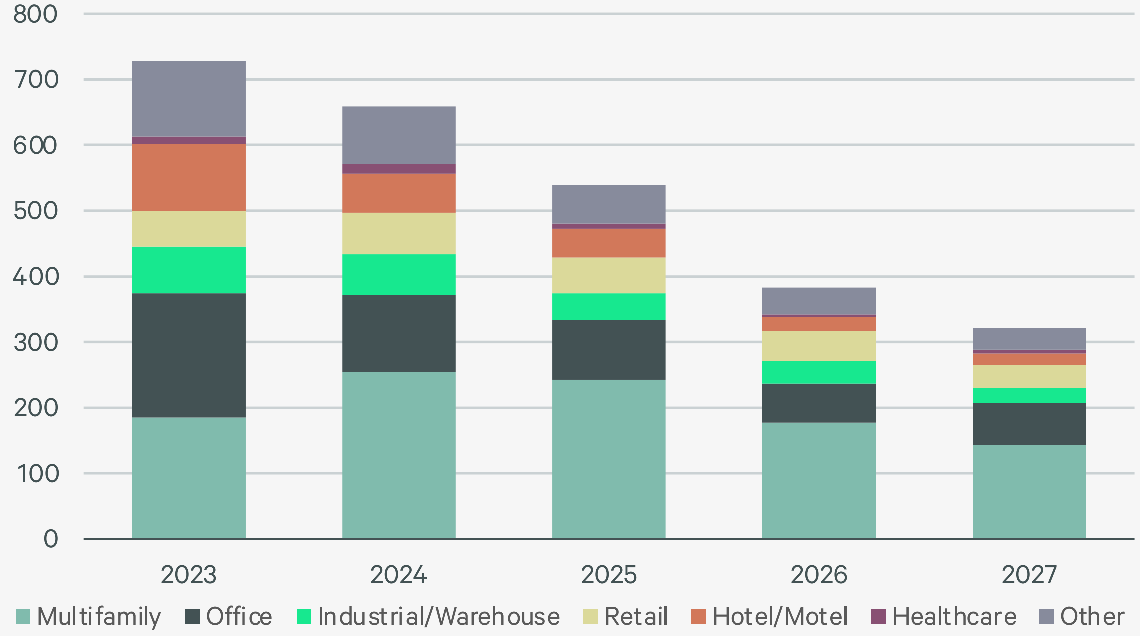
Dry Powder Held by REPE by Strategy , Billions ($)



Source: PREQIN

Note: Data is current as of August 3, 2023

CRE Debt Maturities by Year, Billions ($)

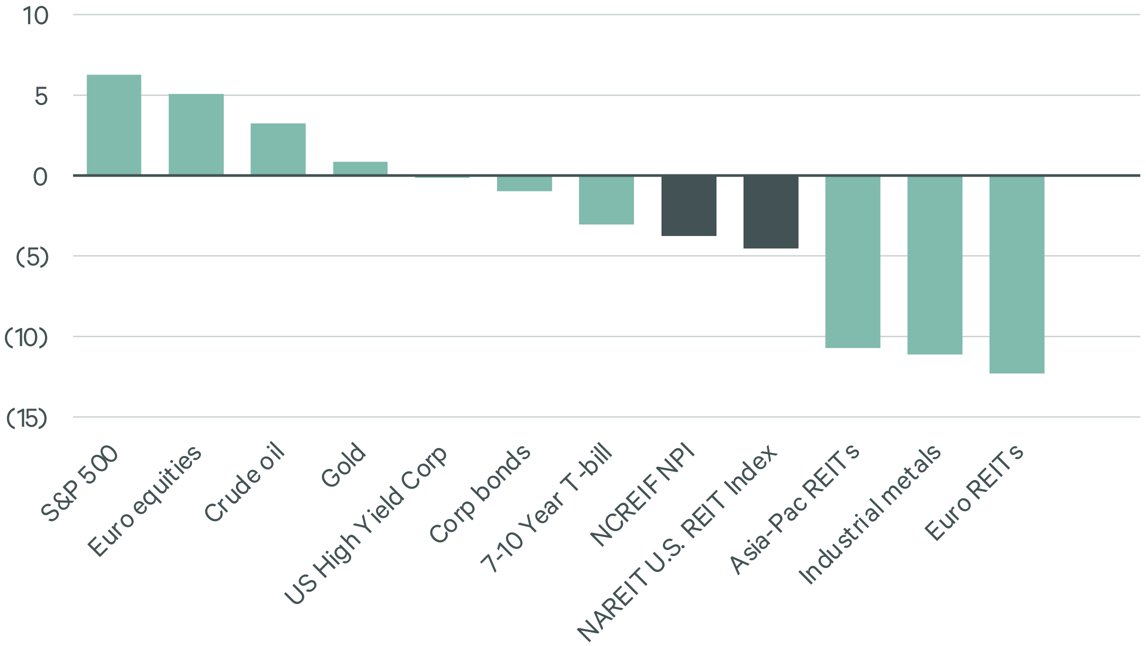


Source: Mortgage Bankers Association

- REPE funds with a focus on North America have a total of $257 billion in dry powder with the most in areas that likely need them the most: value-add, opportunistic, and debt. While fundraising has been weak this year, Blackstone closed the largest ever real estate fund, an opportunistic fund with $30.4 billion in capital commitments.
- Some see the best opportunities lower in the capital stack through lending. The leader of one of the largest CRE lenders is quoted as saying, “We have a supply and demand imbalance between the demand for commercial real estate debt and the supply of CRE debt.”
- The Mortgage Bankers Association estimates there is $728 and $659 billion in CRE debt maturing in 2023 and 2024, respectively. These maturities make up 31% of all CRE debt outstanding.

Real estate performance is weak to other assets and itself

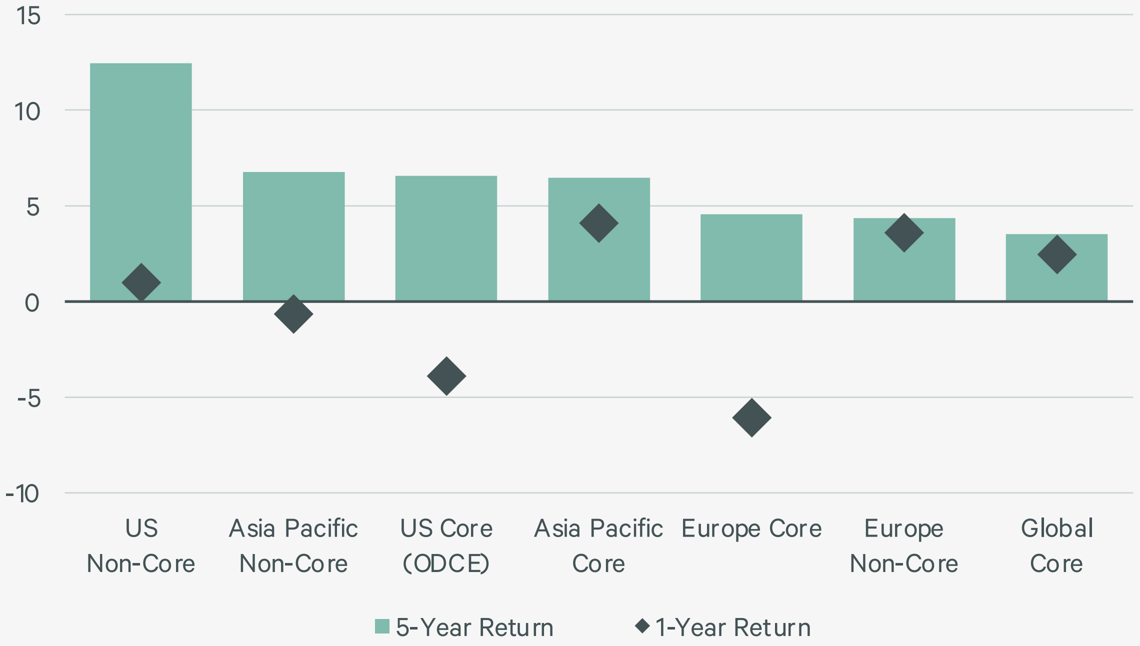
Year-to-Date Asset Returns Through Q2 2023 (%)



Source: Macrobond *NCREIF reflects the performance of the NPI from Q4 2022 to Q2 2023

*NAREIT U.S. REIT performance reflects change in the total return index from January 2023 to July 2023

Returns In Local Currency (%)



Source: NCREIF / GREFI

- Private real estate investment performance has lagged other asset classes so far in 2023 (-3.75%), dragged down by value write-downs driven by rising interest rates. Meanwhile, U.S. equities have rallied throughout 2023, up around 15% through August.
- Listed equities have delivered negative performance as well in 2023 with share prices below net asset values on average.

The bottom line is...

	PRIVATE	PUBLIC
EQUITY	Private CRE has been delivering poor performance over the past three quarters as value losses are being realized. The office sector faces falling income streams in conjunction with higher cap rates, leading to outsized negative returns.	Current movements in the REIT space appear to reflect changes in intrinsic value rather than the general noise of equity markets. A rising cost of capital and expectations for weaker income growth are key catalysts. REIT shares are trading at a notable, but quickly shrinking, discount to NAV. The discount is most pronounced in the office space.
DEBT	Defaults have increased in 2023 and especially within the office space. Key catalysts have been loans reaching maturity without the ability or desire to refinance. Originators have been more cautious offering fewer loans with stricter conditions such as LTV and interest rates.	Uncertainty about the future of interest rates is impacting CMBS issuance. CMBS defaults and delinquency have increased in recent months.

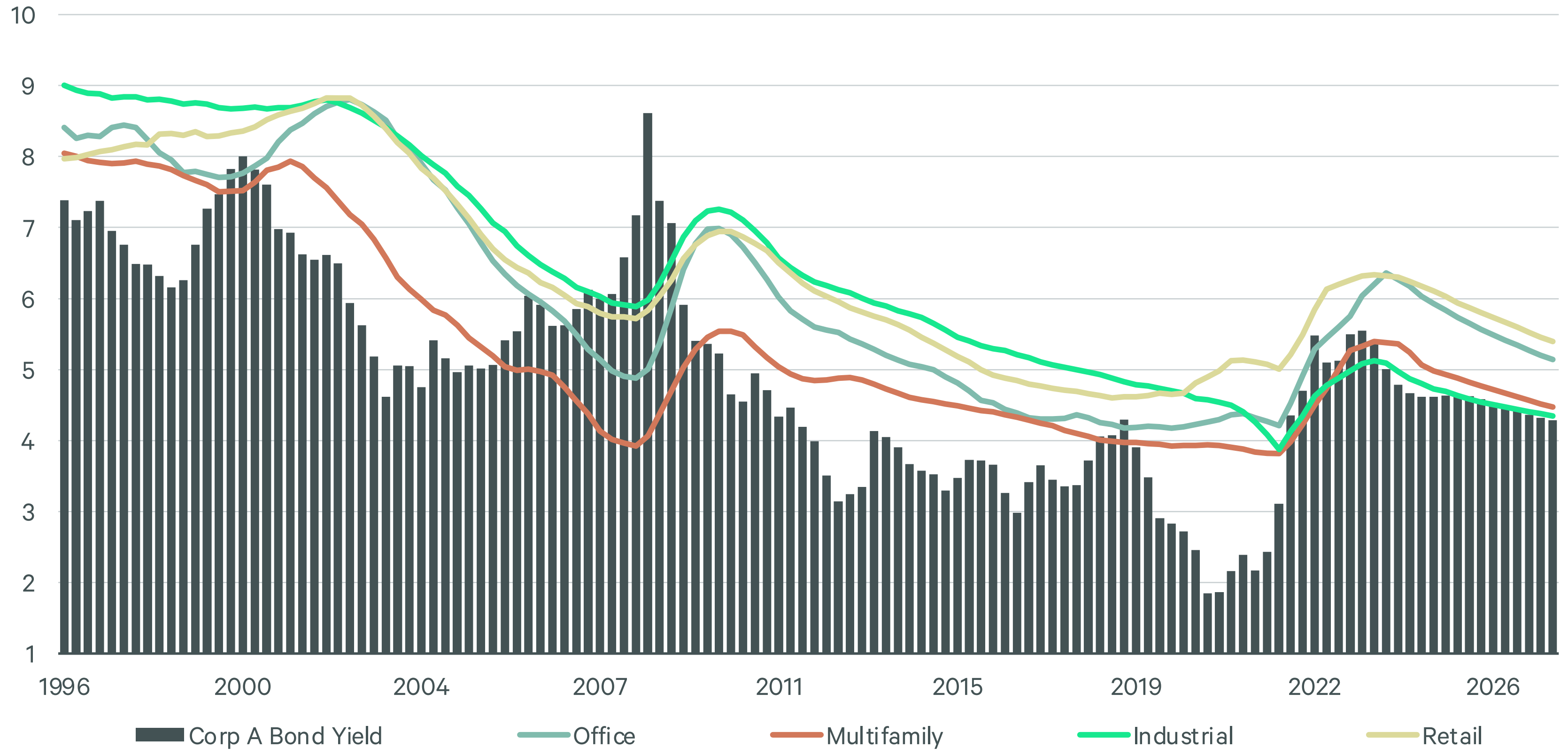
3

Bird’s Eye View

Cap rate spreads will remain tight for the foreseeable future

- CBRE EA's Baseline forecast believes that bond yields will be slow to decline this cycle, and this will influence how capital markets recover.
- Risk premia in the office sector is widening substantially. We believe that by 2024 office yields will closely resemble levels associated with retail.
- Ultimately, cap rates are not expected to return to the historic lows achieved in 2022.

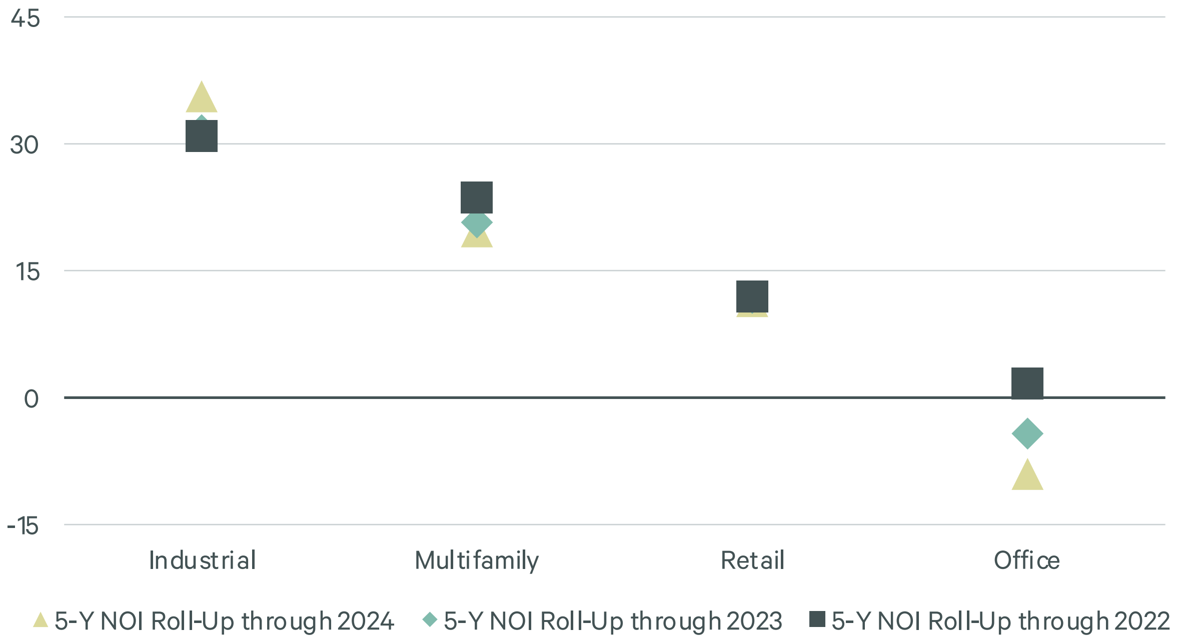
Bond Yield and Cap Rates (%)



Source: CBRE Econometric Advisors

Income growth partly explains the pattern of valuations

Five-Year Cumulative NOI Growth (%)



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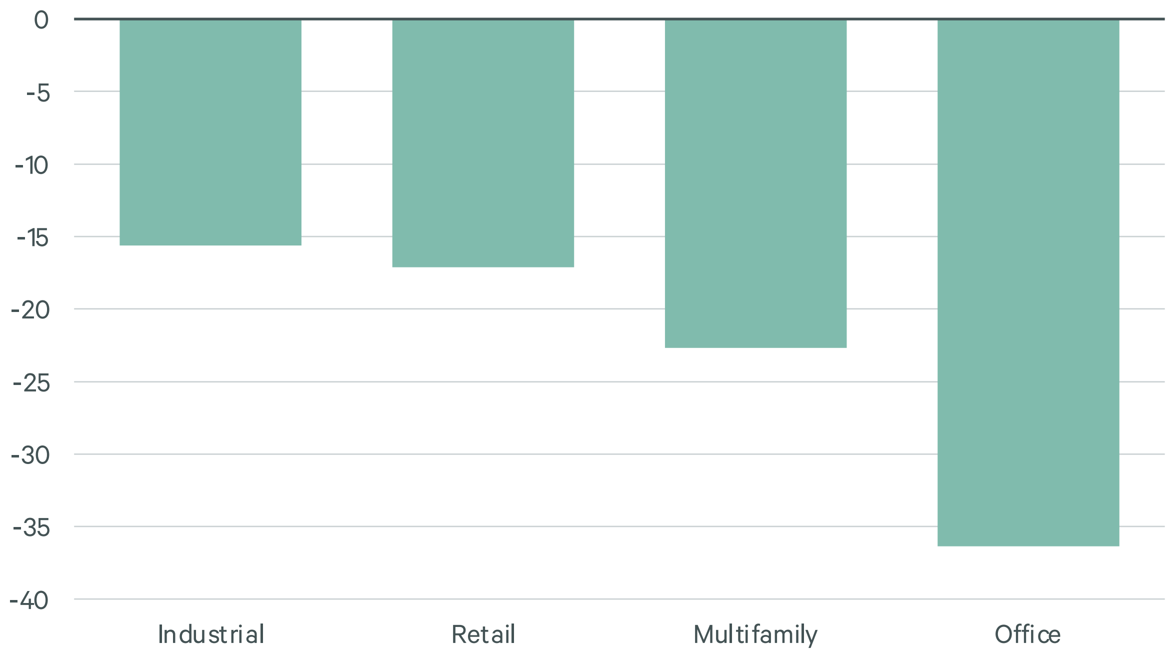
Peak-to-Trough Capital Value Changes (%)



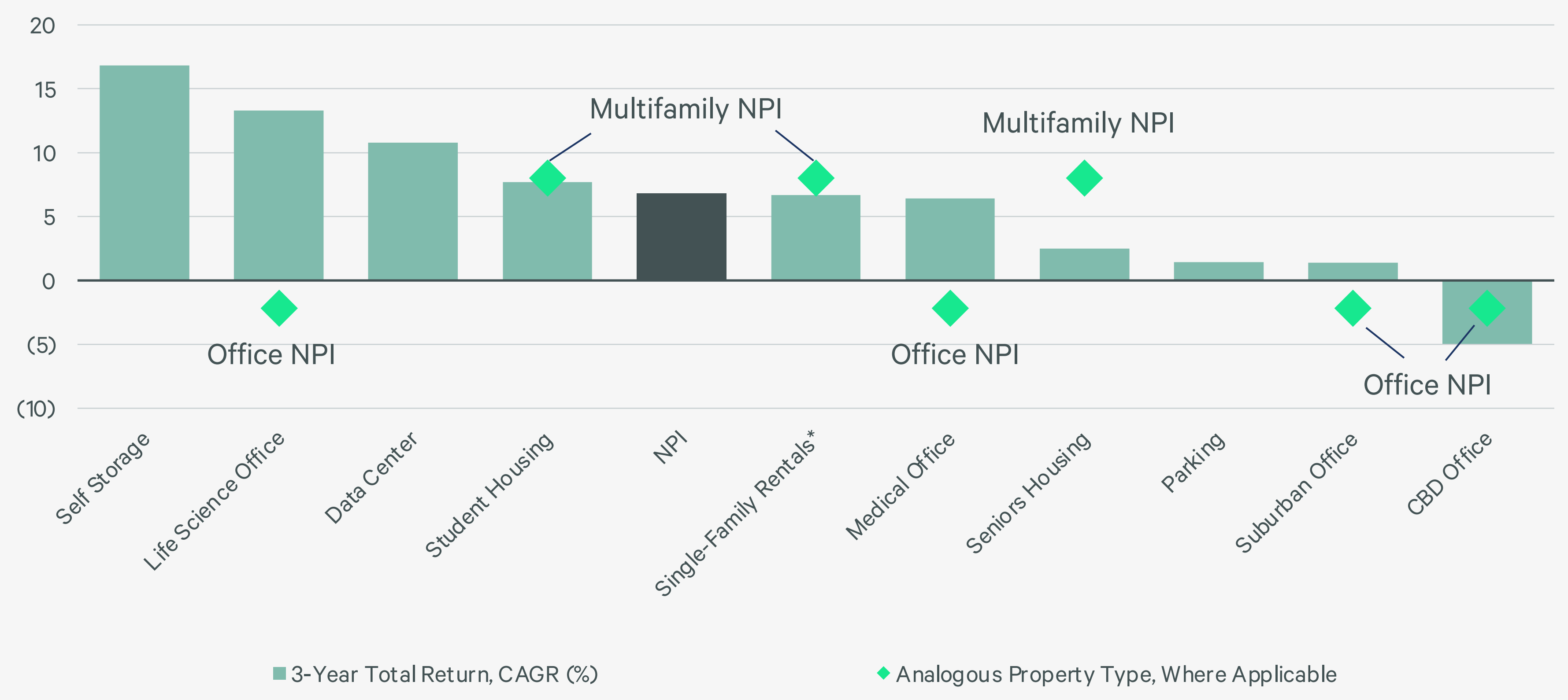
CBRE Econometric Advisors

- Healthy occupancy and rental gains enjoyed during the past five years within the industrial sector—the period CBRE EA assumes as the average lease term—means that many asset NOIs will benefit as leases roll. Indeed, five-year NOI growth for industrial is accelerating and should hit 35% cumulative in 2024. The office sector faces the inverse as falling occupancy and effective rents mean incomes will decline as leases roll through 2024.
- Income growth will support a sturdy bounce-back in valuations for the industrial sector, especially as credit conditions improve.

Alternative property sectors can deliver value

- Although the broader office market is suffering headwinds, property sub-types, such as Life Science and Medical, are handily outperforming the broader sector. The bulk of the sector's struggle emulates from the CBDs.
- Residential performance appears to be more homogenous across subclasses.
- A wave of people moving in recent years has helped the self storage sector.

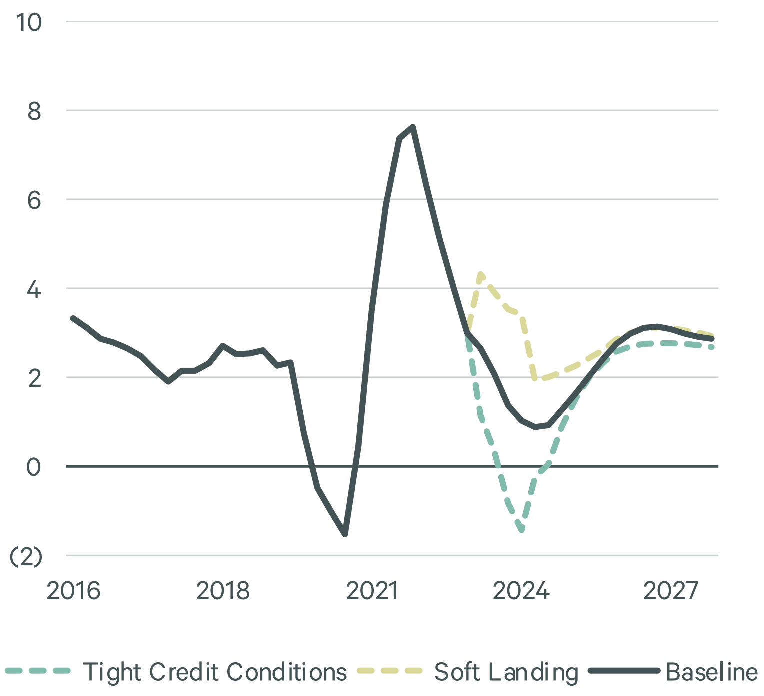
Total Return, 2020-23 CAGR (%)



Source: NCREIF & CBRE Econometric Advisors

A moderate recession will change our rent growth expectations

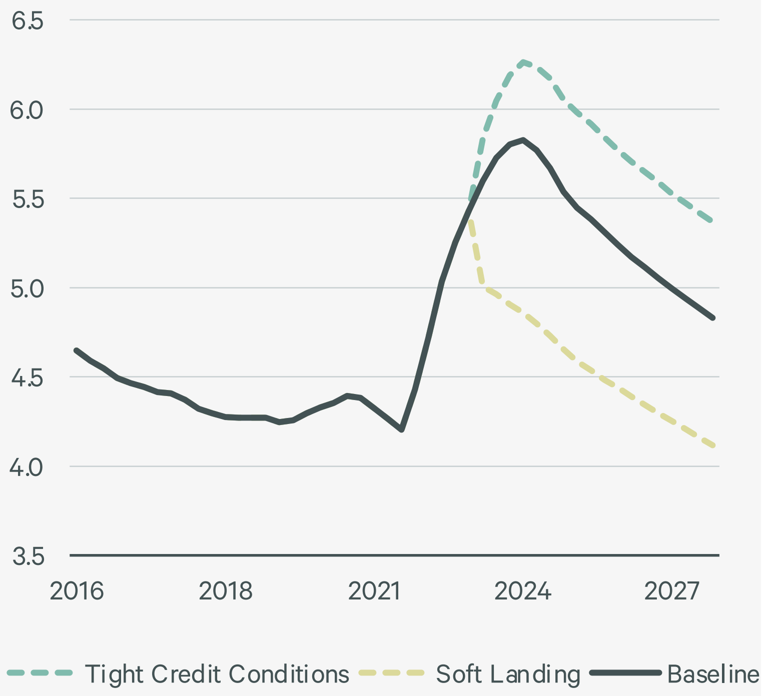
Rent Growth, Y-o-Y (%)



Source: NCREIF & CBRE Econometric Advisors

The Baseline view expects economic growth to slow in coming quarters and this will pull the pace of rent growth down with it through H1 2024. Should consumers exceed expectations and growth persists we believe rent growth could accelerate. Conversely, a more constrained credit environment would drive biting rent declines.

Cap Rate (%)



Source: NCREIF & CBRE Econometric Advisors

Our Baseline view is predicated upon the Fed's tightening cycle being complete. Should credit conditions tighten more, we believe cap rates would increase by an extra 50 basis points through early 2024. Greater macro growth with limited inflation would usher in cap rate compression this year.

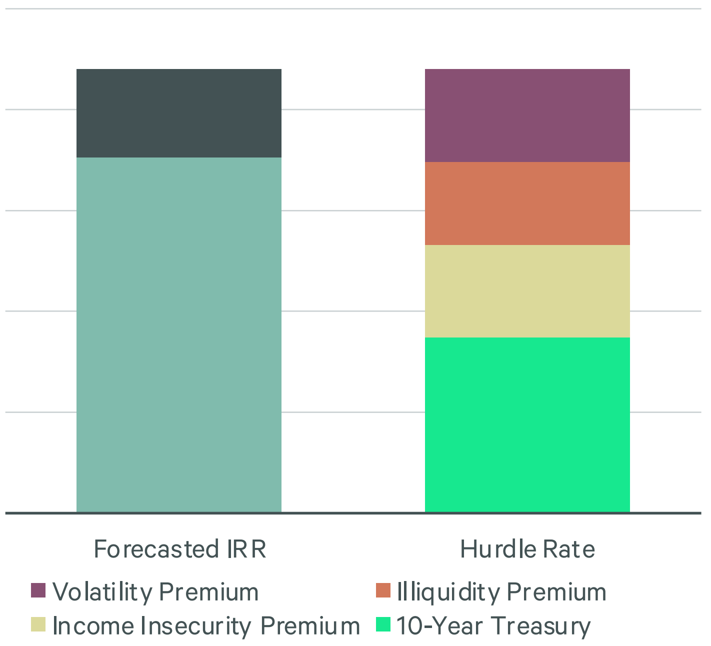
Capital Value Return, Y-o-Y (%)

Source: NCREIF & CBRE Econometric Advisors

Overall, CRE valuations should decline nearly one-fifth, assuming that the Fed's last hike is behind us. Values should begin to stabilize by Q1 2024, with the office markets stabilizing by Q2. Our Tighter Credit Conditions Scenario would both exaggerate value losses and delay the recovery.

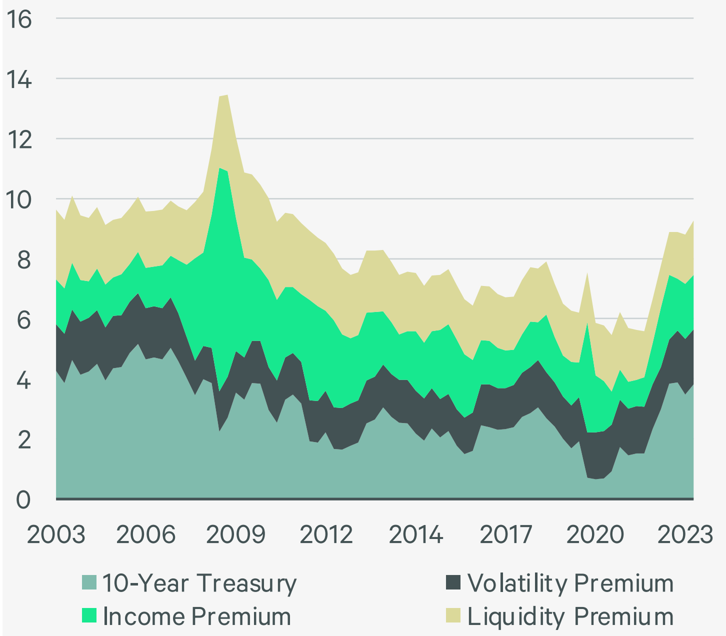
CBRE EA's 'Hurdle Rate' framework

Hurdle Rate Model



Source: CBRE Econometric Advisors

Average CRE Hurdle Rate by Component



Source: CBRE Econometric Advisors

How We Calculate the Risk Premium:

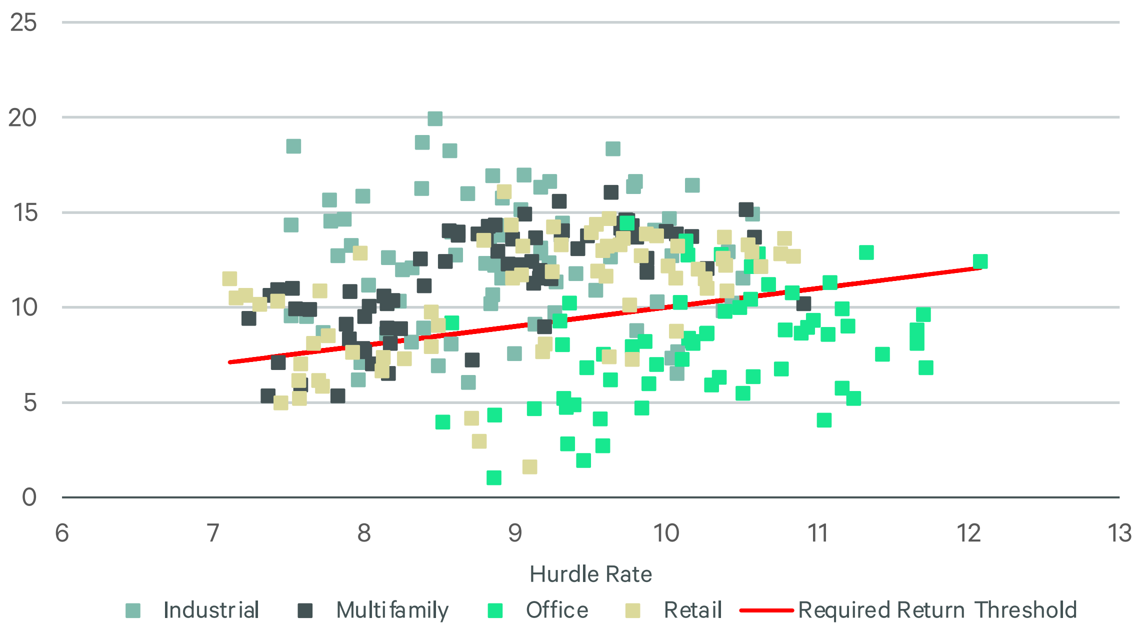
- **VOLATILITY PREMIUM**
  Historic market investment performance compared to the broader CRE investable universe
- **LIQUIDITY PREMIUM**
  Investment volume
- **INCOME PREMIUM**
  BBB Spreads, and;
  Current and historic vacancy rates

Source: CBRE Econometric Advisors

- CBRE EA is developing a hurdle rate model meant to inform investors on the best risk-adjusted returns. The framework compares our 5-year IRR forecast against an objective risk-premium, or hurdle rate.
- The hurdle rate—or the IRR required to justify investment—is the sum of a risk-free rate, and the real estate risk premium (described above). This real estate risk-premium has spiked in recent quarters, driven largely by growth in the BBB spread.

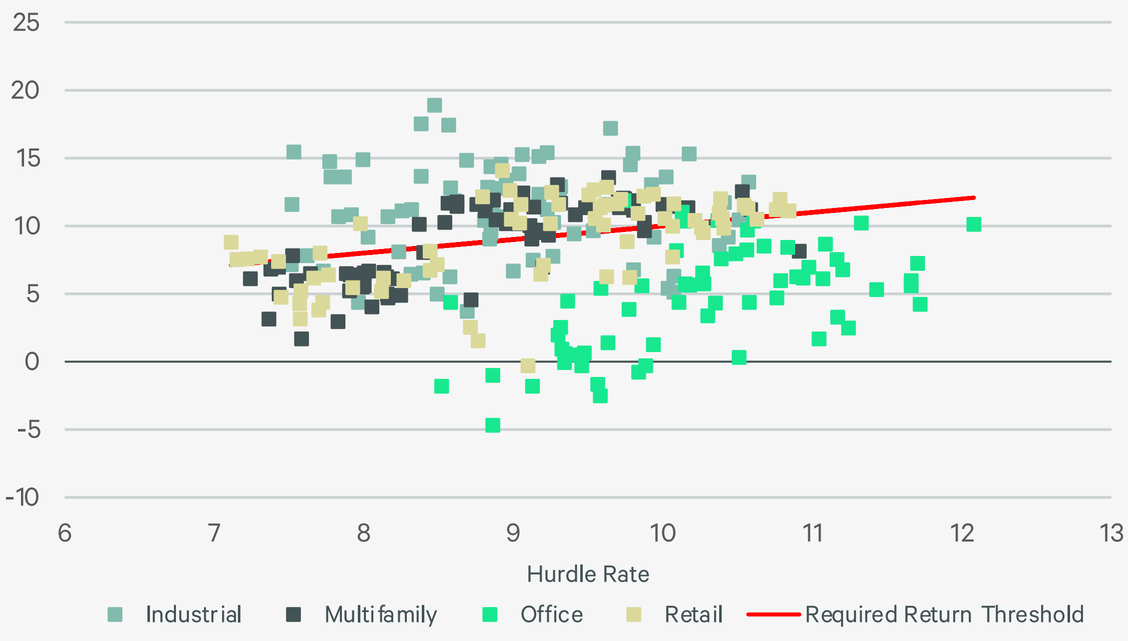
Putting our hurdle rate analysis into practice

5-Year Forecasted IRR and Required Rate of Return, Baseline Scenario



Source: CBRE Econometric Advisors

5-Year Forecasted IRR and Required Rate of Return, Downside Scenario



Source: CBRE Econometric Advisors

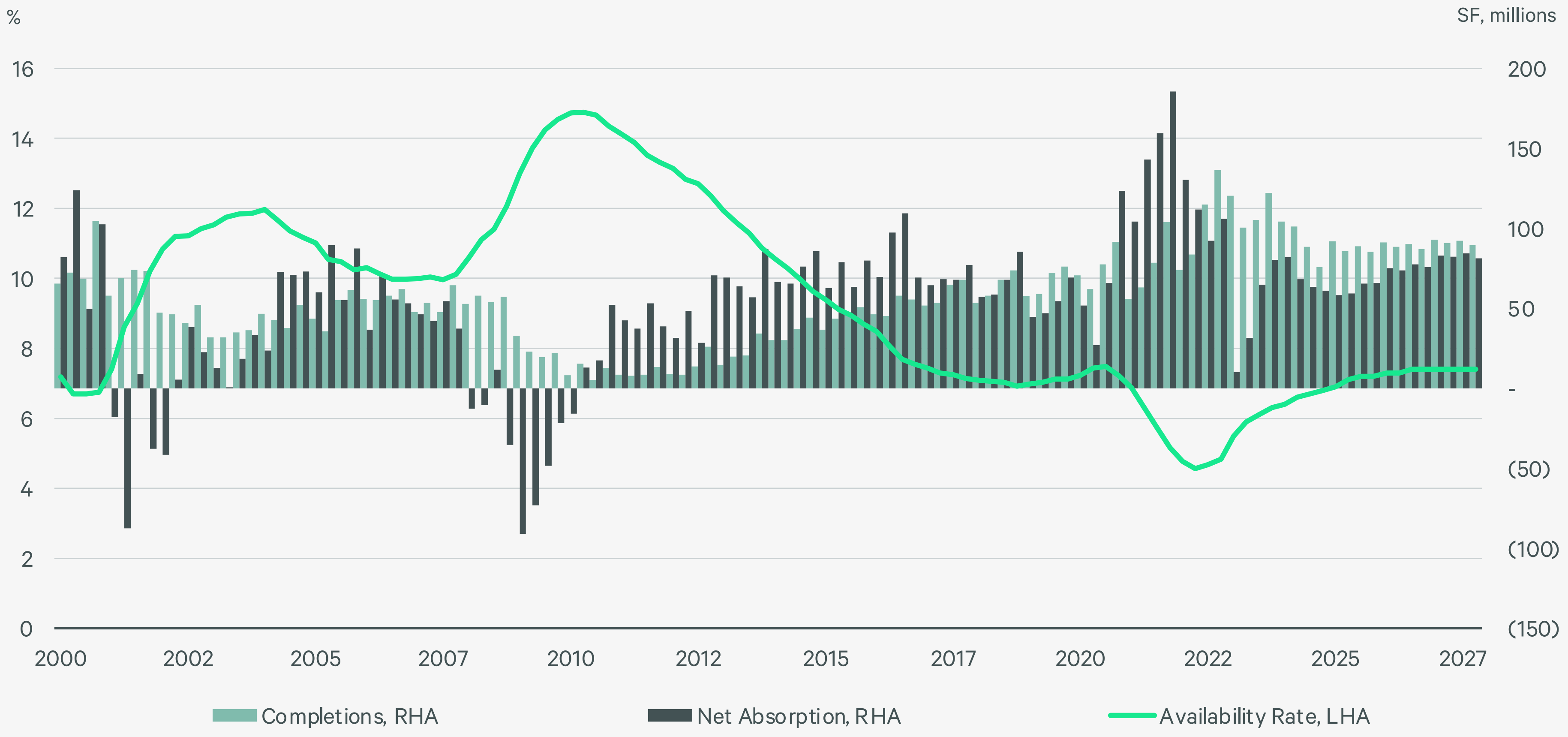
- The figures above illustrate how modeled market-level hurdle rates might be used in conjunction with IRR forecasts. The markets above the required rate of return are investable.
- The practical interpretation of this analysis is that most of our office markets are considered not investable. Conversely, almost all industrial and most multifamily and retail markets are investable.

4

Industrial

Industrial availability rate will begin to trend upward

- Demand levels, after a less than stellar performance in Q1, have rebounded. Absorption is projected to remain at an elevated level until the beginning of 2024, after which a slight tapering off is anticipated.
- Completions are set to decline after the year due to a stall in new starts, tightening credit conditions, and softening occupier demand. Nevertheless, completions should exceed absorption in coming quarters.

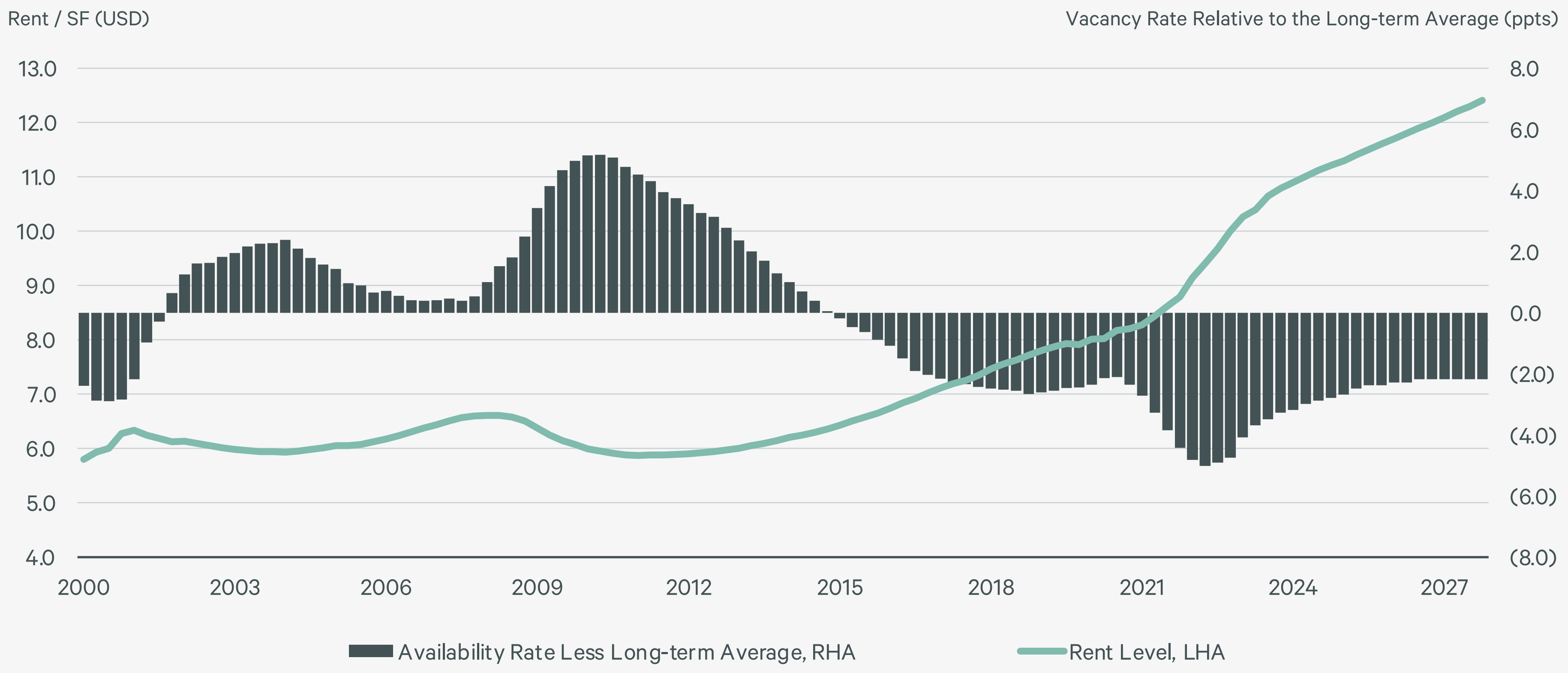


Source: CBRE Econometric Advisors

Low availability will support rent growth

- Although vacancies will trend upward in the near-term available space remains scarce. This backdrop underlies expectations for continued rent roll-ups and NOI growth for the sector.

Rent Levels Relative to Space Scarcity



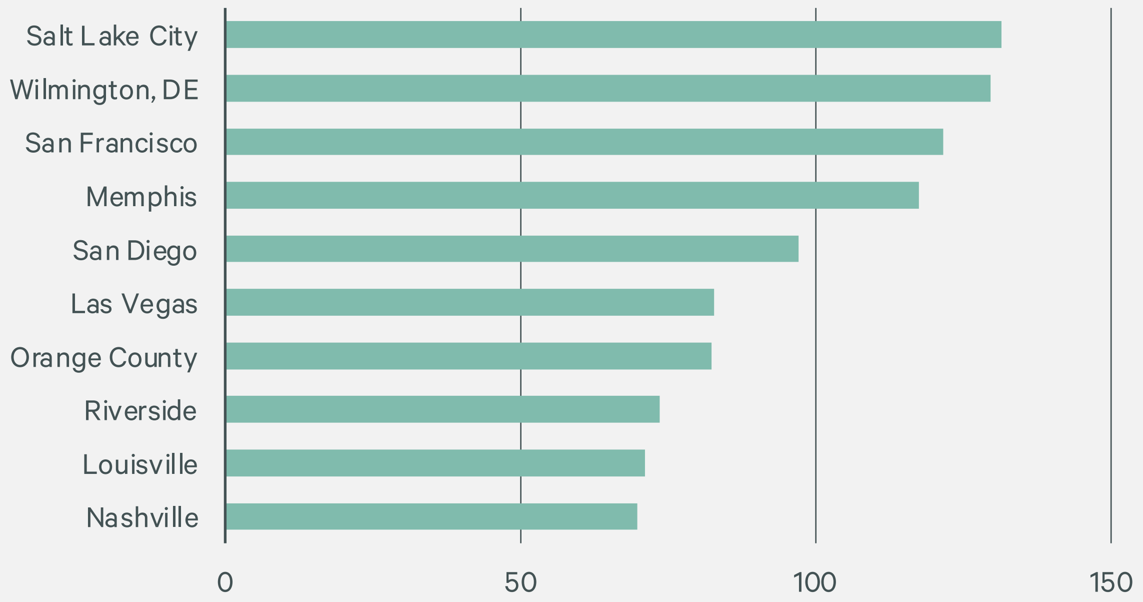
Source: CBRE Econometric Advisors

Available sublease space surges

Industrial Sublease Space (MSF) and Sublease Rate (%)

Source: CBRE Econometric Advisors

Basis-point Change in Sublease Availability Rate (Q2'22 – Q2'23)
Top 10 Markets



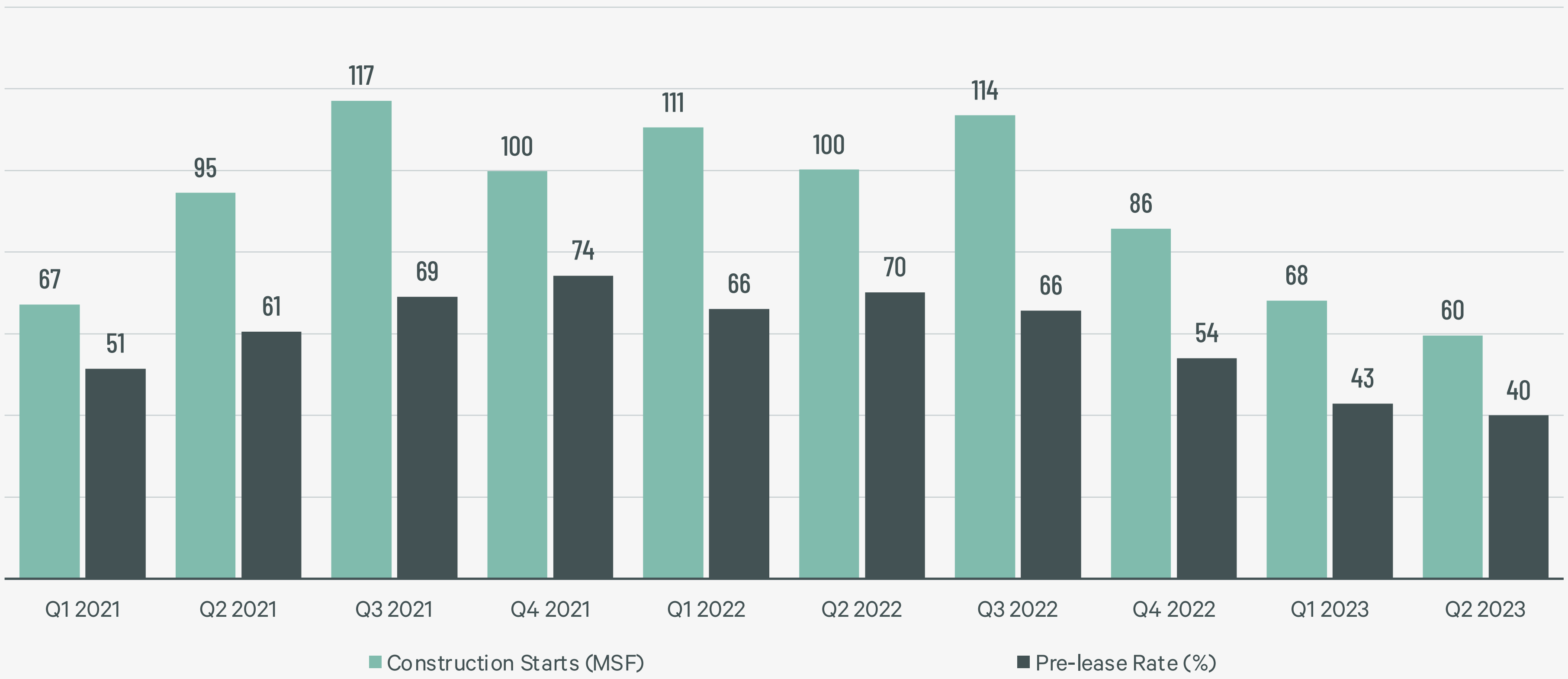
Source: CBRE Econometric Advisors

- There is 115 million sq. ft of available sublease space on the market as of Q2 2023, which is double the amount of space from Q4 2021.
- Three Southern California markets make the list for the largest year-over-year increases in sublease availability.
- Most increases in sublease availability are specific to assets 300,000 sq. ft. and larger.

Pre-leasing and construction slows for fourth consecutive quarter

- Pre-leasing rates and construction starts have been on a steady decline since the end of 2022 amid rising debt costs and broader market volatility.
- The drop in starts will drastically limit the amount of first-generation distribution space on the market in 2024 and 2025.

Industrial Pre-leasing, Construction Starts; Sum of Markets (%) (MSF)



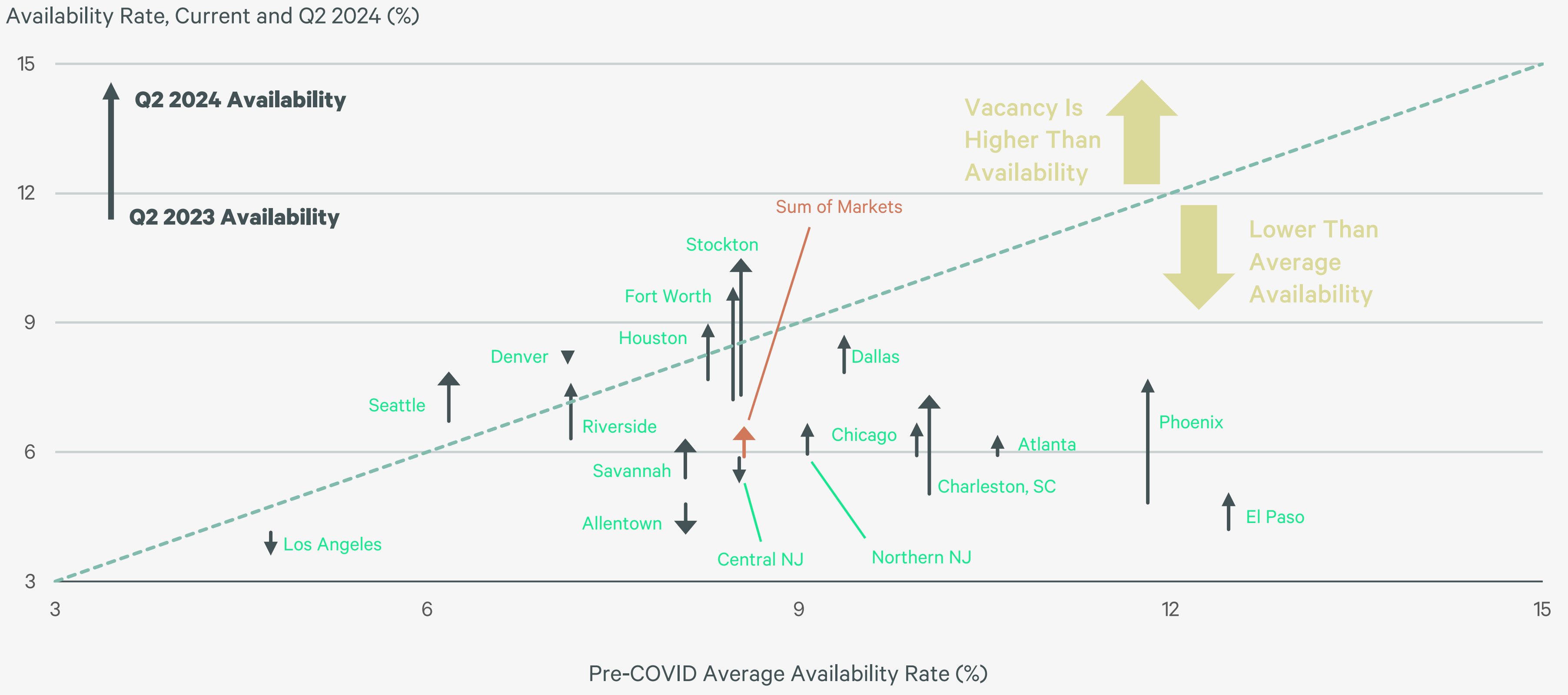
Source: CBRE Econometric Advisors

Availability rates will remain below average for most markets

Availability rates are trending upward almost everywhere.

- Expectedly, availabilities remain limited across supply-constrained port markets, such as Los Angeles and New Jersey.
- New product has ballooned availabilities in Phoenix and Charleston, SC. There is also downside risk in Savannah.

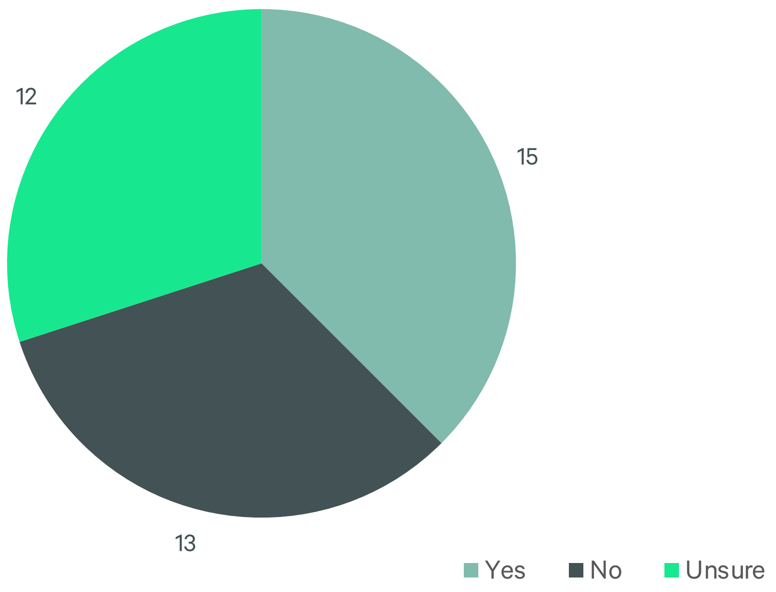
Industrial Availability Rates Relative to Historic Mean



Source: CBRE Econometric Advisors

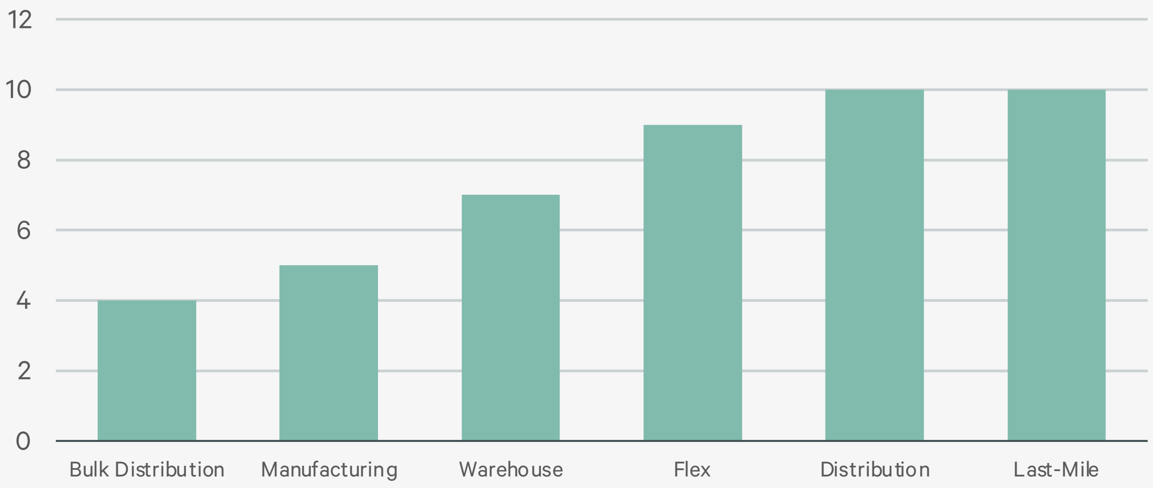
CBRE professionals have mixed views on future performance

Do you believe buyers are pricing in weaker rental growth due to coming supply deliveries? (% of answers)



Source: CBRE Econometric Advisors

Which types of industrial properties in your market will experience the best investment performance during the next year?



Source: CBRE Econometric Advisors

Note: Responses that mention multiple sub-sectors are double counted

- As part of CBRE EA's Cap Rate Survey, when asked if they believe industrial pricing is beginning to incorporate lower rent growth expectations due to the supply pipeline, CBRE professionals are divided.
- We also asked which areas of the industrial sector will have the best performance over the next year. Respondents are most bullish on last-mile properties and distribution centers followed by flex space.

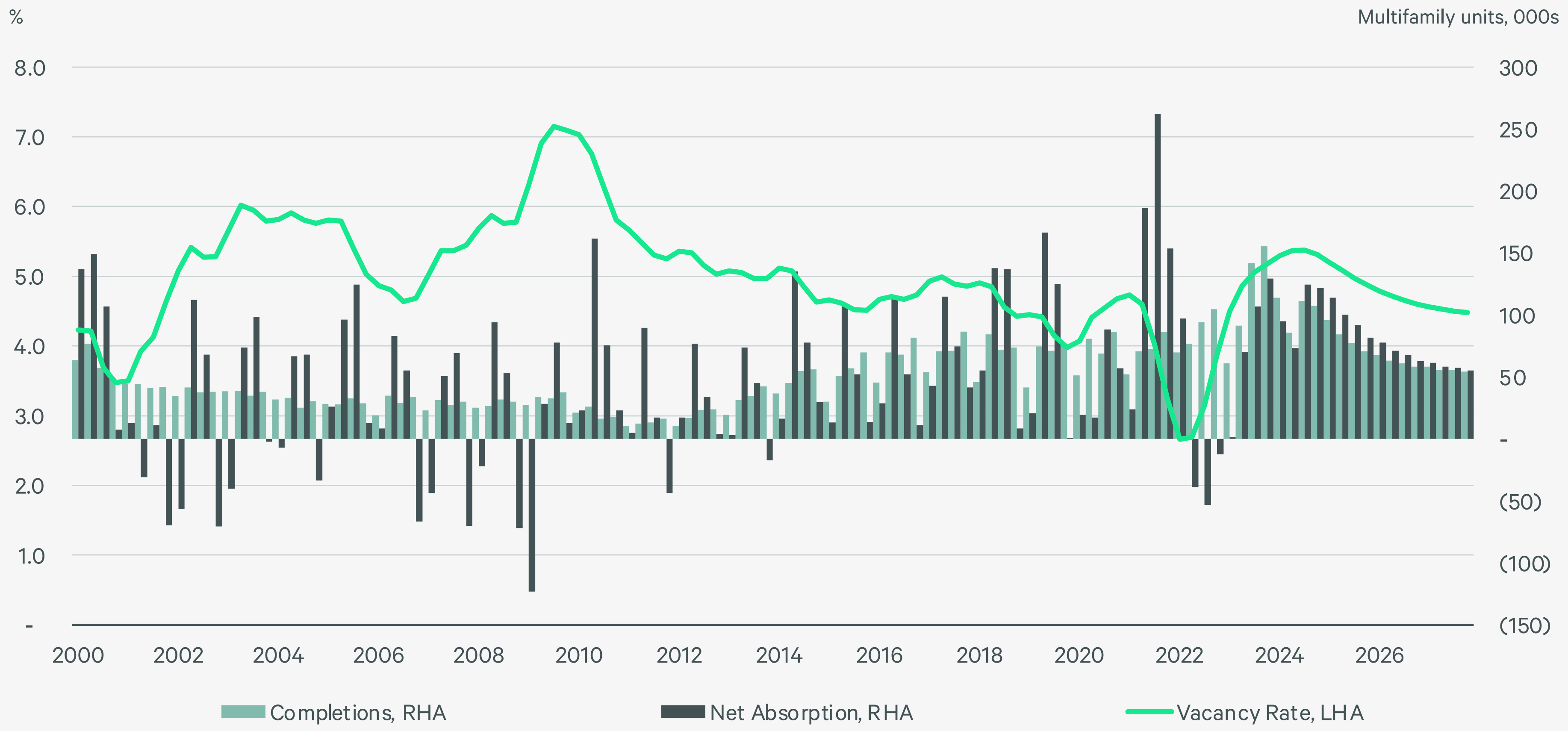
5

Multifamily

Fundamentals will remain tight amid a construction deluge

Multifamily fundamentals are softening quickly as a deluge of new supply comes to market.

- The national vacancy rate rose 10 bps Q-o-Q to 5.0% in Q2 2023; Y-o-Y rent growth was 2.6%.
- We expect vacancy to peak in Q2 2024 at 5.4%, above the average vacancy between the Global Financial Crisis and Covid (5.0%, Q3 2010 – Q1 2020).



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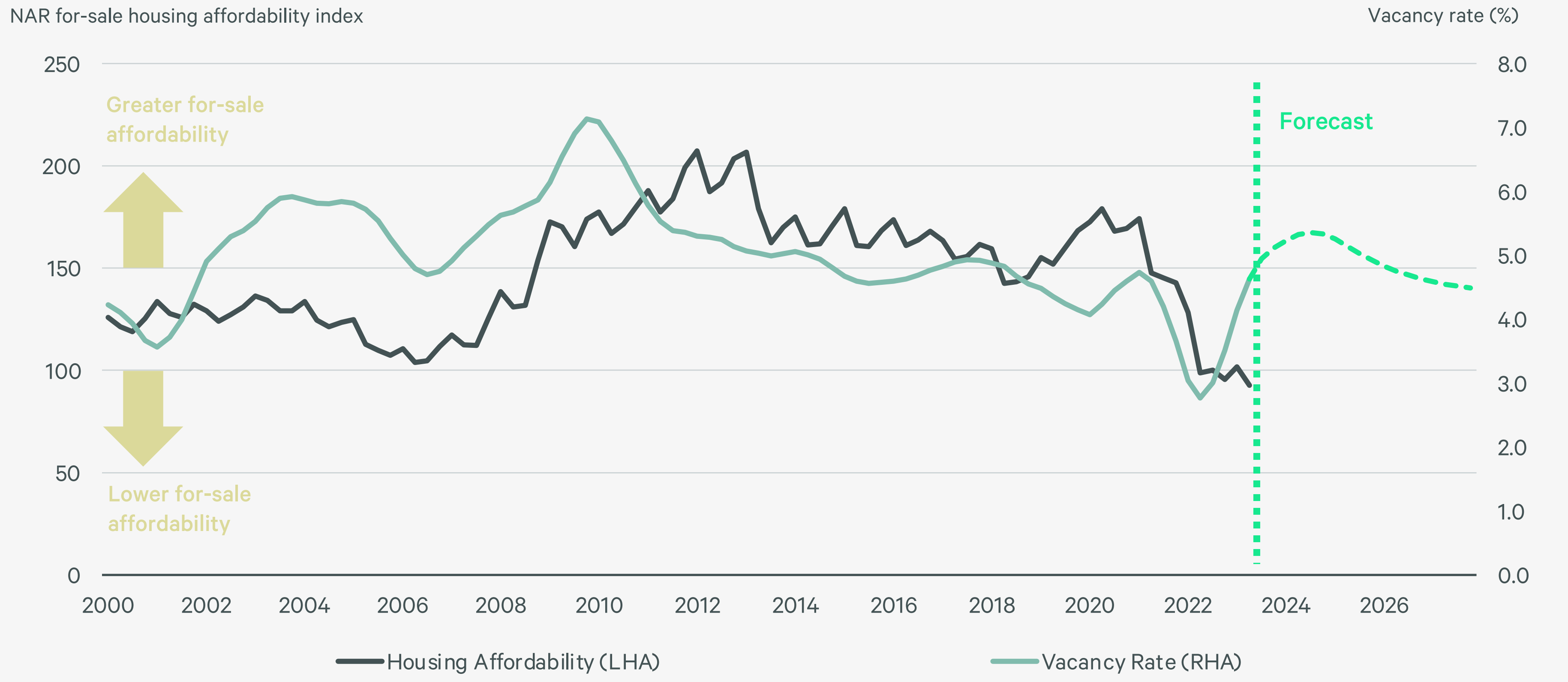
*Vacancy rate is expressed as a 3-quarter moving average.

Low for-sale affordability will put a ceiling on multifamily vacancy levels

Higher barriers to homeownership have generally been beneficial to multifamily fundamentals.

- To be clear, low for-sale affordability does not always result in lower multifamily vacancies—other factors are important too. For instance, in 2011-2012 when housing affordability increased but few could qualify for a mortgage, multifamily fundamentals tightened.
- Presently, spiraling mortgage costs are causing for-sale affordability to plunge. This will provide a counterbalance to the upward pressure multifamily vacancies will feel from a weakening economy.

Multifamily Vacancy Trend and For-Sale Housing Affordability Levels

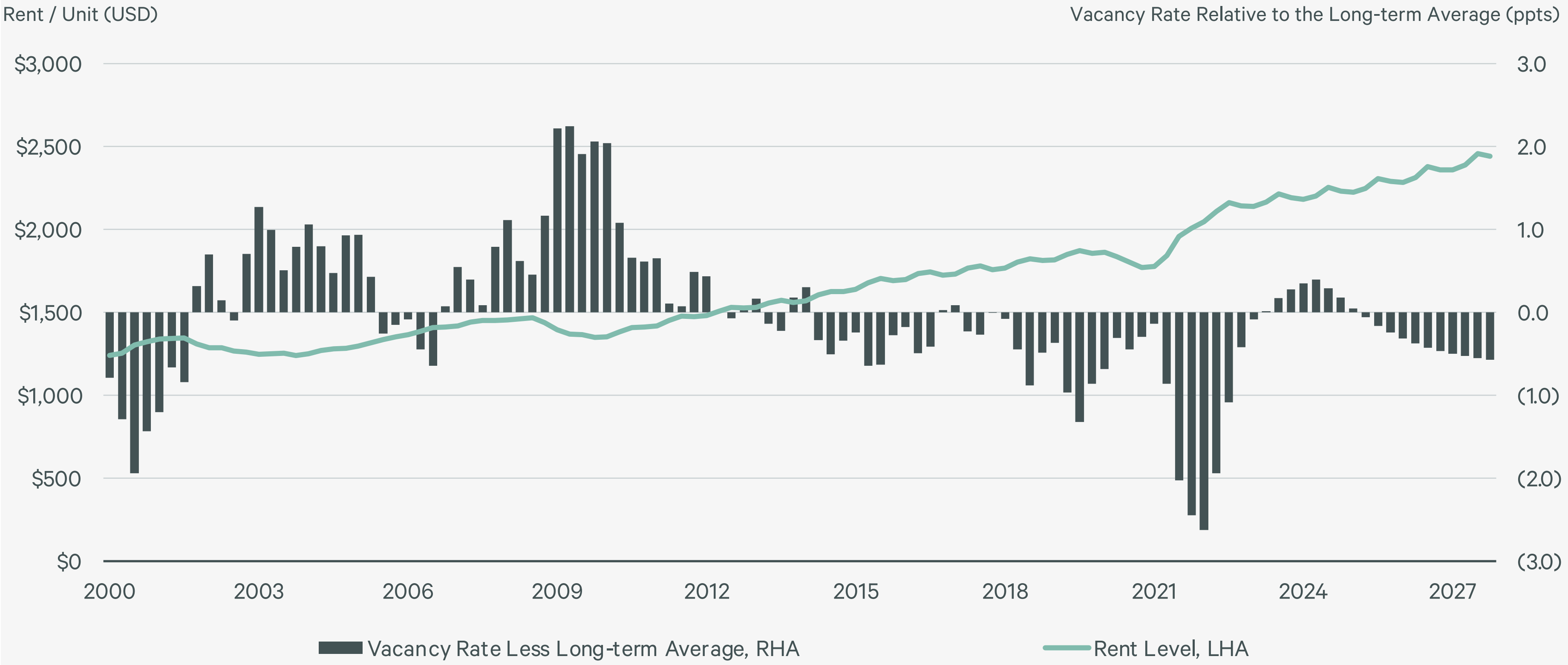


Source:: National Association of Realtors

Tight fundamentals caused rapid rent growth but is now likely to slow

Multifamily vacancy rates were chronically low in 2021-2022, which caused rents to soar. Looking forward, a mix of new supply and slower economic growth will erode occupancy levels and limit the pace of rent growth. However, the bump in vacancy levels is poised to be transitory.

Rent Levels Relative to Space Scarcity



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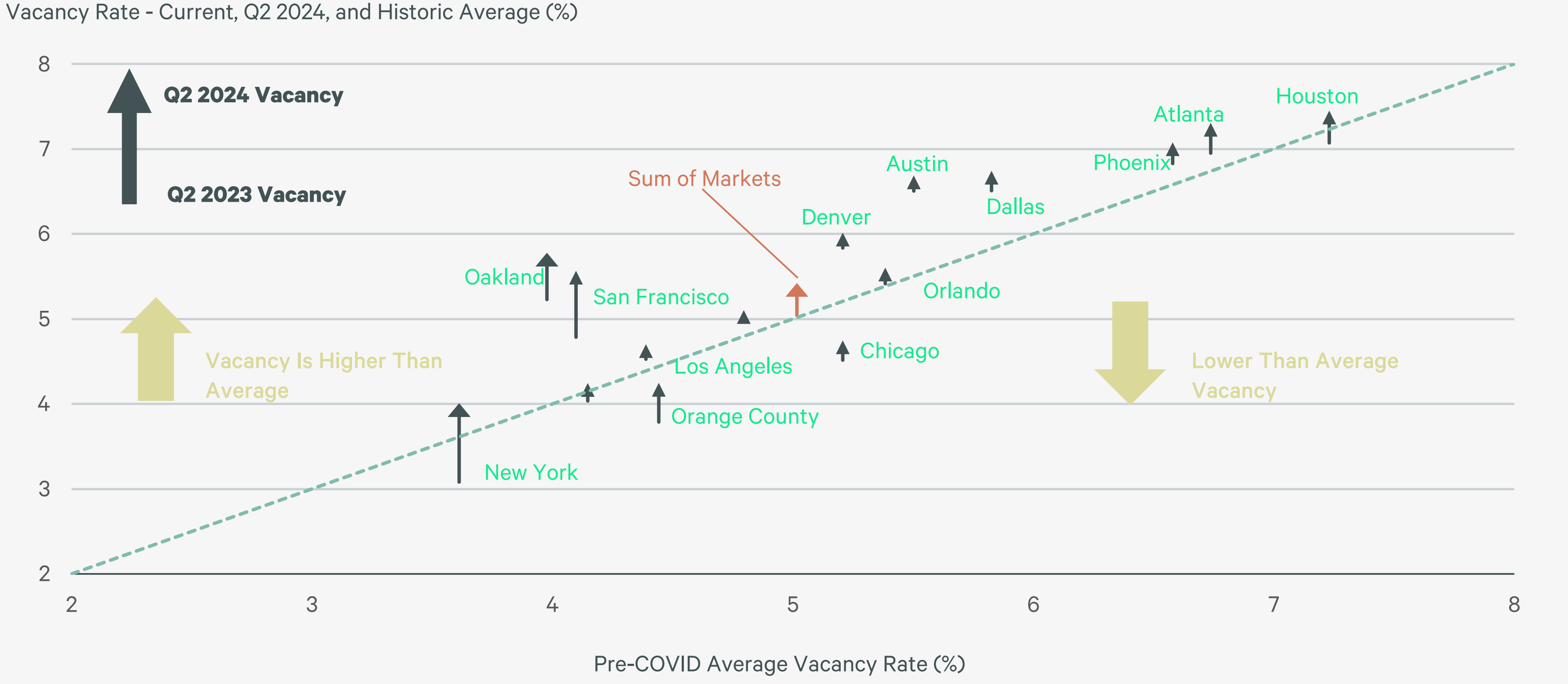
Multifamily markets will see vacancy rates remain above historic levels

- Vacancy rates across most major multifamily markets are currently clustering around pre-COVID historic norms following a three-year roller coaster ride of shutdowns, re-openings, and now the specter of a moderate recession. The systemic impact of a recession—which we believe will start to happen later this year—will temper household formation everywhere. [Notice ALL the arrows are pointing upward.]
- Markets worth noting include the San Francisco Bay Area, which typically sees more volatility during economic cycles. Job losses and net move-outs here will only cause vacancy levels to move even further away from historic norms. Other high-beta markets, such as New York, will see occupancy losses but remain close to the historic trend. This will be a similar story for other supply-constrained markets, such as Los Angeles and Orange County.
- The Sun Belt has a different set of issues. Household formation trends might impress but will not be enough to offset rampant supply growth in Austin (16%) and Dallas (8%). Thus, expectations of occupancy and rental growth through mid-2024 will likely be met with disappointment.

Expectations for Vacancy Rates Relative to Their Pre-COVID Average

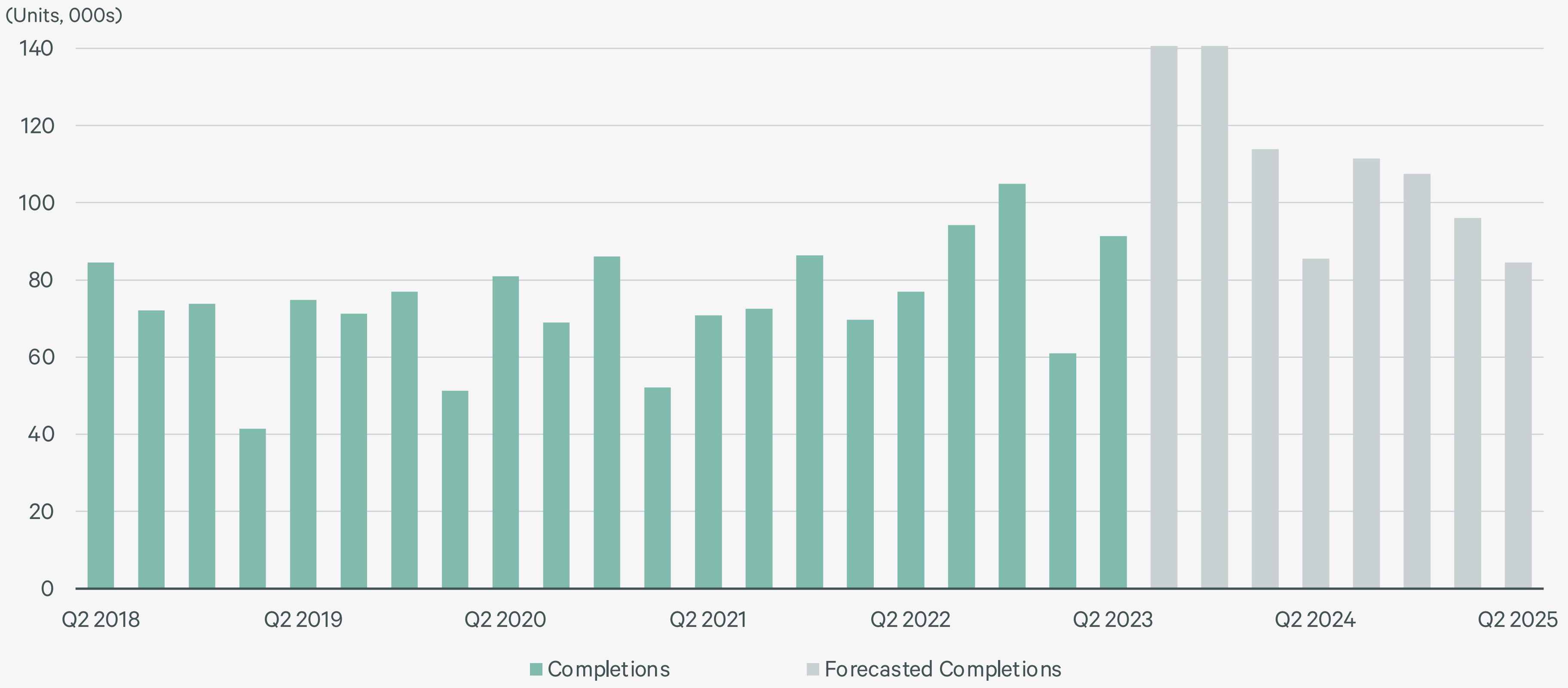


Source: CBRE Econometric Advisors

Record completions will define this cycle

- Completions totaled more than 91,000 units in Q2 2023, up nearly 20% from the second quarter.
- The supply pipeline remains robust despite falling demand, as delays have pushed many COVID-era projects into the next two years.
- We expect nearly 300,000 units to complete in H2 2023—a record amount. Persistent construction delays will likely push some deliveries into 2024.

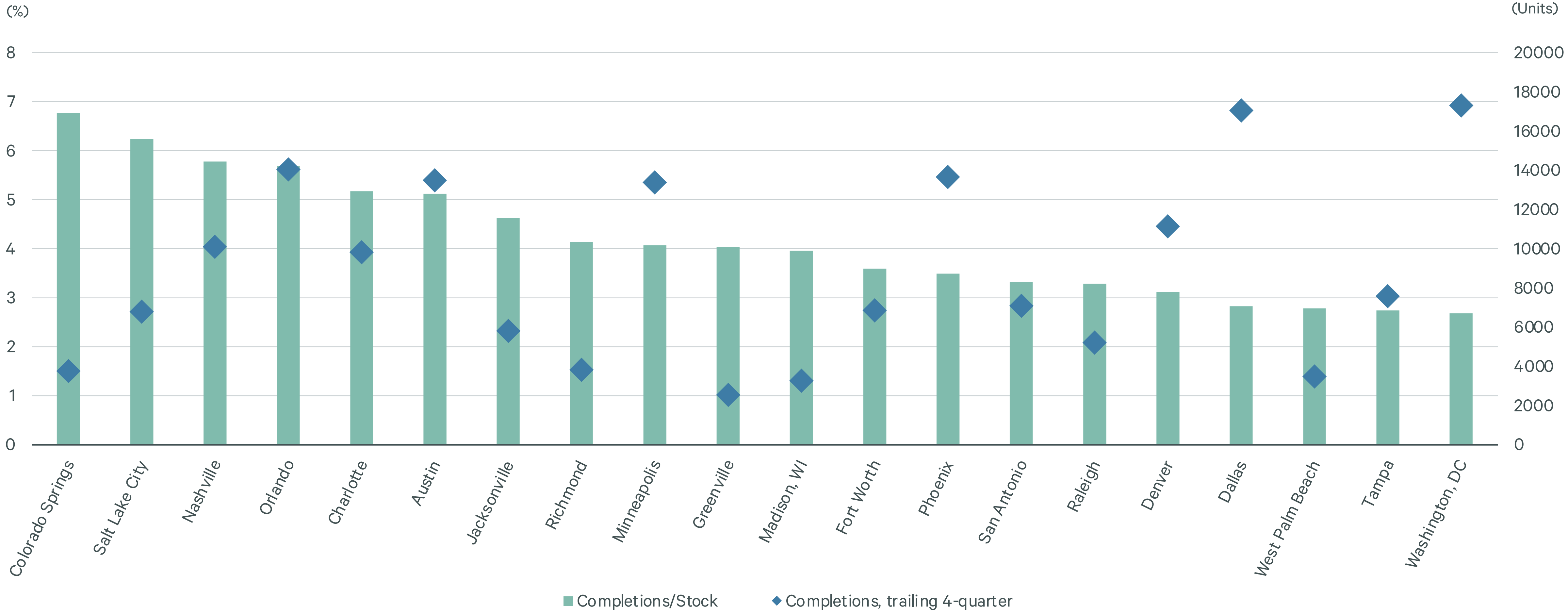
Quarterly Completions



CBRE Econometric Advisors, Dodge Data & Analytics

Completions remain strongest in the Sun Belt

Top 20: Completions as a % of Inventory



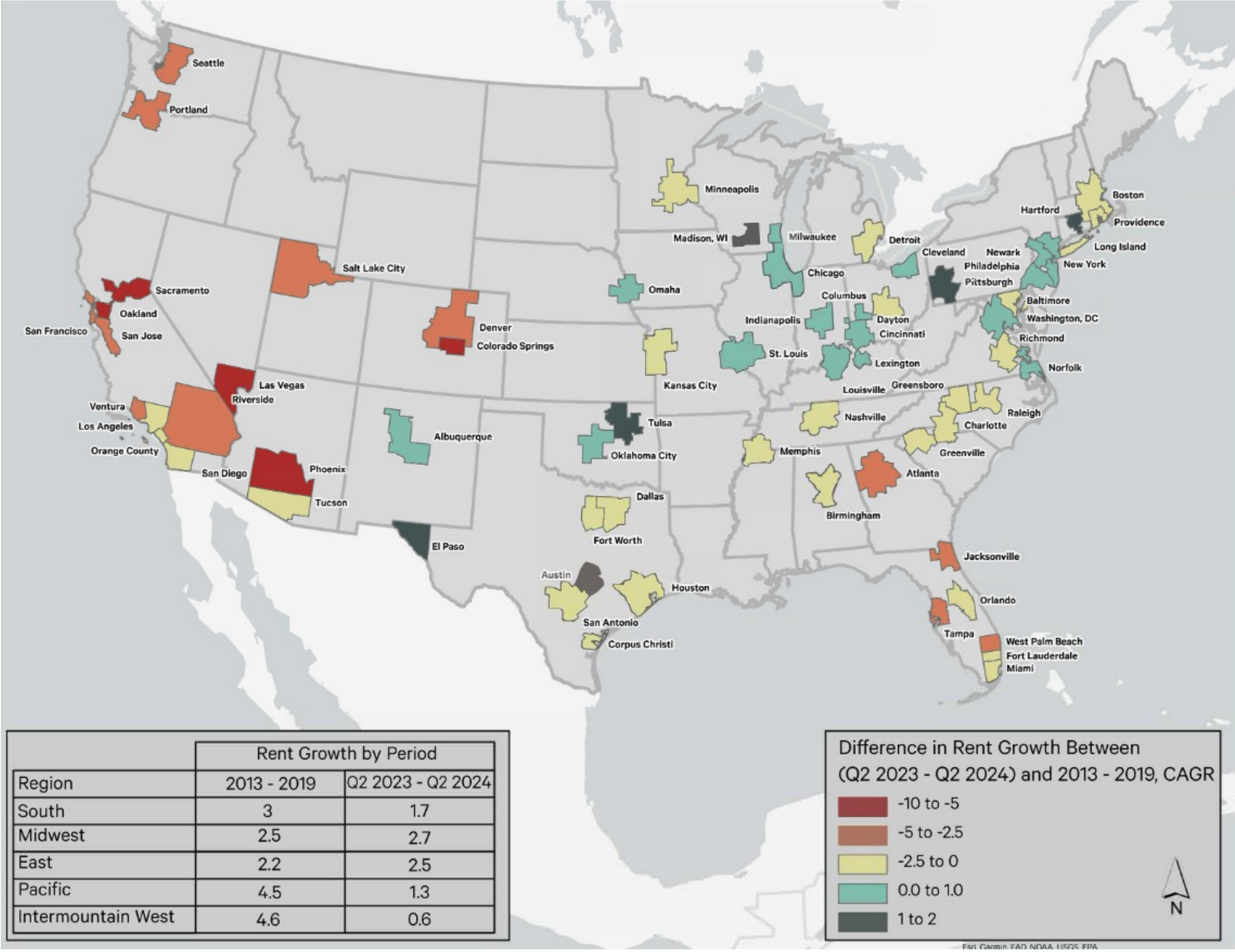
CBRE Econometric Advisors, Dodge Data & Analytics

Rents will hold up better in the Midwest and Northeast

Multifamily growth is slowing from the pre-COVID trend and certainly from recent years. This map depicts how the rent outlook for the next year (Q3 2023 to Q2 2024) compares with the actual growth over the previous cycle (2013 to 2019).

Counterintuitively, we expect rent growth to remain stable in typically slow-growth markets across the Midwest and Northeast. Many do not attract significant development activity and the lack of new supply is now a tailwind. Multifamily here will also benefit from the illiquid for-sale market nationwide. Outmigration continued last year across many Midwest and Northeastern cities, but we could plausibly expect this trend to ease in 2023 and 2024 as fewer people are likely to make interregional moves for the purpose of homeownership.

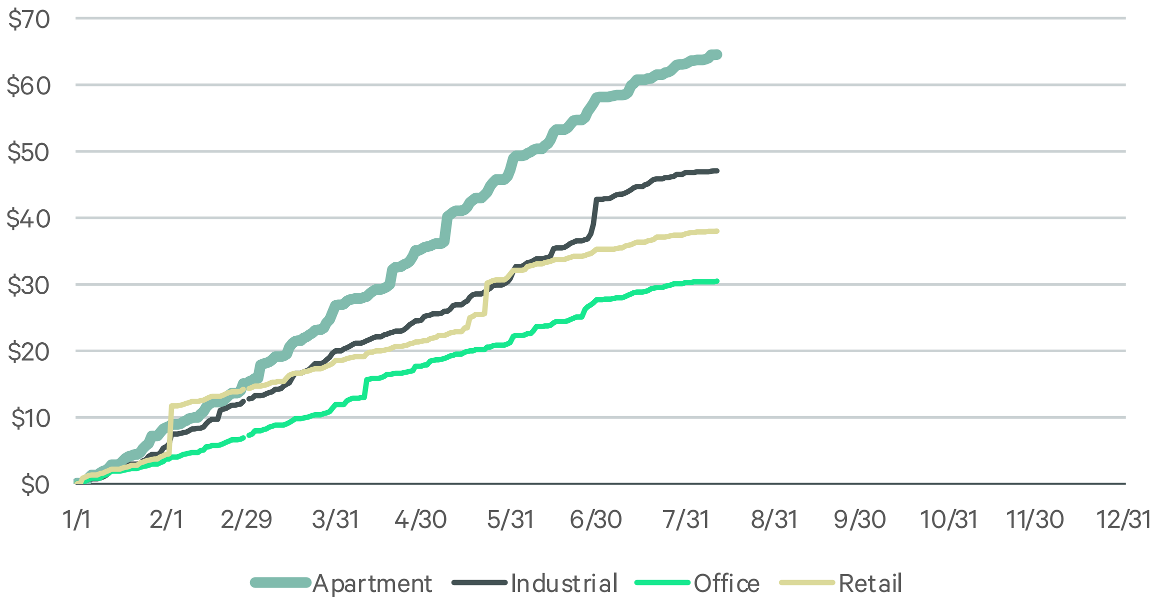
Conversely, with the tech boom fading, multifamily rents are decelerating sharply across Northern California and the Pacific Northwest. Rent growth is also slowing in the Intermountain West, Texas, and the Southeast due to rampant supply growth and it is plausible that multifamily asset performance is likely to fall short of *pro forma* for a period of time.



	Rent Growth by Period	
Region	2013 - 2019	Q2 2023 - Q2 2024
South	3	1.7
Midwest	2.5	2.7
East	2.2	2.5
Pacific	4.5	1.3
Intermountain West	4.6	0.6

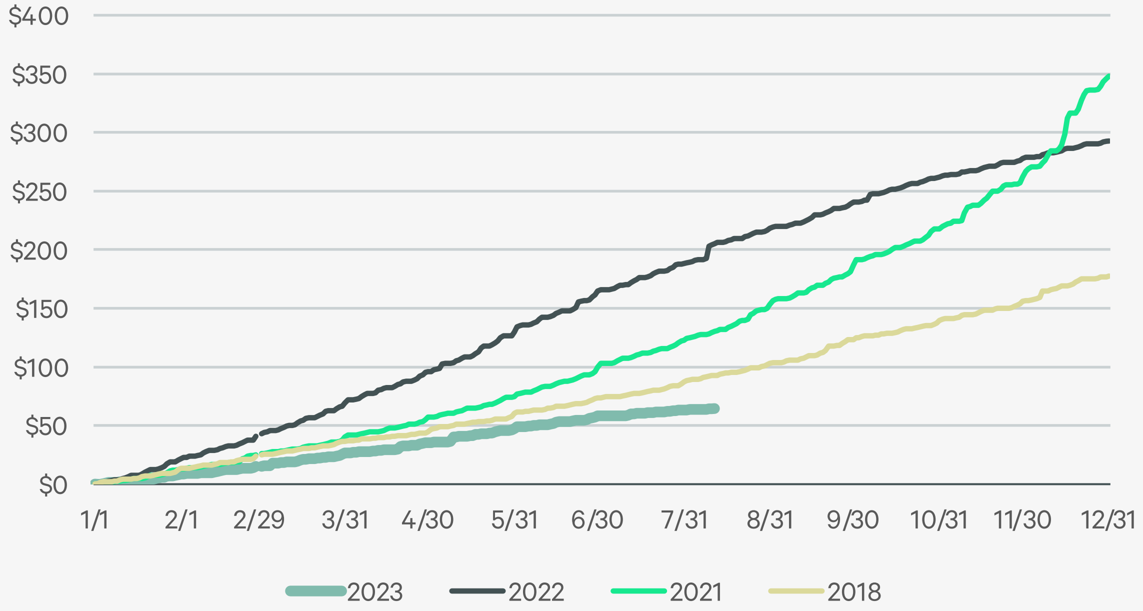
Multifamily investment volume leads…but that is not saying much

Cumulative Daily Investment Volume, Billions (USD)



MCSI Real Assets, CBRE Econometric Advisors

Cumulative Daily Multifamily Investment Volume, Billions (USD)



MCSI Real Assets, CBRE Econometric Advisors

- Multifamily investment activity is facilitated by smaller lot sizes that often require less leverage and agency financing. Consequently, investment volume in this space has held up better than other sectors, such as retail and office.
- Despite multifamily's unique advantages, higher financing costs are derailing buying activity relative to previous years. Specifically, some markets with very low cap rates render it very vulnerable to rising borrowing costs—especially as NOI growth is slowing.

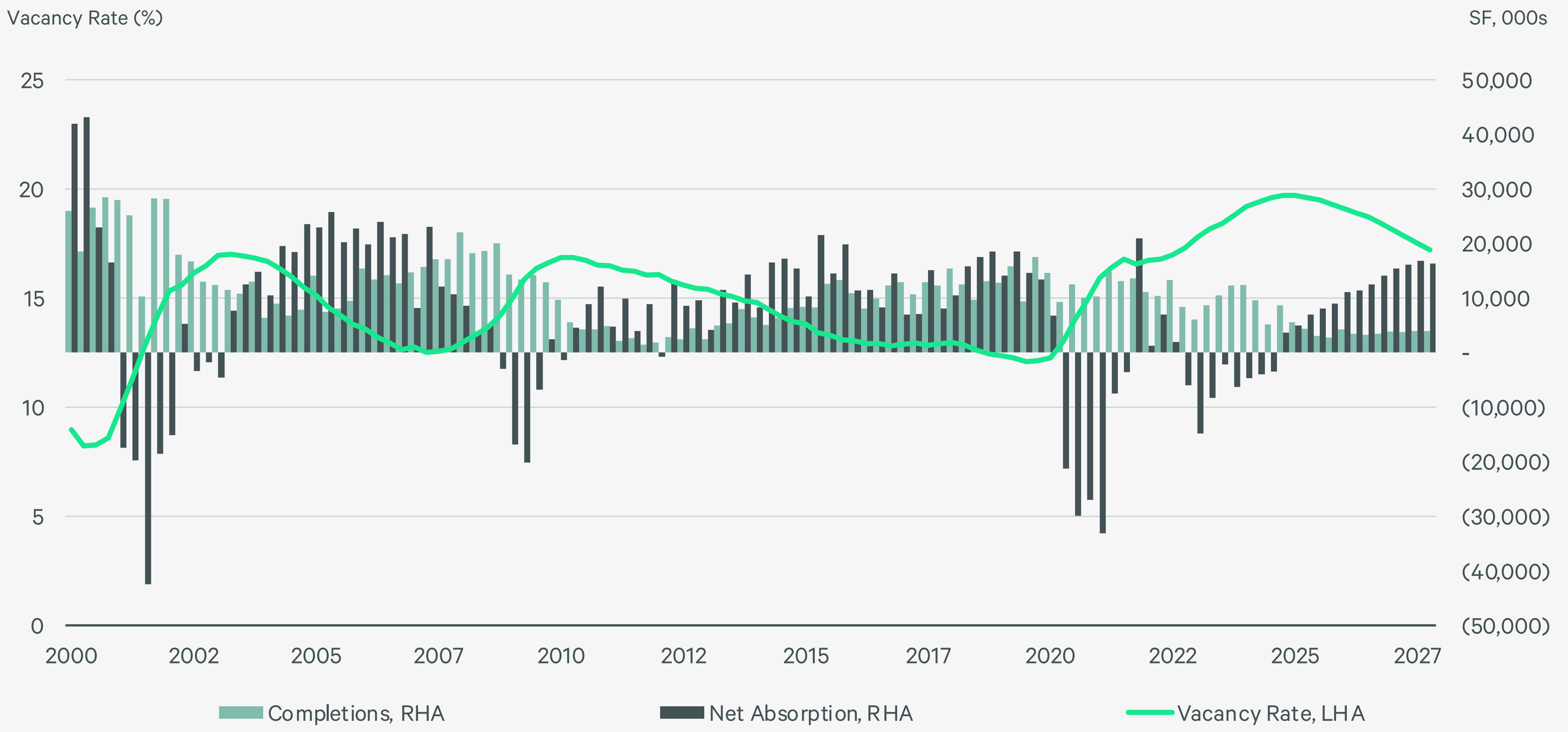
6

Office

Vacancies will remain on an upward trajectory through 2024

Tenants continue to give back space and net absorption should remain in the red through 2024, sending vacancy levels to record highs.

- The overall office vacancy rate increased 40 bps to 18.2% in Q2 2023, 130 bps higher than the peak (16.9%) during the GFC.
- Except for a few properties already moving ahead, we expect developers to pull back over the medium-term.



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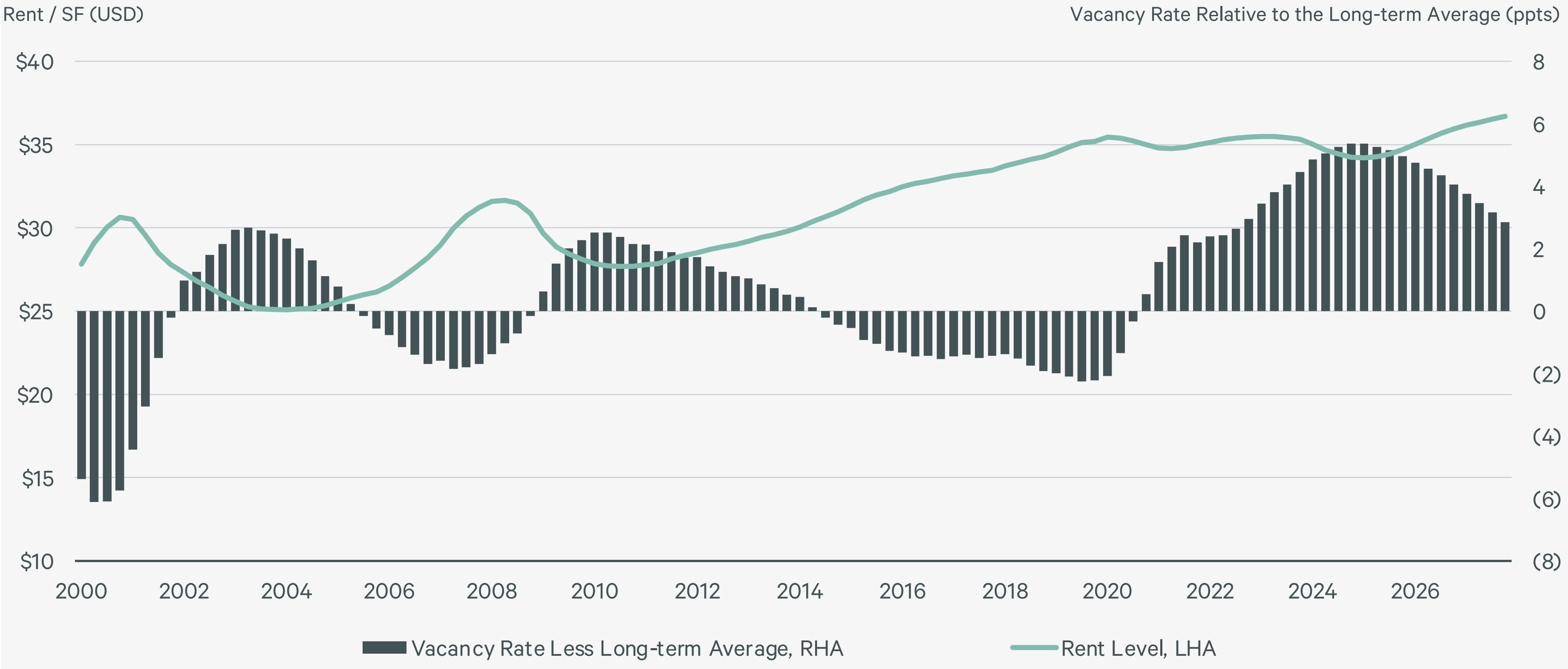
Soft fundamentals mean office rents will struggle

- Nominal rent has barely changed compared with Q1 2020. However, real asking rent is down 15% since the start of the pandemic, on par with the drop during the GFC (16.4%). And we expect real rents to drop 22% compared with Q1 2020.

Rent Levels Relative to Scarcity in the Space Market



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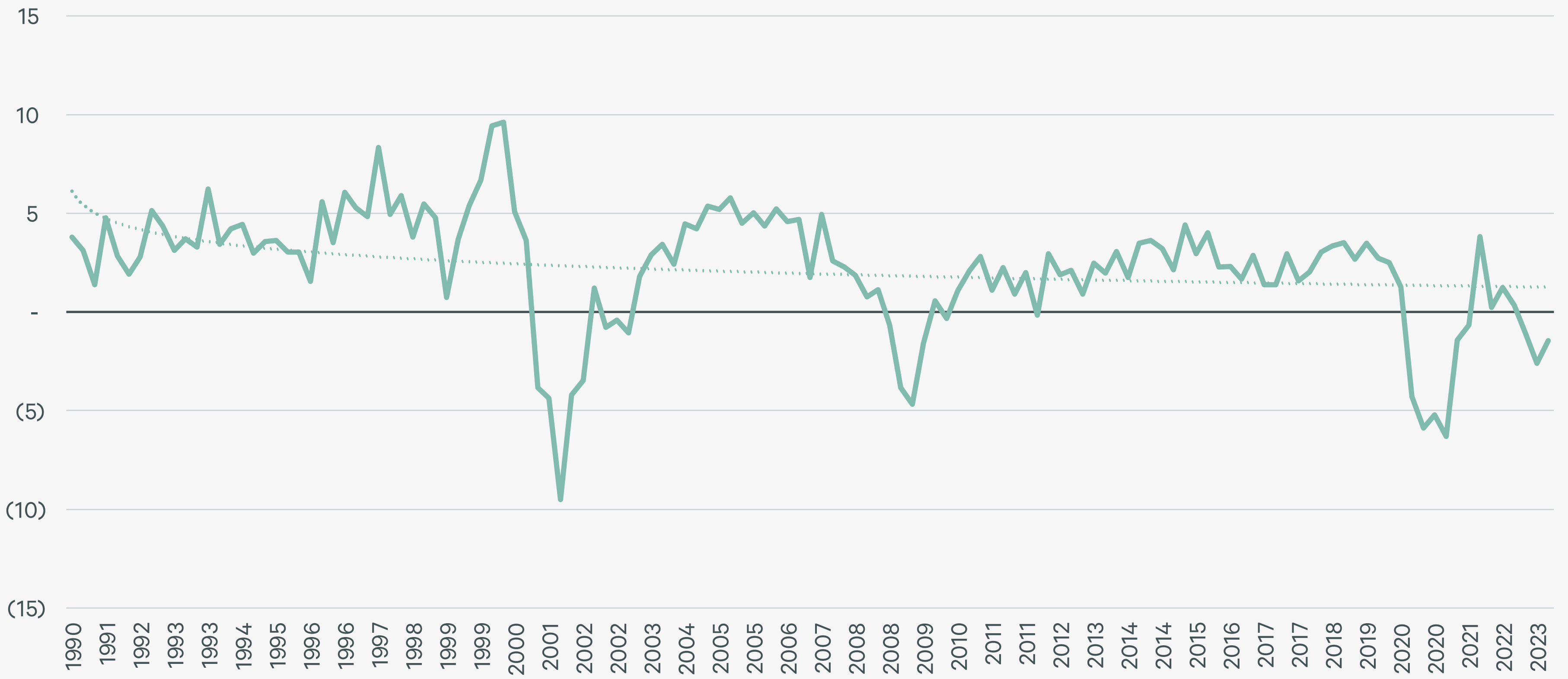
Absorption-to-workers has always trended downward

- For decades absorption per office worker has been trending downward due to efficient, open-plan concepts and the growing prevalence of remote work. At the height of the pandemic, net absorption per office worker plummeted to -6.3 sq. ft. as companies quickly rightsized, even lower than the malaise of 2008-09.
- Today, there is a narrative shift toward more in-person work. Whilst it is unlikely that net absorption per worker will return to early-2000s levels it will probably trend back towards the long-term trend as economic conditions change and the interplay between company needs versus employee wants discovers a new equilibrium.

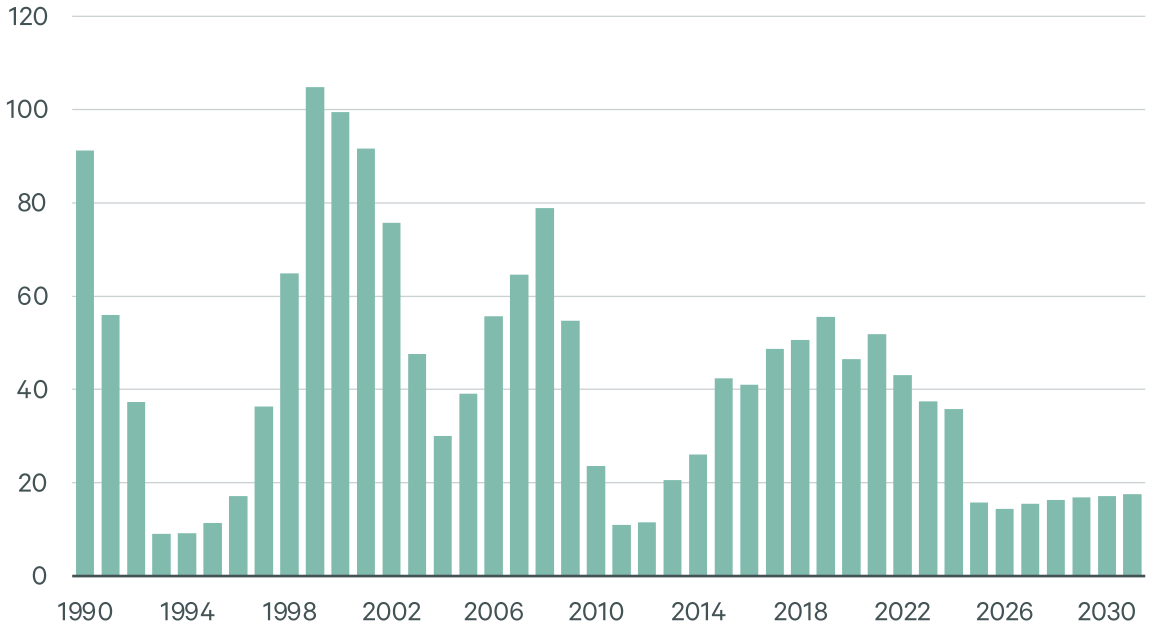
Average Net Absorption Per Office-Using Employee has been Dropping



Source: CBRE Econometric Advisors, Q2 2023

The office supply pipeline is winding down

Completions, Square Feet (Millions)



CBRE Research, CBRE Econometric Advisors

Top Markets for Office Completions During the Next Two Years

Dodge Analytics, CBRE Econometric Advisors

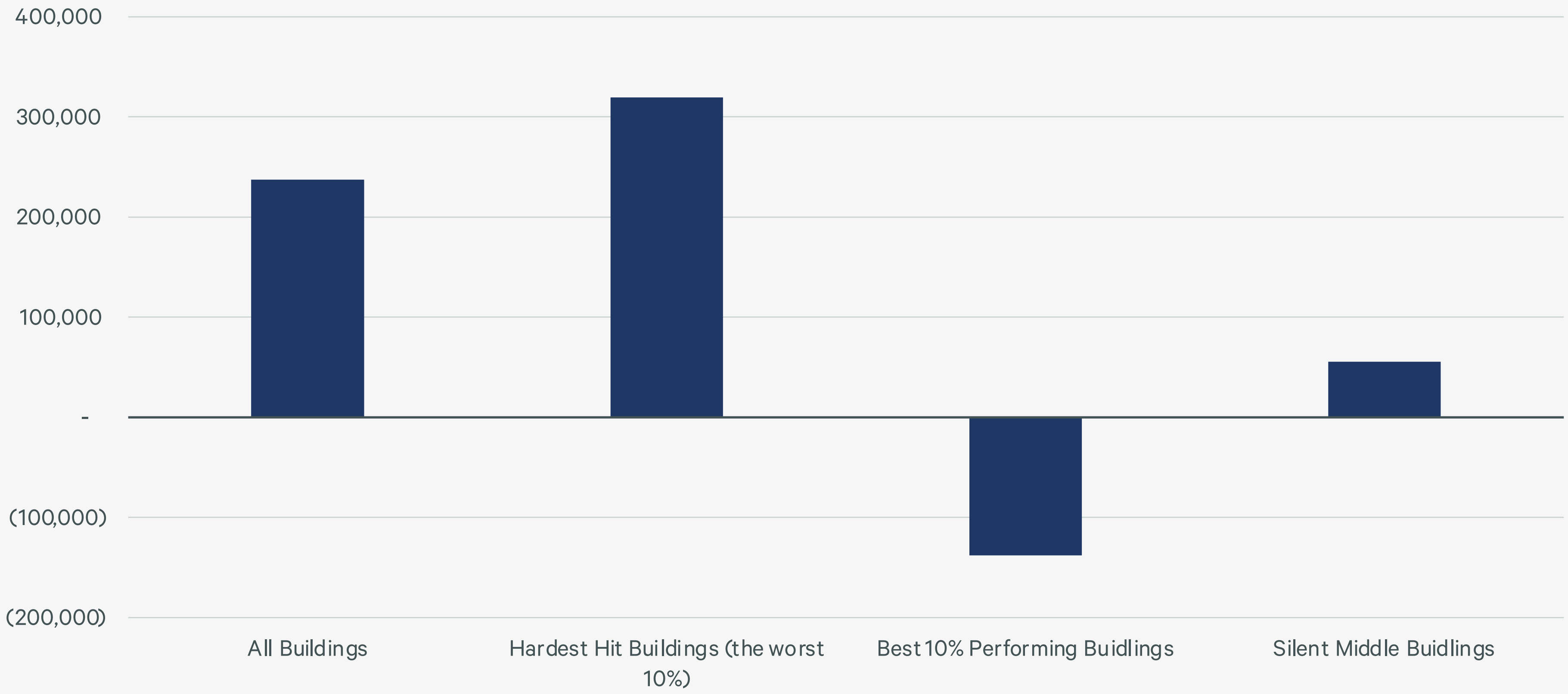
- Supply forecasts for the next eight quarters are based on property-level construction pipeline data. Unlike in past cycles, supply doesn't accelerate to the same extent in later years as remote work has a lasting impact. Except for a few properties already moving ahead, we expect developers to pull back over the medium-term.
- Nearly three-fifths of the U.S. office buildings scheduled to deliver during the next two years are in the 15 markets highlighted in the chart on the right.

Commodity office buildings are being left behind

The hardest-hit buildings are those that contributed most (top 10% of buildings) to vacancy increases from Q1 2020 to present. More than 65% of these buildings were built between 1980 and 2010. The building boom of the 1980s created a new class of commodity stock – one that is exclusively feeling the pain of the new hybrid normal.

– More than half of buildings seeing stinging occupancy losses are Class A. This indicates that current classification systems are missing the nuance between prime assets (which are performing), and A-minus buildings, which are experiencing the bulk of post-pandemic sector pain.

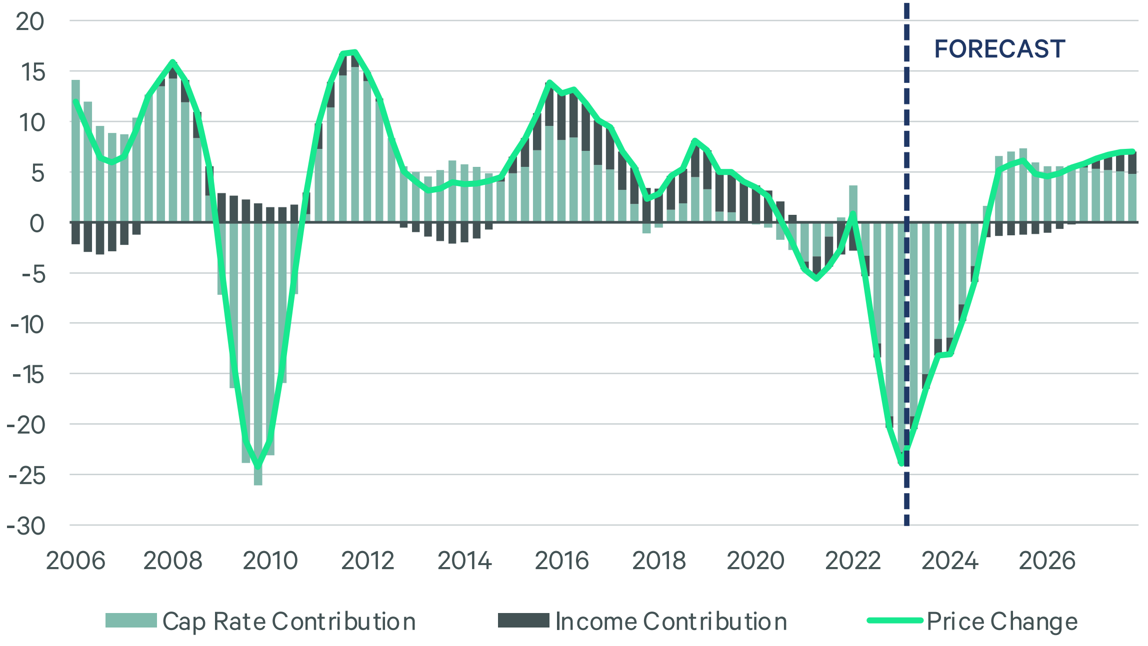
Increase In Vacant SF ('000 SF), Q2 2023 less Q1 2020



CBRE Econometric Advisors, Q2 2023

Office capital markets faced similar challenges during 1990s

Percentage Point Contribution to Capital Value Change, Y-o-Y (%)



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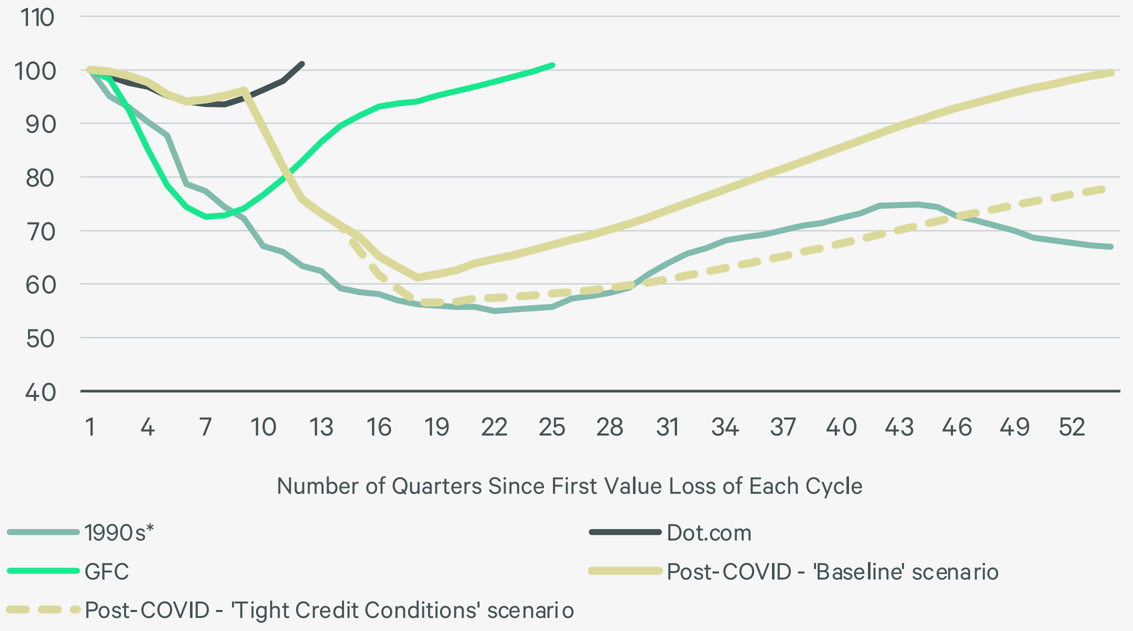
Capital Value Index, 100 Equates to the Peak of Each Cycle



CBRE Econometric Advisors, NCREIF

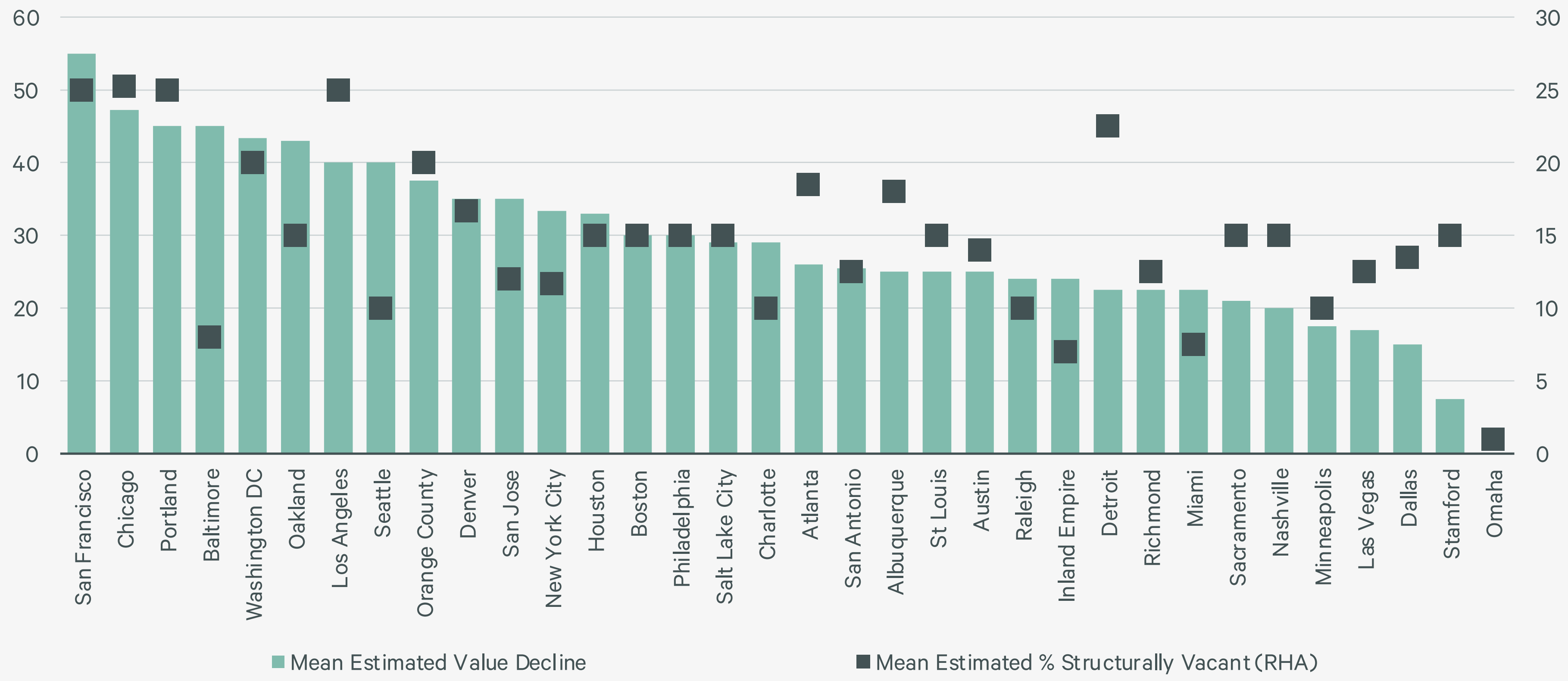
*Uses NCREIF NPI appreciation return

- Today's office capital market cycle is especially rough, already stretching to over a dozen quarters, but it is not unprecedented. The steep 1990s downcycle was arguably worse and followed a trajectory that is similar to CBRE Econometric Advisors' Downside scenario under which the Federal Reserve continues to aggressively hike rates.
- Preconditions to recovery include a throttling back of new supply and painful distress sales that provide price signals—both are happening now. We expect office valuations to find a floor by H1 2024 in our Baseline scenario before a new, long upcycle commences, led by prime buildings.

CBRE ‘Cap Rate Survey’ hints at deep value cuts

- We asked office professionals what they believe the peak-to-trough average value decline will be for office properties in their markets.
- Additionally, we asked them what percent of their market inventory they believe is structurally vacant with no chance at ever fully occupying.
- Together, they present a bleak picture for some markets with some respondents reporting value declines over 50% and up to a full quarter of inventory structurally vacant.

Peak-to-Trough Value Decline and Structural Vacancy, Estimates Based Upon the CBRE Cap Rate Survey



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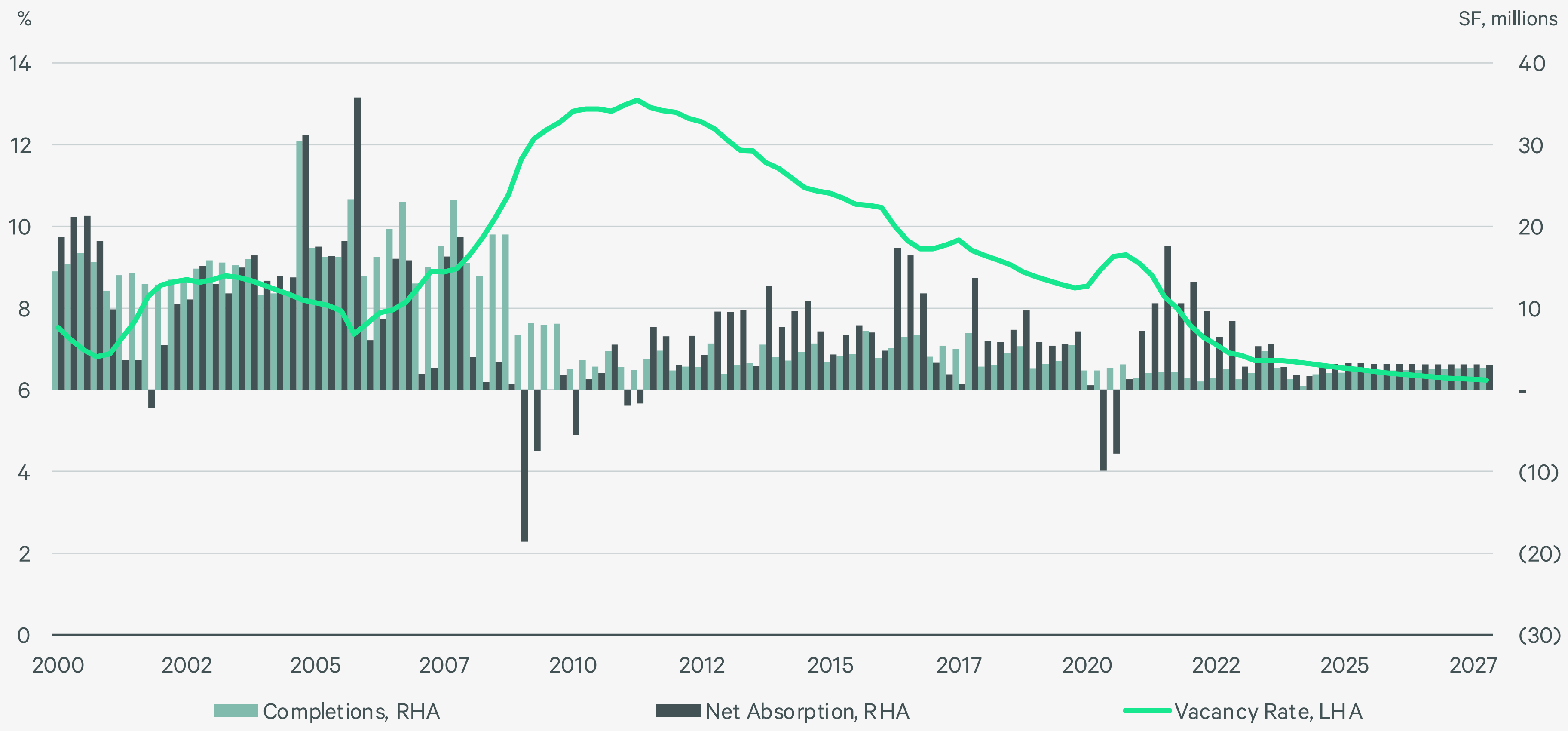
7

Retail

Limited development will support fundamentals

Well-located centers thrived after the pandemic abated. Although consumption is not expected to roll over, a cooling economy should curtail retail leasing in the near-term.

- Moving forward, we expect the relationship between supply and demand to be more closely aligned as the pace of retail spending slows.



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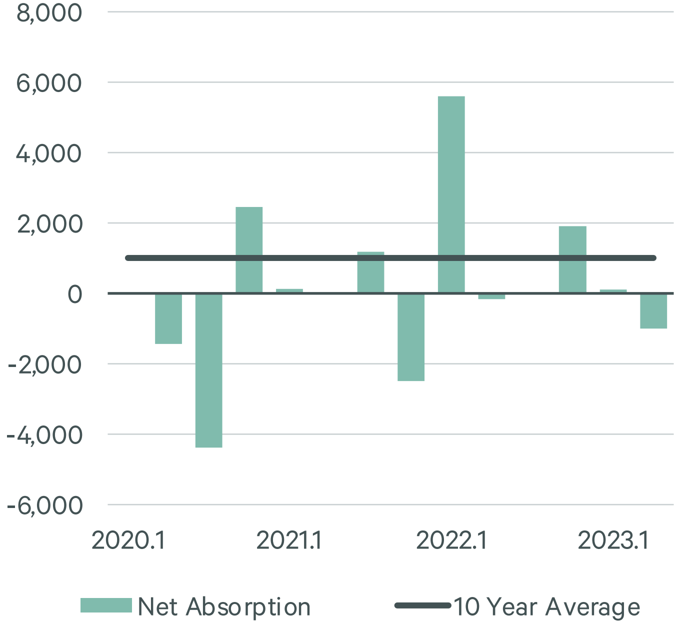
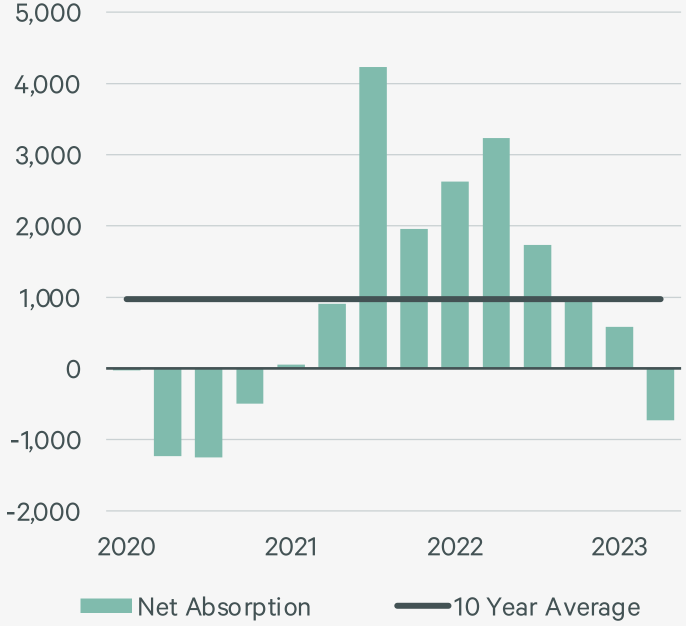
Slowdown in consumer spending starting to hit retail demand

Lifestyle & Mall Net Absorption Thousands of SF



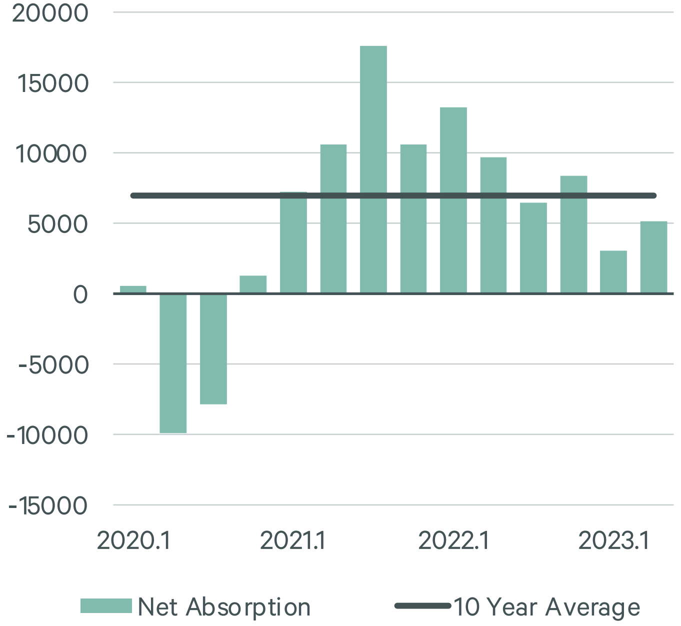
CBRE Econometric Advisors Q2 2023

Power Center Net Absorption Thousands of SF



CBRE Econometric Advisors Q2 2023

NCS Net Absorption Thousands of SF



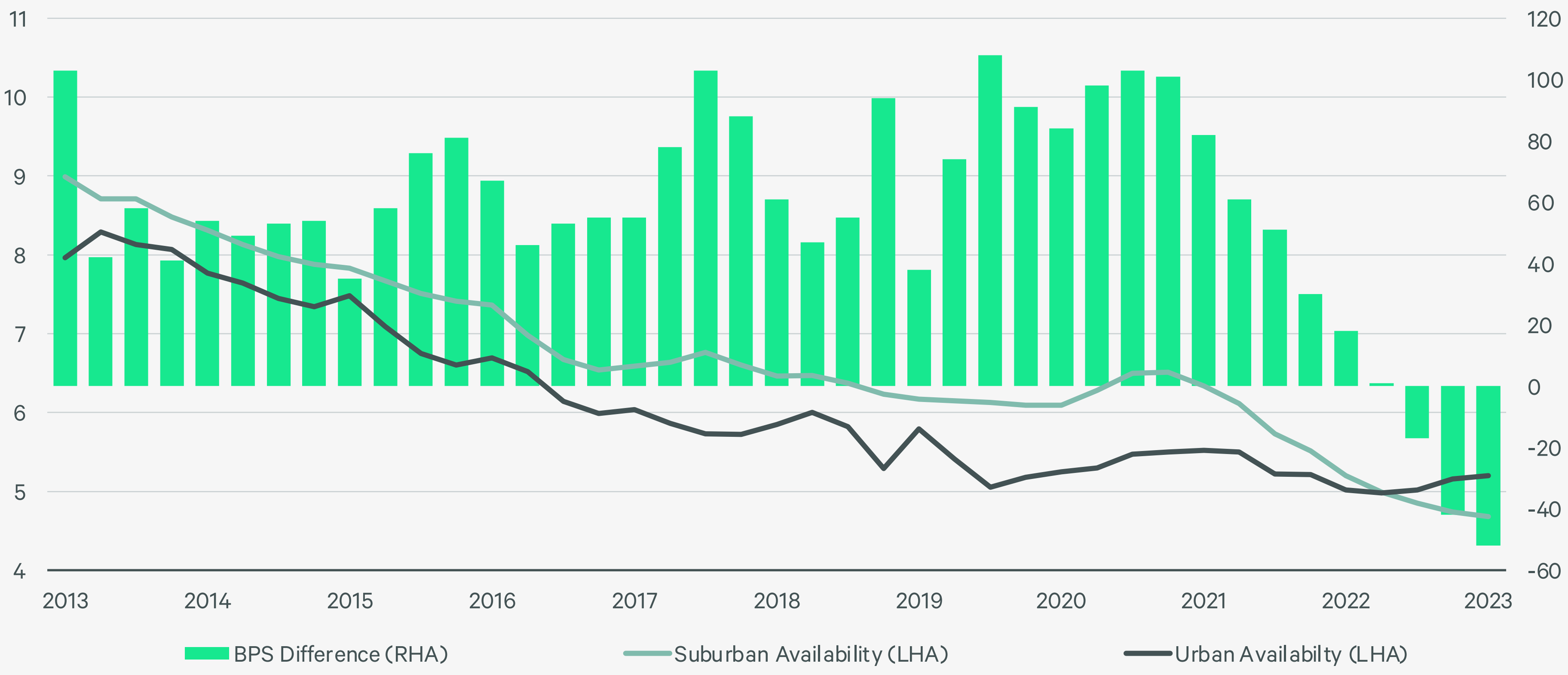
CBRE Econometric Advisors Q2 2023

- Absorption cools across formats as consumer spending eases, bankruptcies take effect, and retailers in less desirable locations vacate their spaces.
- Neighborhood, Community, and Strip centers remain a standout and continue their post-pandemic performance bolstered by newly formed consumer habits.

Urban availability is now higher than in the 'burbs

- For the first time in more than 15 years availability in downtown CBDs has surpassed that of suburban retail.
- With the rise of remote work, workers began spending more money closer to home, forging new and lasting shopping habits. Retailers took notice.
- It's too soon to count downtowns out just yet as consumers are starting to shift their weekend excursions to the haunts they used to frequent for after work happy hours and socializing.

Urban and Suburban Retail Availability Rates (%) and Differential (bps)



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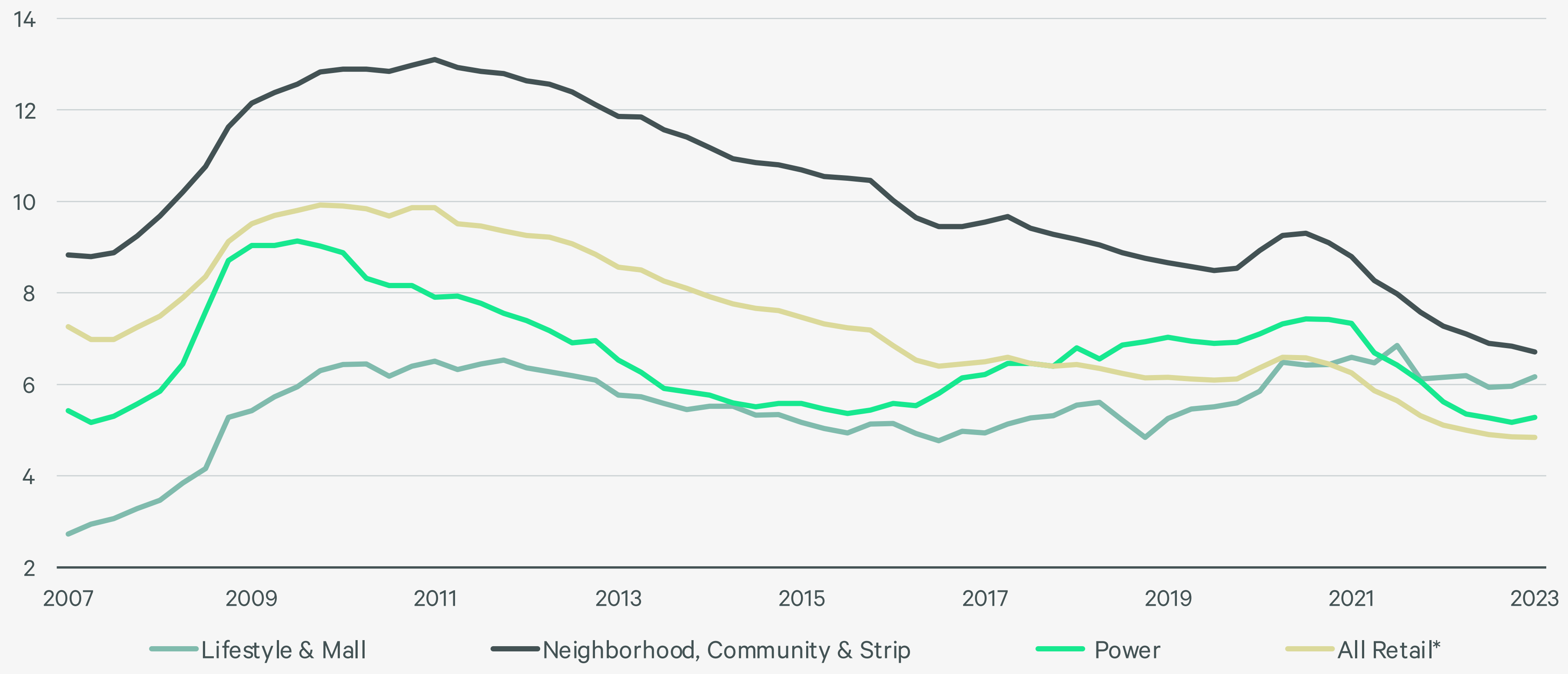
Availability settles as prime space remains scarce

- The robust 2022 experienced across all retail sectors has begun to give way to more tempered demand as consumer spending slows.
- Retail bankruptcies are set to launch approximately 1% of all retail square footage back on the market. This will further lead upticks in availability, but with much of the space coming available being highly desirable we expect this to be absorbed as occupiers are still hungry for well located square footage.
- NCS centers' availability continued its decline, excluding the pandemic trials, from the past decade - fueled further by consumers spending more closer to home.

Availability Rate by Type (%)



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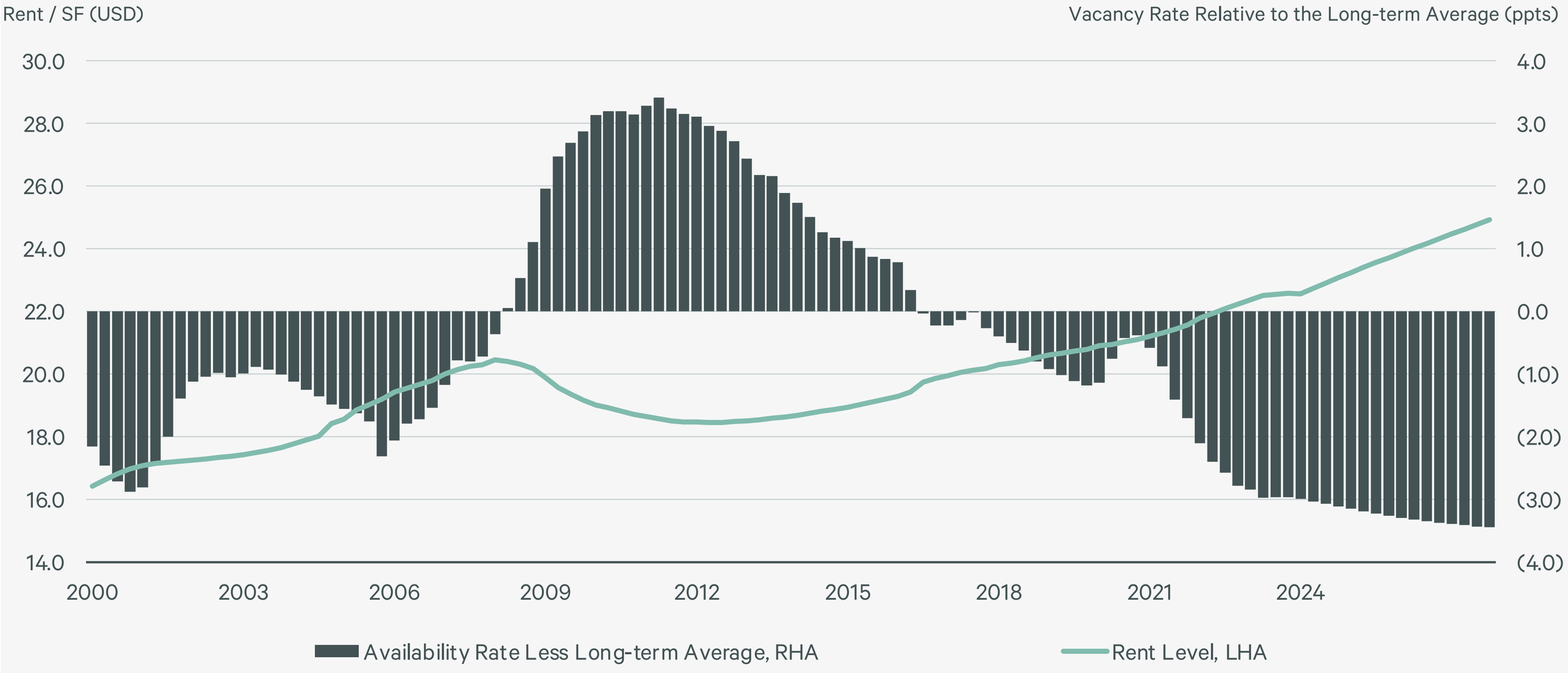
Low vacancy levels will keep rents on an upward trajectory

The combination of steady demand at quality retail centers and a very limited supply pipeline will generate sturdy rent growth in coming years.

Rent Levels Relative to Space Scarcity



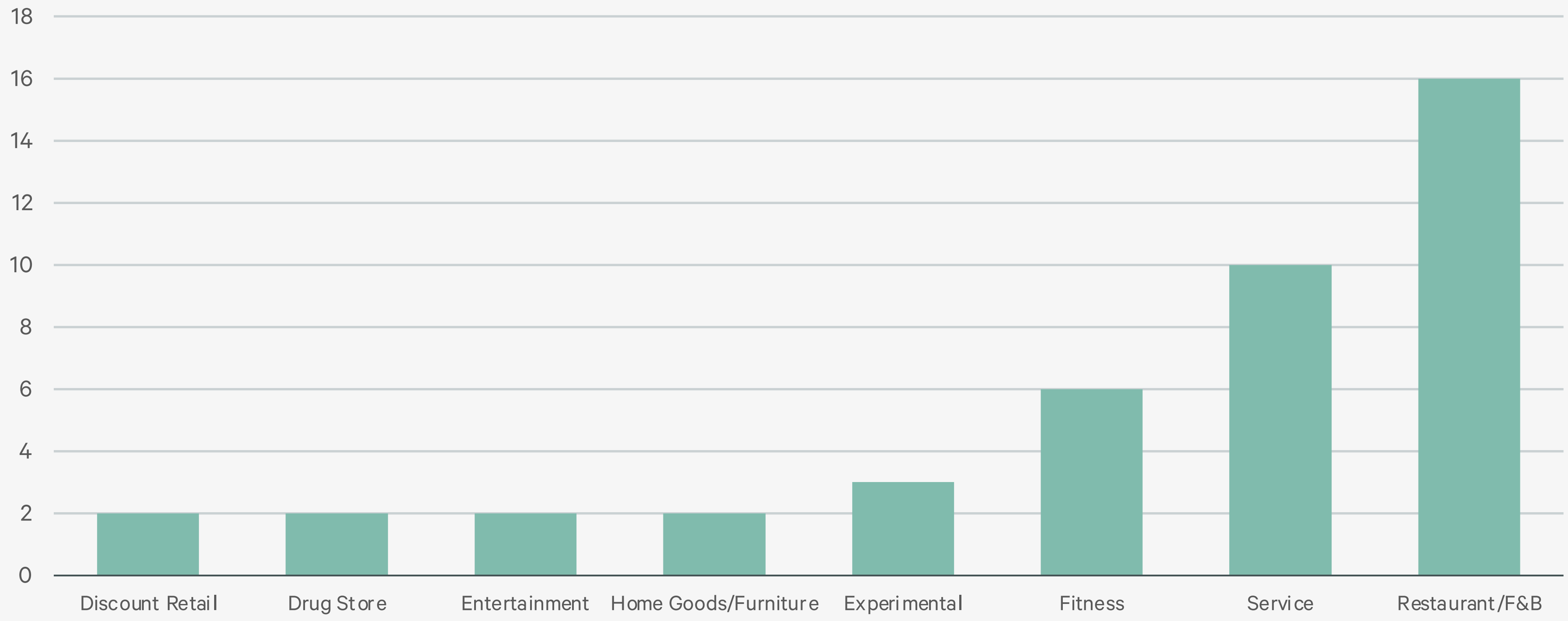
CBRE Econometric Advisors

Retailers looking for restaurants and services

We asked CBRE retail professionals which type of businesses neighborhood centers are looking to lease to, aside from grocery stores.

- The most common themes that emerged were restaurants, service-oriented business, and health and fitness related shops.

Aside from grocery stores, what types of businesses are retail owners currently most desiring to lease to in neighborhood centers?



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Note: Responses that mention multiple types of businesses are double counted

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