# SUMMIT

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AFIRE is the association for international real estate investors focused on commercial property in the United States.

## ABOUT

Summit Journal is the official publication of AFIRE, the association for international real estate investors focused on commercial property in the United States.

Established in 1988 as an essential forum for real estate investment thought leadership, AFIRE provides a forum for its senior executive, institutional investor, investment manager, and service provider members to help each other become Better Investors, Better Leaders, and Better Global Citizens through conversations, research, and analysis of real estate capital markets, cross-border issues, policy, economics, technology, and management. AFIRE has nearly 180 member organizations from 25 countries representing approximately US$3 trillion in assets under management.

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About the cover: “Water’s Soul,” an 80-foot-tall polyester resin fiberglass sculpture, designed by Spanish artist Jaume Plensa, along the Hudson River Waterfront Walkway in Jersey City, New Jersey. Fall 2023. Photo by Tony Reynes.

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# NOTE FROM THE EDITOR

WELCOME TO #14

As one of the world's oldest investment classes, real estate is fundamentally paradoxical. On the one hand, compared to other investments, it's actual and physical; it doesn't exist only in the mind or in a data matrix. But on the other hand, it's not fixed in place.

Its geographical boundary lines might be identifiable and quantifiable, but whatever falls within those boundaries is always on the move—usually on a geological pace.

But sometimes, things change fast.

The past several years of real estate, following the shock of the pandemic and the resulting, rapid transformation of social, political, and economic values, will eventually prove to be one of those earthquakes that births a new mountain chain—accomplishing in a few short years what would otherwise happen over the course of centuries.

As you will see when exploring this fourteenth issue of Summit, the earthquake is still rumbling, and changes are still happening fast.

Starting with the 2024 market outlooks from Martha Peyton (p. 12) and Jack Robinson (p. 28), the issue transitions quickly to a look at assets across the real estate spectrum, include multifamily (p. 44 and p. 50), logistics (p. 70), and—last, but not least—office (p. 58), which will be experiencing several pain points over the next few years thanks to financial challenges (p. 20 and p. 40), and larger global issues that are fundamentally changing our relationship to space usage and the built environment.

And so we also give extended consideration to the ongoing conversation around operating expenses (p. 88), artificial intelligence (p. 76), and insurance vis-à-vis climate change (p. 6).

The underlying theme that has emerged in all of these insights is the paradox of real estate itself, and that by the time this issue is published, the conversation will have evolved again (this is the paradox of publishing, as well). But we believe that these insights are vital—and will remain so—for the rough terrain ahead.

**Benjamin van Loon**
Editor-in-Chief, Summit Journal
AFIRE

par • a • dox
situation, person, or thing that combines contradictory features or qualities

in • sight
the capacity to gain an accurate and deep intuitive understanding of a person or thing

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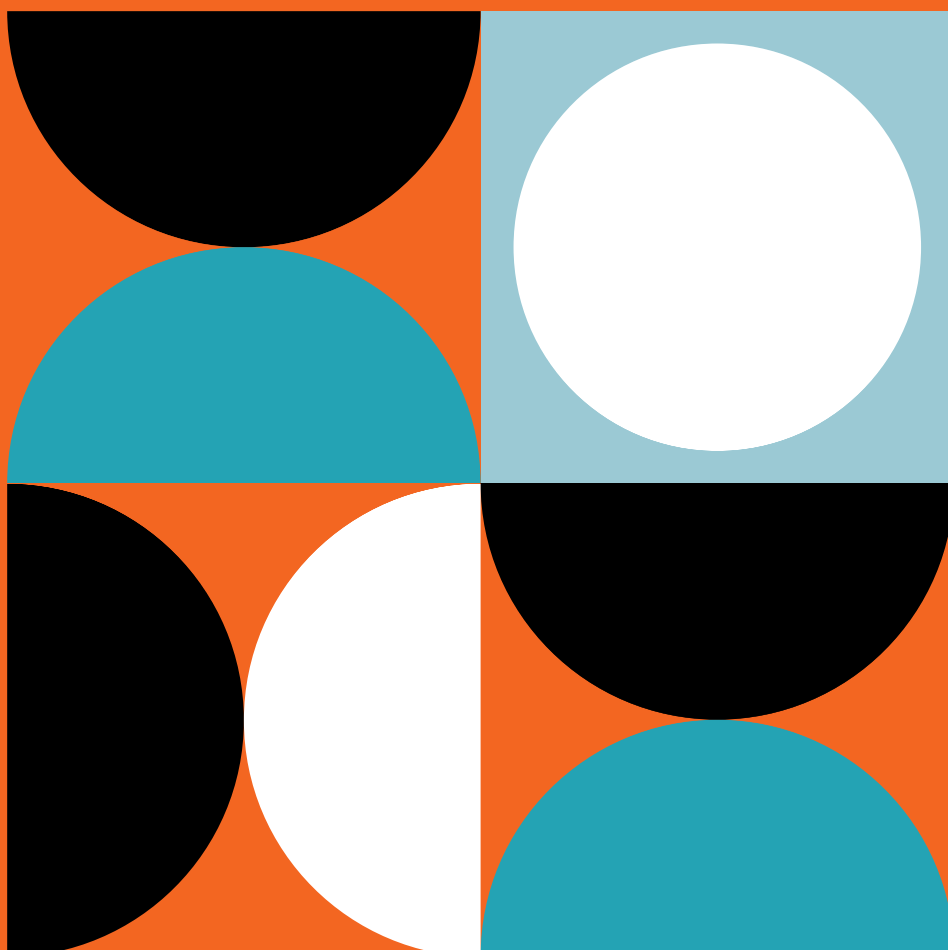
# CLIMATE-RESPONSIVE REAL ESTATE INVESTMENT



**Benjamin van Loon**
Editor-in-Chief
AFIRE

For the past several years, real estate industry watchers have hailed insurance costs as the canary in the coal mines of climate change.

With global temperatures continuing to rise at a geologically unprecedented pace, the canary remains in flight. But rather than asking when it will land, it may be better to start planning for its eventual escape.

Within the world of architecture and engineering, the nomenclature of "climate-responsive" design is well established and built on centuries-old precedent, especially in areas of the world demanding design adaptation in the face of otherwise "typical" climate extremes.[1] And yet in other regions that have seemingly stable and predictable weather patterns—at least within human memory—the need for climate-responsive approaches have fallen lower on the scale of importance for development and investment.

For example, some of the greatest environmental challenges historically faced by Los Angeles, the second-largest city in the US, include earthquakes and drought effects. And the city has developed accordingly, extending its trademark mix of suburban sprawl, pockets of urban density, and religious subservience to car culture. Its Mediterranean climate and generally stable weather patterns have helped it secure its place on the global network of cities, and its engineers, architects, and investors have developed the city over the past century according to this dogma.

But climate resilience for modern cities such as Los Angeles is necessarily unorthodox, and today demands what the Notre Dame Global Adaptation Initiative (in collaboration with the NOAA, ACEEE, and EPA) defines as actual resilience, measured by both "risk readiness" and clean energy reliance.[2] With these elements as leading criteria for determining resilience, Los Angeles is ranked one of the least climate-resilient cities in the US, just ahead of New Orleans, Louisiana; Riverside, California; and Jacksonville, Tampa, and Miami in Florida *(see Exhibit 1)*.

## EXHIBIT 1: CLIMATE RESILIENCY BY CITY

Source: Notre Dame Global Adaptation Initiative; NOAA; ACEEE; EPA; Climate Central

| CITY | OVERALL RESILIENCY | RISK RANK | READINESS RANK | CLEAN ENERGY RANK |
|---|---|---|---|---|
| DENVER, CO | **119.5** | 9 | 14 | 7 |
| RALEIGH, NC | **114.6** | 4 | 3 | 44 |
| SALT LAKE CITY, UT | **114.4** | 21 | 23 | 26 |
| SEATTLE, WA | **112.2** | 39 | 1 | 2 |
| CHARLOTTE, NC | **111.2** | 8 | 17 | 32 |
| MILWAUKEE, WI | **110.8** | 20 | 7 | 39 |
| AUSTIN, TX | **110.5** | 18 | 5 | 13 |
| COLUMBUS, OH | **107.9** | 40 | 12 | 24 |
| ORLANDO, FL | **107.5** | 11 | 33 | 20 |
| ATLANTA, GA | **107.1** | 5 | 18 | 14 |
| SAN FRANCISCO, CA | **106.9** | 45 | 6 | 1 |
| CINCINNATI, OH | **106.2** | 35 | 9 | 34 |
| RICHMOND, VA | **106.2** | 34 | 37 | 36 |
| INDIANAPOLIS, IN | **106.1** | 3 | 26 | 43 |
| BALTIMORE, MD | **105.3** | 2 | 30 | 21 |
| MINNEAPOLIS, MN | **105.0** | 43 | 2 | 4 |
| MEMPHIS, TN | **104.8** | 28 | 32 | 41 |
| ST. LOUIS, MO | **104.7** | 24 | 20 | 23 |
| LAS VEGAS, NV | **104.4** | 14 | 27 | 25 |
| PITTSBURGH, PA | **104.2** | 22 | 15 | 18 |
| LOUISVILLE, KY | **103.9** | 15 | 43 | 40 |
| BOSTON, MA | **103.8** | 17 | 4 | 6 |
| CHICAGO, IL | **103.5** | 13 | 31 | 11 |
| WASHINGTON, DC | **103.5** | 1 | 22 | 3 |
| SAN JOSE, CA | **103.1** | 48 | 8 | 9 |
| PHILADELPHIA, PA | **102.2** | 19 | 13 | 12 |
| DETROIT, MI | **99.3** | 16 | 39 | 42 |
| PORTLAND, OR | **99.3** | 37 | 16 | 10 |
| CLEVELAND, OH | **98.8** | 7 | 44 | 30 |
| NASHVILLE, TN | **97.7** | 42 | 19 | 35 |
| KANSAS CITY, MO | **97.3** | 30 | 11 | 28 |
| SAN ANTONIO, TX | **97.2** | 26 | 29 | 29 |
| BUFFALO, NY | **96.1** | 36 | 45 | 38 |
| HARTFORD, CT | **95.2** | 38 | 40 | 17 |
| BIRMINGHAM, AL | **94.8** | 10 | 24 | 50 |
| VIRGINIA BEACH, VA | **93.0** | 41 | 35 | 46 |
| OKLAHOMA CITY, OK | **92.8** | 6 | 28 | 49 |
| PHOENIX, AZ | **91.6** | 23 | 34 | 19 |
| SACRAMENTO, CA | **91.0** | 29 | 48 | 16 |
| PROVIDENCE, RI | **91.0** | 32 | 49 | 22 |
| SAN DIEGO, CA | **88.8** | 49 | 10 | 15 |
| NEW YORK, NY | **88.4** | 25 | 36 | 5 |
| DALLAS, TX | **86.8** | 31 | 42 | 33 |
| HOUSTON, TX | **85.7** | 44 | 21 | 27 |
| LOS ANGELES, CA | **85.3** | 47 | 41 | 8 |
| NEW ORLEANS, LA | **83.8** | 33 | 25 | 45 |
| RIVERSIDE, CA | **83.5** | 27 | 50 | 31 |
| JACKSONVILLE, FL | **81.2** | 46 | 38 | 47 |
| TAMPA, FL | **80.7** | 12 | 46 | 48 |
| MIAMI, FL | **63.2** | 50 | 47 | 37 |

In other words, in their current states, Los Angeles and the other US cities at the bottom of this list are the result of an urban design that eschewed the priority of climate-responsive design, particularly because the extra costs and the benefits of such development didn't make financial sense in the era of America's nascence and twentieth-century expansion projects. Patient investors may have operated on decades-long horizons in these growth years, but few—if any—were able to forecast or financially calculate for the spikes in global temperature (and related weather symptoms) we're now experiencing.

The current cultural and corporate "climate reckoning," where even major institutional players are now competing for best-in-class climate responses, is ultimately the result of this decades-long ambition—or myopia. Nonetheless, this reckoning has produced some innovative and future-focused solutions that are also proving to be financially viable. For example, a recent case study from the Urban Land Institute demonstrates that even in climate-threatened south Florida, there is the possibility to invest in climate-responsive building infrastructure and services—and remain profitable.[3]

The case study outlines a luxury Florida resort, valued at more than $500 million, within an institutional real estate. Like most building in south Florida, the building was designed to withstand Category 3 hurricanes, including predicted storm surges of up to sixteen feet. The lowest occupied floors of the resort were twenty feet above the building's baseline elevation, but its infrastructure systems were sitting at nine feet, putting the entire building at risk.

After acquiring the asset and noting these gaps in resilience strategies, the owner made several infrastructural and architectural changes to the building, including relocating its entire electrical infrastructure above the twenty-foot mark, despite the fact that code only required twelve-and-a-half feet. They also added five emergency generators to the property, an underground fuel tank to power those generators for up to ten days, and other fortifications and protections.

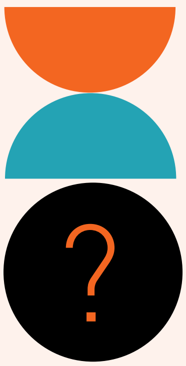
Despite the cost of these upgrades and added protections, "the owner estimates that its resilience investments boosted the insurable value of the property by 50 percent"—all while lowering its annual insurance premiums by an estimated $500,000. And the added benefits of the various building upgrades have also been estimated to save the building around $110,000 per year in energy costs, and up to $75,000 per year in water usage and irrigation costs.

While this case study provides a strong example of how an asset can guard against climate risk and remain insurable, it's likewise an example of a building guarding itself against a wider infrastructural shortcoming that will necessarily need to be addressed by both public entities and private investors. According to the Milken Institute Innovative Finance team, the US alone is facing around $10 trillion in climate-resilient infrastructure needs by 2050.[4]

Correcting this shortcoming will be an uphill battle, as the Climate Policy Initiative—which has developed a proprietary tool to track investment performance for climate-resilient infrastructure—posits that for every $1 spent on such infrastructure across 4,000 projects in 2019 and 2020, $87 was spent on infrastructure projects without climate resilience strategies.[5] This fact compliments findings from McKinsey that the world needs to spend up to $3.3 trillion per year through 2030 to sustain economic growth in the face of climate change.[6]

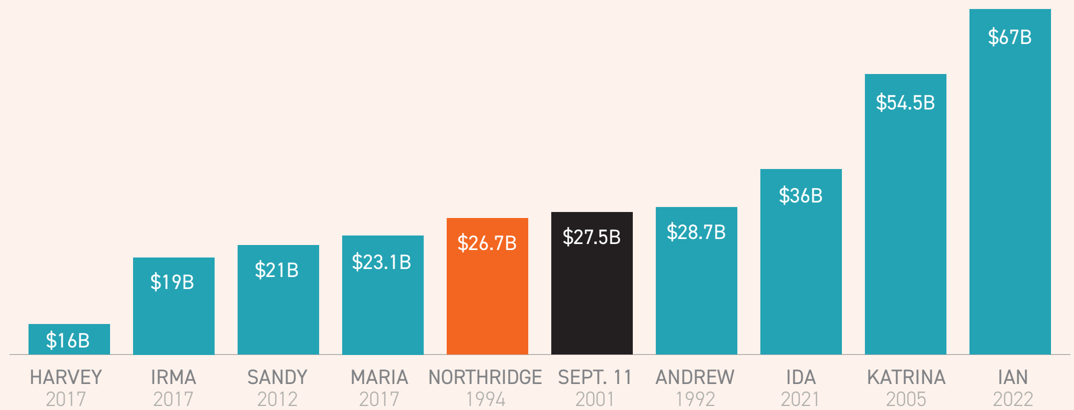
In other words, the playground is shrinking.

Increasingly, especially in regions with low climate resilience (i.e., a lack of appropriate infrastructure), insurers are demanding similar enhancements or upgrades—all of which come at a cost, which have likewise been exacerbated by supply and labor challenges over the past several years. And the pressure is mounting as climate change worsens, with eighteen of the twenty-two most expensive insurance events in US history occurring in the past twenty years alone *(Exhibit 2)*.[7]




### EXHIBIT 2: A LOOK AT THE INSURANCE COSTS OF SOME OF THE MOST EXPENSIVE EVENTS IN US HISTORY

Source: NMHC 2023 State of Multifamily Risk Survey Report and FHS Risk Management. All costs are in 2020 dollars except for Hurricane Ian (2022) and Hurricane Ida (2021).




None of these facts and figures surprise the commercial real estate industry, and at this later stage of climate change, it has become a cliché to point to the insurance business as the canary in the coal mine. The bird is well in flight and covered in soot. But outside the mine, and looking at a different side of the landscape, there is a coming tide of loans coming to term, and many institutional-grade assets, such as one-prized trophy office assets, facing the pressure to adapt (i.e., in the face of changing cultural attitudes around office usage) or die. And of course, investment in climate resilience is a necessary point of adaptation—and in some cases, it's the ultimate adaptation.

In conversations across commercial real estate, including here in Summit Journal, there is fomenting about repricing, revaluations, and distress—all of which present a unique opportunity to the next generation of real estate investment to use potential savings as a means to invest in both building and infrastructure resilience. Sacrifice won't be optional, but at this point, neither is climate change.

## ABOUT THE AUTHOR

Benjamin van Loon is the Editor-in-Chief of Summit Journal. In 2023 he was named as one of the "Forty Under 40" Association Leaders by Association Forum.

## NOTES


1 SRM Institute of Science and Technology. "Climate Responsive Architecture." Accessed February 1, 2024. https://webstor.srmist.edu.in/web_assets/srm_mainsite/files/downloads/climateresponsivearch.pdf.

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# STRIPPING THE CASHFLOW FROM THE DEAL

**Paul Fiorilla**
Director of Research
Yardi

# The question must be asked – will rising insurance and other expenses put a brake on development in high-growth regions?

One of the main themes in commercial real estate over the last decade has been the migration of population and jobs – and investment capital – to the Sunbelt. Gone are the days when large institutions concentrated investment dollars in the nation's top 10 largest markets. Capital is increasingly flowing to the fastest growing markets, places such as Nashville, Charlotte, Austin, and Orlando, where households and companies are migrating for lower costs.

Yet expenses, particularly insurance, recently have soared in many of these low-cost markets. Yardi Matrix found that total multifamily expenses increased by double-digit percentages year-over-year on trailing-12 basis through mid-year 2023 in markets including Tampa (16.2%), Orlando (15.1%) Austin (11.1%) and Charlotte (10.9%). Insurance is rising even faster in states with large numbers of weather-related payouts. Some of the largest property insurance increases on the metro level during that period were in Orlando (34.5%), Houston (31.6%), Tampa (28.8%), San Antonio (27.7%) and Dallas (24.3%), per Matrix.

The question must be asked – will rising insurance and other expenses put a brake on development in high-growth regions?

The idea is not that far out of left field as it seems at first blush. In fact, the Dallas Federal Reserve warned in a recent publication that rising temperatures correlate to reduced GDP growth. For every 1-degree increase in average summer temperature, Texas annual nominal GDP growth slows 0.4 percentage points, the report said. Leisure and hospitality was most impacted, but transportation, manufacturing and retail also slowed.

The Dallas Fed's report said 2023's heat wave reduced Texas GDP by \$10 billion to \$24 billion, and the problem will only intensify if projected temperatures rise in coming decades. "As climate change's effects intensify over the next decade, heat waves will become more commonplace and severe, and Texans will need to adapt," the report said.

Population and commercial property inventory is migrating the most to many places where climate change is getting tangibly worse, noted Ryan Severino, chief economist at investment manager BGO. As more people and businesses continue to move to those places, coupled with climate change, environmental challenges are going to persist and likely worsen, he said. "The data is still largely anecdotal at this point because it is difficult to disentangle that specific effect from the broader slowdown after the pandemic boom. But at the margin it is starting to have an impact on demographic changes," Severino said.

The most obvious impact for commercial properties is rising insurance premiums due to the growing number of weather-related payouts. Not only are premiums increasing, but policies offer less coverage with higher deductibles. South Florida multifamily property insurance now costs thousands of dollars per door, noted Chris Conlon, director of risk management at Mahaffey Apartment Company in St. Petersburg, Fla. "Insurance is not a singular factor, but the insurance line item is part of the consideration of where and what to build. Affordable housing is getting killed," he said.

To be sure, it's far too soon to confidently predict how weather and expenses will play out in commercial real estate. Temperature forecasts might not turn out as expected. Growth in expenses such as insurance trend could reverse as inflation decelerates. And it will take many years to erode the advantage of low-cost areas. Still, it is a risk that investors should underwrite and not assume will go away. Rapidly rising expenses could limit development and reduce profitability in areas that now carry a pricing advantage.

"The increase in insurance costs in high growth markets such as Florida and Texas is stripping the cashflow out of real estate deals," said Danielle Lombardo, chair of Lockton Global Real Estate Practice. "If deals don't pencil as a result of insurance and there is expected continued volatility, real estate owners and developers will look elsewhere."

## ABOUT THE AUTHOR

Paul Fiorilla is Director of Research at commercial property data provider Yardi Matrix, where he oversees publishing of research on CRE trends. A 27-year industry veteran, Paul is also an active member of trade groups that include CREFC, PREA, NCREIF and Urban Land Institute.

# MARKET OUTLOOK

**Martha Peyton, CRE, PhD**
Research Consultant
LGIM America

> The current state of the market suggests calls for modest growth and retreating inflation 2024, with risks focused on the downside and spread across geopolitics, monetary policy, and climate change.

As we enter into 2024, we're seeing a consensus emerge for modest growth and retreating inflation throughout the year.

As this article discusses, drivers of growth include: (1) the expectation that interest rate tightening is done, alongside a concomitant decline in long-term yields; (2) capacity for a tech sector rebound fueled by record-level dry powder from private equity; (3) continuing stimulus from Federal industrial policies and private sector appetite for advances in electric vehicles, renewable energy, battery storage, AI, and domestic chip manufacturing; (4) preparation for revival in residential construction as financial markets pull in interest rates in expectation of 2024 Fed rate cuts.

With these drivers as a backdrop, commercial real estate investment opportunities will be most attractive in metro areas that have been experiencing relatively strong employment growth along with property sectors in metros enjoying a "sweet spot"—cyclically elevated cap rates in metros with moderate vacancy rates and sparse new supply pipelines.

Risks are clustered on the downside and focused on: (1) geopolitical shocks and negative impact on trade, commodity prices, interest rates, and the value of the dollar; (2) monetary policy risk if the Fed misjudges interest rate moves; (3) timing risk if investors wait for distress bargains that are unlikely to materialize; and (4) the ongoing threat of extreme weather/climate events and their repercussions.

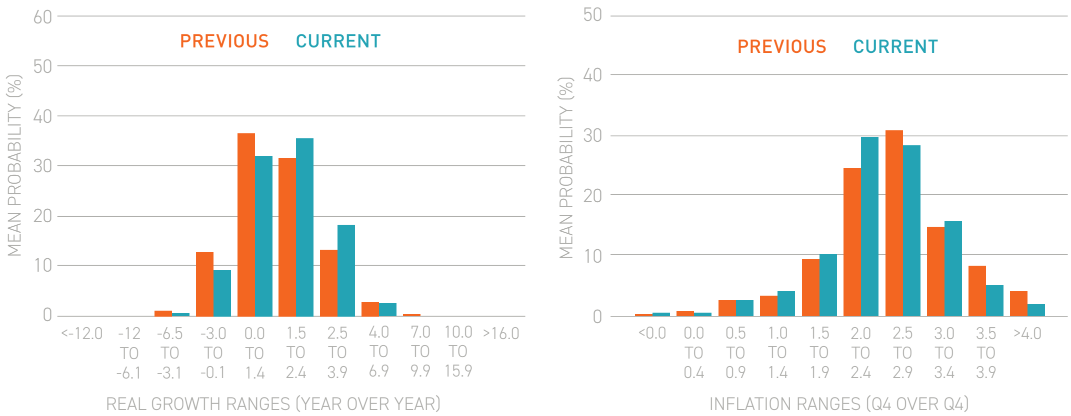
## POSITIVE ECONOMIC OUTLOOK FOR US ECONOMY BODES WELL FOR PROPERTY

In the waning months of 2023, economic forecasters coalesced around expectations for solid growth in 2024 validating a soft landing victory for the Federal Reserve. This conclusion was sharply different from the negativity that was prominent at the beginning of 2023.

The Federal Reserve Bank of Philadelphia, Survey of Professional Forecasters, is reporting a 1.7% consensus forecast for real GDP growth in 2024, while assigning a less than 10% probability to a negative outcome for the year.[1] We at LGIM America share in the optimism reflected in the consensus forecast.

### EXHIBIT 1: MEAN PROBABILITIES FOR REAL GDP GROWTH IN 2024

Source: Federal Reserve Bank of Philadelphia, Survey of Professional Forecasters. Data as of December 31, 2023.




That optimism is mirrored in the most recent projections released by the Federal Reserve in December 2023. The projections are drawn from Federal Reserve Board members and the individual Federal Reserve Bank district presidents. Their median forecast for 2024 calls for 1.4% real GDP growth with most responses in the 1.2–1.7% range along with interest rate cuts of 50–100BPS over the year.[1]

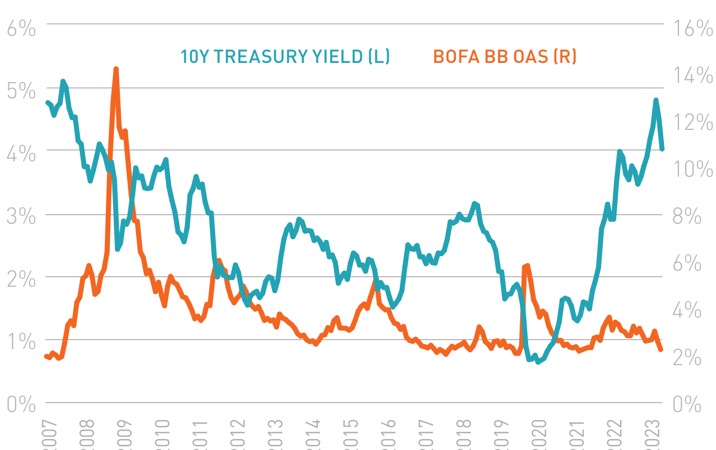
The drivers of growth in 2024 are focused on the assumed completion of the Fed's interest rate tightening cycle that produced a 525BPS increase in the Federal Funds rate between March 2022 and July 2023. The tightening reversed the monetary easing enacted to cushion the negative effects of the covid recession.

When inflation popped in 2021, the need for tightening became evident. The tightening appears to have worked as shown in the return of inflation to near the Fed's 2% target. Forecasters are assigning a 40% probability to inflation of 2.4% or less over the four quarters of 2024. Further easing in inflation through the year is expected reflecting the lag in the impact of higher interest rates on the economy.

While Federal Reserve policymakers are offering assurances that they are closely monitoring the need for more tightening, financial markets are expecting none but rather see a beginning of easing before the end of 2024. This hope is embedded in the decline in the 10-year Treasury from its 4.98% cycle high posted in mid-October to 3.84% on January 2 as shown in *Exhibit 2*.

### EXHIBIT 2: BB OAS VS. 10-YEAR TREASURY

Source: St Louis FRED. Data as of December 31, 2023.




The drivers of growth in 2024 are focused on the assumed completion of the Fed's interest rate tightening cycle.

Residential mortgage borrowing rates have moved lower similarly since October and home building and home buying are expected to respond positively as 2024 progresses. The potential for recovery in the housing sector is supported by ongoing job creation and a recovering labor force participation rate which has not yet reached its pre-covid level. Monthly employment growth has been moderating and wage gains year-over-year were a modest 3.7% in November.

At the same time, investors' risk appetite is reviving as shown in the shrinking of spreads on high-yield BB rated bonds back to pre-covid readings as shown in the chart above along with the 10-year Treasury yield. Beyond traditional corporate business, investors are also focusing on emerging growth engines including renewable energy, artificial intelligence, electric vehicles, and domestic chip manufacturing. Additionally, these innovating industries will get a share of the accumulated venture capital dry powder which is at a record level.

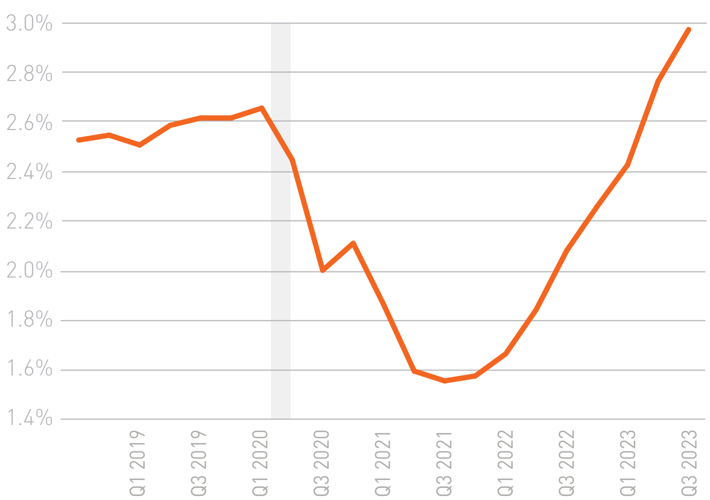
While all these factors support the soft-landing consensus forecast, it is important to note that expected growth is weak albeit positive. It depends on consumer spending holding up in the face of savings depleted of the covid build-up, weakening job growth, leveling wage gains, and elevated costs for rent and groceries. The weight of these stresses is illustrated in the rise in credit card delinquencies shown in *Exhibit 3*.

The potential for recovery in the housing sector is supported by ongoing job creation and a recovering labor force participation rate which has not yet reached its pre-covid level.

With the assumption that consumer spending is sustained, the modest US economic growth expected for the year ahead will produce benefits for the nation's commercial real estate sector. Notice the strong correlation between real GDP growth and net operating income growth in the NCREIF index. That link is why monitoring the macro-economy is so important.

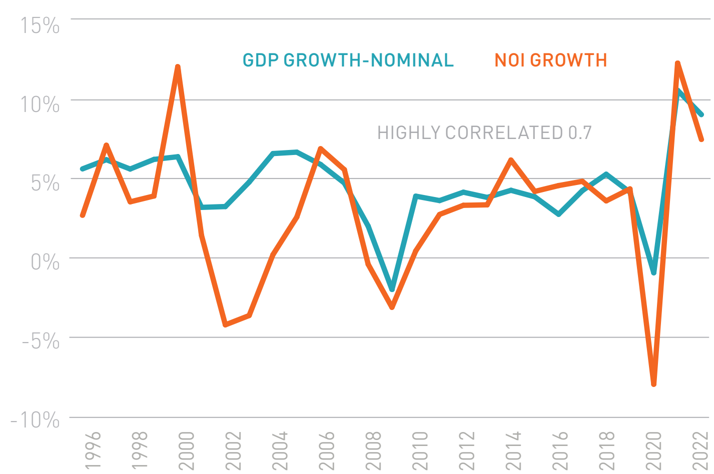
### EXHIBIT 3: DELINQUENCY RATE ON CREDIT CARD LOANS; ALL COMMERCIAL BANKS

Source: Board of Governors of the Federal Reserve System (US). FRED. Data as of July 31, 2023.




### EXHIBIT 4: ECONOMIC GROWTH AND NOI GROWTH

Source: US-BEA and NCREIF. Data as of December 31, 2022.



## US REAL ESTATE OFFERING OPPORTUNITY FOCUSED IN SELECT SECTORS AND SELECT METROS

Prospects for US commercial real estate investing in 2024 are dependent on a variety of cyclical and structural forces. The cyclical forces are embedded in the macro-economic prospects already discussed. That outlook for the real economy bodes well for commercial real estate. Ongoing modest growth in jobs, income, and the pace of economic activity feed the demand for space across the four primary property sectors. The degree of benefit depends on the size of the excess space overhang in each market and sector. If the overhang is sizeable, potential for rent growth will be compromised.

Cyclical forces also operate through interest rates. The shift in monetary policy that boosted US interest rates has had a huge impact on commercial real estate. Part of that impact is channeled through the restraining effect of higher interest rates on the real economy. Another part is the effect on the cost and availability of debt financing along with its disruption of refinancing maturing debt. In addition, higher interest rates impact investors' return requirements. When riskless Treasury yields rise, return requirements for all investments must be reset. That process has been driving down property values and elevating cap rates.

A prominent real estate research firm estimates that by year-end 2023 property values had essentially reached fair value in the current interest rate environment. Their calculations show that by year-end 2023 core property values were down 25% from peak cycle high values.[2] At the same time, actual property transactions are sparse suggesting that buyers and sellers are still far apart and implying that transactions prices may fall further in 2024. Real Capital Analytics reports an 11.5% value decline based on transactions.[3]

The path ahead for property values will affect the refinancing opportunities available for the huge pipeline of property debt that matures during the year ahead. Real Capital Analytics reviewed current leverage metrics for outstanding property debt and concluded that only 6.6% of properties have lost 20% or more of value since origination leaving them vulnerable to refinancing difficulty.[4] As a result, opportunity to purchase property at bargain prices because of debt distress is and will continue to be very limited.

The path ahead for property values will affect the refinancing opportunities available for the huge pipeline of property debt that matures during the year ahead.

Structural forces differ by property sector and metro market. Most prominent are the shift in population growth across metro areas and the ongoing uncertainty in office-space use. Other forces were important factors during the last few years but only temporarily. These include the upsurge in online shopping during the covid shutdown which stimulated demand for warehouse space and exploded warehouse rent growth. That surge is over; both online shopping and warehouse demand are normalizing. Another temporary factor was the covid cash grants which, along with the pause in student debt repayment and the need for work-from-home space, stimulated household formation in 2020. The upsurge in demand for apartments exploded rent growth and promoted new construction with the latter helped by historically low borrowing costs. That surge is over; the household formation rate has retreated.

When combined, these cyclical and structural factors support the following expectations for 2024:

- *Non-mall retail* sustained as the best performing of the four primary sectors.
- *Industrial* sector performance returning to positive total return as excess supply is absorbed and the new construction pipeline empties. At the same time, NOI growth benefits from expiring long-term leases turning to higher rents.
- *Apartment* sector performance will find its floor this year as rents on new supply drop to accommodate absorption and future construction plans are delayed. As supply pressures dissipate investors will have a clearer view of underwriting assumptions facilitating dealmaking.
- *Office* remains the most uncertain of the four primary sectors. Work-from-home protocols are taking root but remain uncertain. New super-high-quality buildings are leasing up even at super-high rents and higher quality space in general is pulling tenants from lower quality space. As vacancy becomes concentrated in the least attractive buildings, they will slowly be weeded out of the stock . . . slowly!

These sector level recommendations are supported by the data shown in *Exhibit 5*.

Ongoing modest growth in jobs, income, and the pace of economic activity feed the demand for space across the four primary property sectors.

### EXHIBIT 5: PROPERTY SECTOR READINGS

Source: Costar. Data as of January 8, 2024.

| | CURRENT VACANCY RATE | HISTORIC AVERAGE VACANCY RATE | 2023 CHANGE IN VACANCY RATE | 2023 CHANGE IN ASKING RENT | HISTORIC AVERAGE CHANGE IN ASKING RENT |
|---|---|---|---|---|---|
| APARTMENT | 7.5% | 6.6% | 1.0% | 0.8% | 2.2% |
| INDUSTRIAL | 5.9% | 7.1% | 1.9% | 6.1% | 3.3% |
| OFFICE | 13.7% | 10.8% | 1.2% | 0.7% | 1.5% |
| RETAIL | 4.1% | 5.4% | -0.1% | 3.2% | 1.5% |

## DRILLING INTO METRO AREA FUNDAMENTALS

However, actual property investment decisions require more than analysis of sector aggregates. Location factors are next, starting with metro area conditions. Location analysis starts with metro areas because metros are defined officially as economically and socially integrated groups of counties with one or more large cities. Official data covering employment, inflation, labor force, personal income, and demographics are available for metro areas and drive real estate research.

Attractiveness of property investments differs widely across metro areas. In *Exhibit 6,* metro area data for the 50 largest US metro areas is segmented to illustrate the breadth of differences.

### EXHIBIT 6: METRO AREA DISPERSION

Source: Costar. Data as of January 8, 2024.

| | VACANCY RATE | | CHANGE IN RENT 12-MOS | | UNDER-CONSTRUCTION SQ FT % OF TOTAL | | MARKET CAP RATE | |
|---|---|---|---|---|---|---|---|---|
| | LOW 10 OF 50 METROS | HIGH 10 OF 50 | LOW 10 VACANCY | HIGH 10 VACANCY | LOW 10 VACANCY | HIGH 10 VACANCY | LOW 10 VACANCY | HIGH 10 VACANCY |
| APARTMENT | 4.1% | 11.9% | 2.4% | -1.3% | 3.7% | 8.1% | 5.2% | 5.8% |
| INDUSTRIAL | 2.6% | 6.8% | 7.7% | 7.2% | 3.0% | 4.4% | 7.3% | 7.1% |
| OFFICE | 7.4% | 16.9% | 1.6% | 0.3% | 0.6% | 1.5% | 9.9% | 7.5% |
| RETAIL | 2.8% | 5.4% | 4.7% | 1.8% | 0.6% | 0.5% | 6.8% | 6.1% |

The dispersion of current vacancy rates shows the degree of excess supply concentrated in a relatively small swath of metros for each sector. Those high vacancy markets also show significantly weaker rent growth over the last year. Industrial is the exception with a big difference in vacancy rates but a surprisingly small difference in rent growth. This indicates the still strong appetite for industrial space even in metros that are producing a lot of new supply.

Construction activity is generally stronger in the high vacancy metros except for retail where there is weak construction uniformly. It is especially noteworthy that the pace of construction in the high vacancy apartment metros is very strong suggesting that rent growth will remain challenged in the year ahead. Cap rates are reflecting this expectation but only modestly suggesting that the excess supply is viewed as transitory.

Market cap rates are lower and pointing to the higher vacancy metros as more desirable for industrial, office and retail sectors. This observation is hugely important. It shows that investors are viewing metros with excess supply as more attractive than those with tighter supply. This suggests a confidence that developers have been deeming these metros as having superior economic growth prospects and superior absorption capacity versus metros with low vacancy rates. Only apartments are pricing in some caution regarding high vacancy metros implying that investors are indeed evaluating supply carefully rather than dismissing it. *Exhibit 7* shows that the high vacancy metros did indeed produce superior or equivalent employment growth in 2023 versus the low vacancy metros. Retail is the exception.

### EXHIBIT 7: EMPLOYMENT GROWTH DISPERSION FOR 50 LARGEST METROS

Source: Costar. Data as of January 10, 2024.

| | EMPLOYMENT GROWTH - 12-MOS | |
|---|---|---|
| | LOW 10 VACANCY | HIGH 10 VACANCY |
| APARTMENT | 1.0% | 1.9% |
| INDUSTRIAL | 1.4% | 1.4% |
| OFFICE | 1.1% | 1.5% |
| RETAIL | 2.0% | 1.3% |

## LOOKING FOR OPPORTUNITY

For investors, there is no simple conclusion other than "metro matters". Investment selection requires analysis of top-down macro-economic factors, property sector evaluation, and metro area analysis of both property market fundamentals and of the economic and demographic drivers that influence property performance. For the year ahead, the data provided here do not identify clear sweet spots but rather illustrate the uncertainties that investors must confront. Current market cap rates point to confidence that high vacancy rates in some metros are the result of the surge in construction prompted by historically low borrowing rates. With higher interest rates curtailing construction and ongoing economic growth, property buyers will need to assume how quickly the excess space will be absorbed. That assumption will determine the price an investor will be willing to pay. If economic growth falters, absorption will be delayed. Investors are advised to consider this eventuality.

With all this said, the final word is a reminder that no investor can see the future. The potential for shocks is always at hand. But fixation on risk can be paralyzing and paralysis is a risk in itself as it creates no investment return.

## ABOUT THE AUTHOR

Martha Peyton is a Research Consultant to LGIM America's Real Estate Equity team. In this role, she is responsible for US economic and property market research, which is a foundation for the team's investment strategy.

## NOTES

[1] "Fourth Quarter 2023 Survey of Professional Forecasters." Federal Reserve Bank of Philadelphia, 13 Nov. 2023, www.philadelphiafed.org/surveys-and-data/real-time-data-research/spf-q4-2023.

[2] Green Street Real Estate, Commercial Property Outlook, December 5, 2023

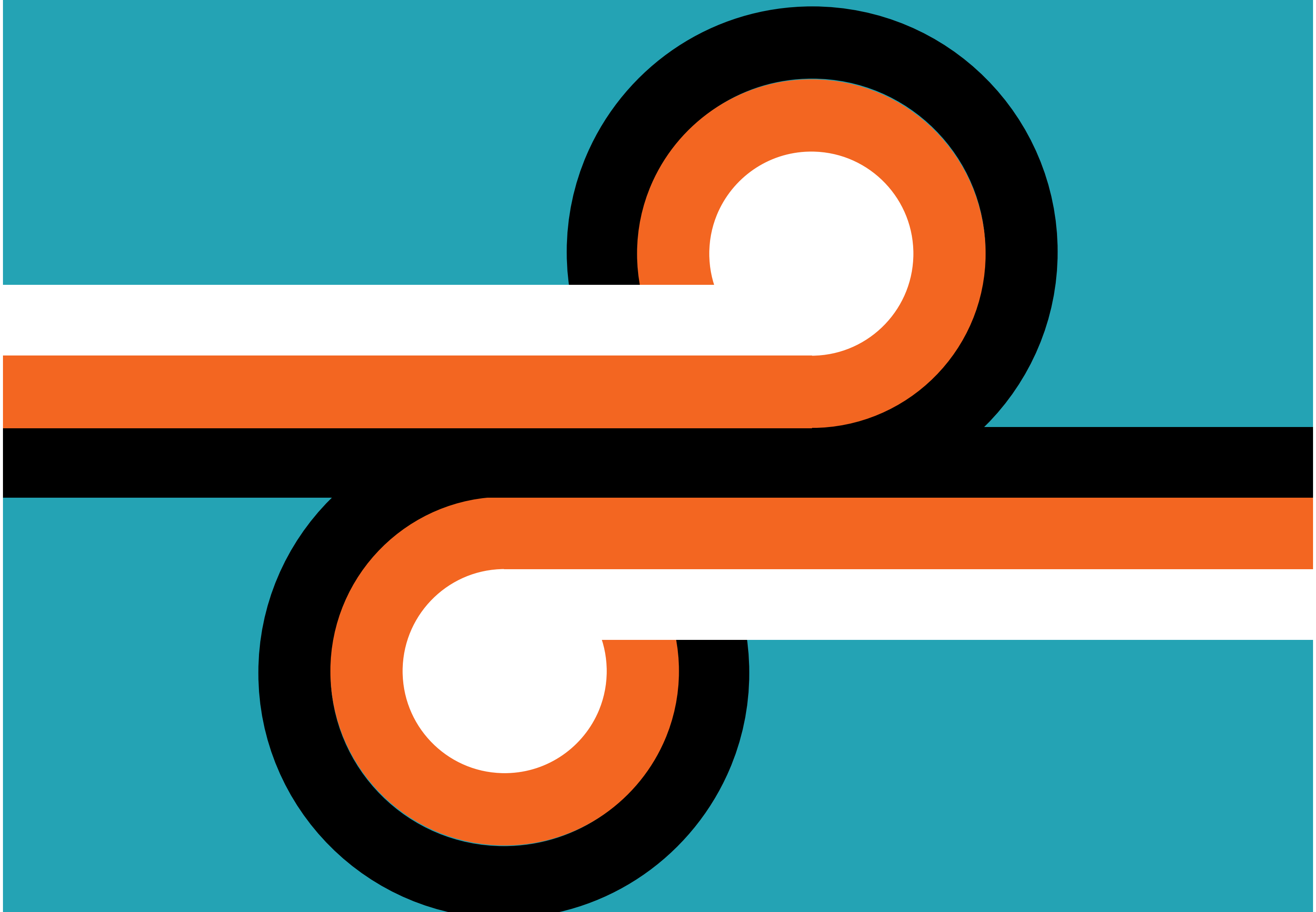
[3] MSCI-RCA, CPPI, December 2023.

[4] MSCI-RCA "Assessing the Health of US Real Estate's Loan Collateral", November 8, 2023

No investor can see the future.
The potential for shocks is always at hand.

But fixation on risk can be paralyzing and paralysis is a risk in itself as it creates no investment return.

# UNDERPERFORMANCE PARADOX



**William Maher**
Director of Strategy and Research
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**Taylor Mammen**
CEO
RCLCO Fund Advisors

**Ben Maslan**
Managing Director
RCLCO Fund Advisors

# Some recent research argues that more direct approaches to real estate investing can more effectively address the characteristics, opportunities, and risks associated with the current state of commercial real estate.

Recent research has found that closed end real estate funds, in aggregate, have broadly underperformed over the past two decades. In particular, Private Equity Real Estate (PERE) funds have not delivered acceptable net returns relative to alternative opportunities, risks, and fees.

Most of the research on this topic has focused on US funds, but there is increasing focus on non-US and global funds. With this in mind, this article examines the research and its implications, looks at potential causes, and evaluates alternative approaches for non-US investors looking to invest in US real estate. In particular, this article argues that more direct approaches to investing in real estate more effectively address the characteristics, opportunities, and risks associated with real estate.

## WHAT THE RESEARCH SAYS

Recent studies that have evaluated closed end real estate private equity fund performance have concluded that the value proposition has, on average, been lacking. Closed-end funds have generated negative alpha for investors; have often not out-performed leveraged core strategies or REITs; and have significantly higher fees than alternative investment vehicles. Finally, there is evidence that managers manipulate values and returns in order to improve subsequent fundraising efforts.

This research is especially relevant, as closed end co-mingled funds play an important role in most institutional real estate portfolios. Hodes Weil reports that closed-end funds remained the most popular investment product for institutions in 2023, with 80% of all survey participants expressing interest. This level of interest is close to an all-time high, while the next closest product (open-end funds) garnered only 56% interest.[1]

Below is a summary of the recent papers that have generated these findings:

- Brown, Goncalves, and Hu, have created a measure of alpha that addresses the fact that PE returns reflect fund-level, and not overall performance in a portfolio context and are not comparable to alphas used for other asset classes. As shown in *Exhibit 1*, real estate's "private capital alpha" is negative and significantly worse than other PE options, based on simulated portfolio returns.
- A recent paper by Da Li and Timothy Riddiough, "Persistently Poor Performance in Private Equity Real Estate,"[2] finds that real estate funds generate negative alphas, and do worse over later vintages, and that this is specific to RE and not the case for the rest of the private equity industry. Real estate funds generated Internals Rates of Return (IRR) direct alphas (both based on liquidated funds with vintage dates through 2011) that were inferior to both Buyout (BO) funds and Venture Capital (VC) funds. Perhaps more surprising was the finding that firm experience does not lead to improved performance: "RE fund performance deteriorates significantly after the fourth fund offering," again in contrast to other private equity sectors that demonstrate improved performance with additional fund offerings.[3]

- "Another Look at Private Real Estate Returns by Strategy." Bollinger and Pagliari (2019) repeat Pagliari's prior research[4] using different data sources. Net returns were acceptable for all investment styles, but alpha metrics for value add and opportunistic funds were both negative. They also calculated that investors could have added leverage to core funds to generate comparable risk-adjusted gross returns, resulting in approximately 3% per annum in additional net returns, mainly through lower fees.

- "Catering and Return Manipulation in Private Equity," a working paper by Jackson, Ling, Naranjo (2022), provides evidence that "private equity (real estate) fund managers manipulate returns to cater to their investors." They suggest that investors may even be happy with overstated and smoothed returns.

- In "Private Equity Real Estate Fund Performance: A Comparison to REITs and Open-End Core Funds," Arnold, Ling, Naranjo (2021) find that closed end funds underperformed REITs and had comparable performance to NFI-ODCE, despite generally higher risk, over the 2000–19 period.

- Carlo, Eichholtz, and Kok (2021), in a PREA-sponsored report entitled "Three Decades of Institutional Investment in Commercial Real Estate," found that pension funds in the US pay more to external real estate managers than their peers in Canada and Europe. *(see Exhibit 2)* In addition, investments costs (not including carried interest and promotes) averaged 180 BPS for external approaches, compared to 35 basis points for internal approaches.

- In "Performance of Non-Core Private Equity Real Estate Funds: A European View (2015),[5]" Sami Kiehelä and Heidi Falkenbach found that PERE funds that invested in Europe delivered an average (median) IRR of –1.3%.

There are other papers and articles that have addressed private real estate closed end fund performance. Those that we have reviewed have come to generally similar conclusions.

Closed-end funds remained the most popular investment product for institutions in 2023, with 80% of all survey participants expressing interest.

**EXHIBIT 1: ANNUALIZED ALPHA BETWEEN BUYOUTS, VENTURE CAPITAL, AND REAL ESTATE**

Source: Brown, Goncalves, and Hu

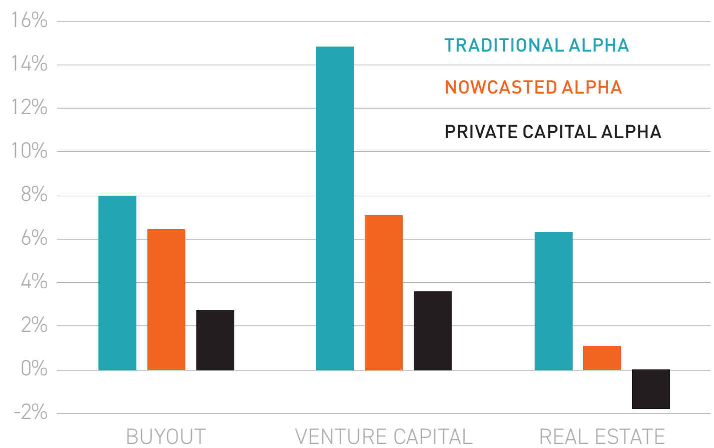
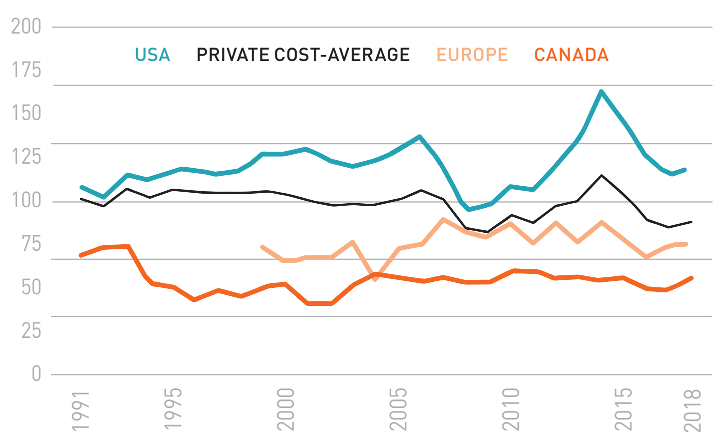



**EXHIBIT 2: REAL ESTATE INVESTMENT COSTS; PRIVATE REAL ESTATE (BPS PER REGION, PER REAL ESTATE SUBCATEGORY)**

Source: Carlo, Eichholtz, and Kok



## OTHER PROBLEMS WITH CLOSED END FUNDS

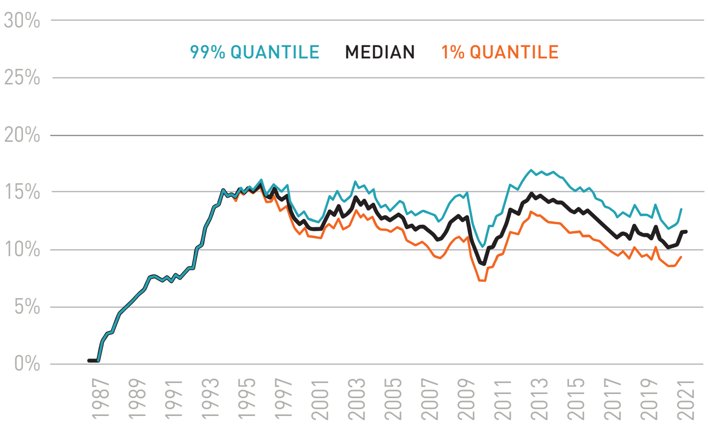
In addition to low net returns and high fee loads, academics also observe other shortcomings of closed end real estate funds that have long created heartburn for investors:

- *Lack of control:* Once committed to a fund, limited partners typically have no input into investment strategy, pacing, management, leverage and exit timing.
- *Illiquidity:* Interests in closed end funds are highly illiquid. Although a secondary market exists for some funds, pertinent information regarding fund prospects can be challenging. Lack of transparency can lead to value discounts.
- *Allocation and Rebalance Risk:* For private equity funds in general and real estate funds in particular, it is very difficult to anticipate or forecast both capital calls and distributions. Inability to allocate exactly the target allocation is an important risk that lowers alpha. Brown et al. found that under-allocation is common *(Exhibit 3)*.

Real estate is inherently cyclical and defined by the inelasticity of supply and elasticity of demand.

### EXHIBIT 3: INABILITY TO ALLOCATE TO TARGETS CAN LOWER ALPHA

Source: Brown, Goncalves, and Hu




- *Alignment of Interests:* By definition, managers are motivated to generate incentive fees. Since incentive fees are typically tied to IRRs, managers have an incentive to maximize IRRs through delayed capital calls, subscription line financing and early dispositions, often to the detriment of investment multiples.
- *Cycle Mismatches:* Real estate is inherently cyclical and defined by the inelasticity of supply and elasticity of demand. Managers—who have businesses to run—need to raise funds on a continual basis, which includes poor vintage periods. Admittedly, funds deploying capital during or after downturns and selling before the next downturn tend to do fairly well, but those opportunities are rare and difficult to time.
- *Complexity:* One of the primary forms of value creation in real estate—development—takes a long time, particularly if it runs into snags related to entitlements, construction, or the market, and therefore only comprises a modest portion of opportunistic funds. Even well-conceived projects that could ultimately be successful can sink a fund if the timing is off. Other forms of value creation—leasing vacancy, improving operations, growing rents, and so forth—can be achievable during a typical fund investment period, but generally move the needle more modestly.

## WHY CAN CLOSED-END FUNDS UNDERPERFORM, AND WHY DO INVESTORS OFTEN IGNORE THIS?

The academic research leaves two obvious follow-up questions without satisfying answers:

1. Why do real estate funds underperform most private equity strategies?
2. Why do investors continue to invest in an underperforming category?

To the first question, many observe that real estate investments lack access to the level of "engineering gains" available to private equity (such as Buyout and Venture Capital).[6] Real estate offers fewer opportunities to increase income or financially engineer returns, with fewer potential exit paths. In addition, as we comment above, two of the more meaningful paths to create value—development and redevelopment—frequently are not feasible within closed end fund timeframes or, when they are pursued, give up much of any alpha generated to operating partner fees.

As to why investors continue to allocate to an underperforming category, academics seem mystified. Li and Riddiough observe that public pension funds are more dominant investors in real estate funds relative to BO and VC funds, euphemistically concluding that public pension investors seem to be "maximizing something other than investment returns."[7]

We can't conclude that pension fund investors make inferior decisions relative to other institutional investors. It seems more likely that the data challenges that academic researchers are working to address and mitigate are major contributors to seemingly irrational decision making: investors in closed end real estate funds have not had sufficient information to conclude that they were underperforming. In addition, investors probably have not had enough alternative options.

REITs offer superior liquidity and lower fees relative to private real estate vehicles and have generated similar or superior performance as private real estate over the long term.

## COMMONLY SUGGESTED ALTERNATIVES

Among the articles critical of closed-end funds, the most commonly suggested alternatives are 1) levering up core real estate (to enhance returns) and 2) REITs.[8] Both of these approached should be given strong consideration by non-US investors but are unlikely to be the full answer.

Investors can apply additional debt to core real estate by increasing the loan-to-value ratio across directly-owned properties or portfolios, or by investing in core funds through both equity and debt (potentially secured by the institutional fund). Most investors are too small to own real estate directly (or face negative tax consequences in the case of non-US investors), and/or may not have the mechanism or policy approval to lever core funds. Other drawbacks to core funds include:

- Investing in core funds offers limited opportunities to make property type or geographic bets: investor delegate all allocation discretion to the fund, hoping that the manager makes good market decisions. (The recent growth of property-specific open-end funds aims to address this shortcoming.)
- While most core funds are open-ended in order to provide liquidity, the ability to exit is often very limited during times of market disruption.

REITs[9] offer superior liquidity and lower fees relative to private real estate vehicles and have generated similar or superior performance as private real estate over the long term.[10] REITs therefore should comprise an important component of an institutional real estate portfolio, with some consideration to over- and under-weighting the sector when public and private values diverge greatly. Although long-term returns have been similar to private real estate, REITs exhibit meaningful correlation to the broader public equities market—and therefore volatility—over the short- to-medium terms. Academics and participants can (and will) argue whether this volatility reflects "true" value or not—whether the relative stability of private real assets is a bug or a feature. But for practical purposes, volatile public values can lead to wide allocation swings in the short term, which could impact decision making around acquisitions/dispositions and portfolio allocations.

In addition, neither of these approaches permits investors to take advantage of one area in which real estate can consistently add value and generate higher returns: development when there is a significant gap between property values and development costs. Development does not work well within closed end funds, and is a minor component of open end funds and REITs.

## APPROPRIATE STRUCTURES

When investing in US real estate, we believe that institutional investors benefit from structures that employ the following "wish list:"

- Transparency: Property level operating performance or portfolio level attributes This allows the investor to better understand the unique risks and attributes of its properties and portfolios.
- Control of Major Decisions: Investors are able to retain the rights to major decisions when investing directly. Major decisions can include reinvestment of capital, major lease terms, financing structure and terms, hold vs sell decisions, etc.
- Leverage Optimization: Optimize the level and structure (e g fixed vs floating) of leverage.
- Alignment of Interests/Fees: Tailored investment fees that are dependent on the health of the property and incentives are aligned.
- Liquidity: The investor can determine its own investment horizon based on its unique situation.

In general, achieving this wish list requires investing in more "direct" structures, such as joint ventures and separate accounts, rather than commingled funds, where nearly all control is delegated to the manager. Accessing direct structures internationally can result in greater execution difficulty, however, and utilizing local resources such as staff extension consultants, which provide on the ground intelligence and expertise, is critical.

The table below shows the range of investment structures that are available for investors to access US markets, as well as the relative advantages and disadvantages.

**EXHIBIT 4: RELATIVE ATTRACTIVENESS OF ALTERNATIVE REAL ESTATE INVESTMENT STRUCTURES**

Source: RCLCO Fund Advisors

HIGH LOW

| | Control | Liquidity | Ease of Execution | Diversi-fication | Access to Higher Returns | Access to Niche Prop. Types | Fee Level | Accessibility for Non-U.S. Investors |
|---|---|---|---|---|---|---|---|---|
| Public Securities | 5 | 1 | 1 | 1 | 4 | 1 | 1 | 1 |
| Fund of Funds | 5 | 4 | 2 | 1 | 2 | 2 | 5 | 1 |
| Club/ Co-Investment | 3 | 5 | 3 | 2 | 1 | 2 | 3 | 3 |
| Commingled Funds | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 3 |
| Separate Accounts/ Joint Ventures | 2 | 2 | 4 | 3 | 1 | 3 | 2 | 4 |
| Direct Investing | 1 | 2 | 5 | 4 | 1 | 3 | 1 | 4 |

Utilizing local resources such as staff extension consultants, which provide on the ground intelligence and expertise, is critical.

## PARTNERING WITH OTHERS

Given limitations on direct investment by non-US entities, it makes sense to evaluate partial (less than 50%) positions in US real estate assets or ventures. Although there is generally always an interest in bringing on minority partners, many US institutions are currently facing the "denominator effect," and have become overallocated to real estate. This has led them to seek ways to downsize their existing portfolios, such as recapitalizing a portion of their existing assets with international institutional investors.

Partnerships can be beneficial to international investors trying to invest in the US market, as it provides direct access to high quality managers and real estate, and partnering with domestic institutions can limit potential tax leakage. As shown in the table above, other ways for non-US investors to gain access to the US market include club deals and co-investment with funds. Finally, debt investing is another option that avoids negative tax consequences.

## DIRECT INVESTING IS A BETTER MODEL

In our view, direct ownership of private real estate addresses the inherent drawbacks of closed end funds and the limitations of open-end funds and REITs, and offers the best opportunity for investors' real estate portfolios to meet their strategic objectives. At the same time, direct investing involves lower fees and other expenses and provides greater control over timing, leverage, property type, risk levels and other strategy decisions.

Some international (especially Canadian) and a handful of U.S. institutional investors have embraced direct ownership, although it necessitates large internal real estate management teams. That model is difficult to implement for many non-U.S. funds, due to the high cost of establishing investment teams capable of covering the large and complex US market. For investors based outside of the US, direct ownership is best accomplished by utilizing outsourced "extension of staff" advisors and through separately managed accounts with investment managers and real estate operators. This leads to a "hybrid model" employing both internal expert resources and strategic external partners. Different regulatory and governance frameworks and internal capabilities dictate different approaches to the hybrid model.

A direct real estate program is more feasible for larger (~$1 billion in real estate NAV) institutional funds given the needs for dedicated expert resources and for diversification. However, smaller funds (or allocations to specific countries) can receive many of its advantages of direct investing through more strategic deployment of resources and capital. Focusing on forming relationships and investing with real estate operators as opposed to allocators, for example, can reduce the overall fee load and enable greater control over portfolio allocations. Securing resources (internal or external) to source and underwrite co-investments and other ad hoc opportunities can also enhance net performance.

Closed end funds are likely to have an ongoing place in institutional real estate investing.

## FOOD FOR THOUGHT

Despite recent findings, closed end funds are likely to have an ongoing place in institutional real estate investing. Closed end funds can provide an effective way to take advantage of a meaningful market dislocation (that is in large part how the real estate fund business got started in the RTC era of the early 1990s), address a specific strategy that entails short-term value creation, or that facilitates exploration of new markets or products before investing in the infrastructure to do so more directly. Small investors need to commingle capital in order to gain sufficient diversification, with certain attractive strategies not available in open end funds or REITs.

Recent research mandates, however, that investors (including non-US funds) and their advisors critically evaluate closed end funds' place in their portfolios and, if necessary, make changes that generate higher net returns without commensurate increases in risk. Direct and/or hybrid approaches to real estate investment are likely important alternatives to explore.

## ABOUT THE AUTHORS

William Maher is Director of Strategy & Research, Taylor Mammen is CEO and Ben Maslan is a Managing Director at RCLCO Fund Advisors.

## NOTES

[1] Source: "2023 Institutional Real Estate Allocations Monitor," Cornell University's Baker Program in Real Estate and Hodes Weill & Associates.

[2] Li and Riddiough, May 2023

[3] Buyout fund performance stays in a "fairly tight range around the overall mean," despite fund sizes increasing by 5 to 8 times from fund 1 to fund 7. VC funds are smaller than buyout funds and grew slowly over time, with IRRs averaging 30% for funds 6 and higher, vs. 15% for the overall average.

[4] "Real Estate Returns by Strategy: Have Value-Added and Opportunistic Funds Pulled Their Weight," Pagliari (2016), Real Estate Economics, 2016.

[5] Kiehelä and Falkenbach, 2015

[6] Li and Riddiough

[7] Li and Riddiough (2023)

[8] Arnold, Ling, Naranjo (2021)

[9] PREA reports that REITs represent 62% of the Institutional U.S. Real Estate Market. Source: "Why Real Estate (Updated to Q2 2023)".

[10] Arnold, Ling, Naranjo (2021)

Direct and/or hybrid approaches to real estate investment are likely important alternatives to explore.

Closed end funds can provide an effective way to take advantage of a meaningful market dislocation.

# NAVIGATING THE CURVE

**Jack Robinson, PhD**
Chief Economist and Head of Research
Bridge Investment Group

# Bridge Investment Group's 2024 Outlook suggests that, to navigate the curve for the year ahead, accelerate through the turn and find the appropriate entry and exit points, rather than trying to perfectly time the market.

As we reflect on the year gone by, we see a period marked by uncertainty, resilience, and adaptation. Still making our way through uncertainty, there are meaningful implications for 2024. Despite the impact of a higher interest rate regime, conviction in investment strategies with robust fundamentals has only been reinforced.

We see the rate environment as likely to shift downward in 2024, which underscores the importance of focusing on secular tailwinds and maintaining a long-term perspective.

Two important mainstays from 2023 that we anticipate will continue in 2024: the strength of both the labor market and the consumer. These drivers are not only crucially important for the health of the economy overall, but also provide tailwinds for demand-driven sectors.

A core set of themes for US commercial real estate 2024 include the severe undersupply of housing, the critical need for industrial and logistics infrastructure, and the broadening opportunity for private real estate-backed debt. Across these themes, we see pockets of opportunity for distressed assets and portfolios, and we anticipate seeing these emerge in greater velocity throughout the year ahead.

## SECULAR THEMES

### *CRE OVERALL*

We believe CRE is entering a new expansion phase, with resetting asset values opening up fresh opportunities, particularly in private credit focused on real assets.

A large amount of distressed loans and maturing debt in 2024 is likely to drive a wave of opportunistic transactions, which in our view will likely benefit asset managers who adapt quickly to these market conditions.

### *PRIVATE REAL ASSET CREDIT*

With public banks constrained by regulations and risk mitigation, private credit providers have the opportunity to tap into the unmet demand that we anticipate to see as transaction volume accelerates. Additionally, there are attractive tailwinds in sectors such as multifamily and logistics.

The ability to capture greater market share extends beyond mere volume. We expect tighter lending conditions as likely to drive higher-quality borrowers towards private credit. This shift positions private credit providers to gain increased bargaining power in new originations, purchases of existing debt, bridge loans, and portfolio sales.

*LOGISTICS*

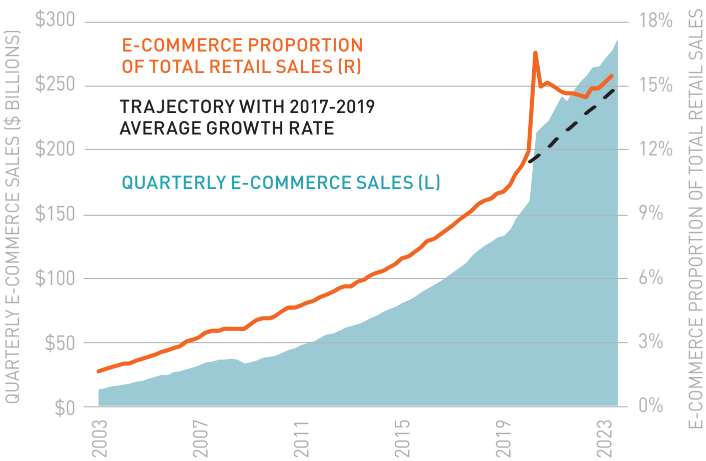
The logistics sector has seen robust demand tailwinds over the past decade, and we anticipate these will accelerate with sustained e-commerce growth, global trade alignment, onshoring, and growth in business inventories. The combination of these factors has produced historically low vacancy rates and real rent growth well above the long-term average.

Demand and supply imbalances are anticipated to continue in select high-volume markets, creating compelling opportunities, even with moderating consumption. Given the sea change in interest rates, with valuations down and increased pressures to create liquidity for some asset owners, we anticipate seeing increased opportunities for acquisitions at compelling discounts to replacement costs.

The multifamily sector is expected to show resilience, with potential for modest rent growth and improved rent collections.

### EXHIBIT 1: QUARTERLY E-COMMERCE SPEND CONTINUES TO CLIMB

Source: Moody's Analytics, Baseline Scenario, as of October 2023. US Census Bureau, Monthly Retail Trade, as of Q2 2023.




We anticipate the logistics sector will accelerate with sustained e-commerce growth, global trade alignment, onshoring, and growth in business inventories.

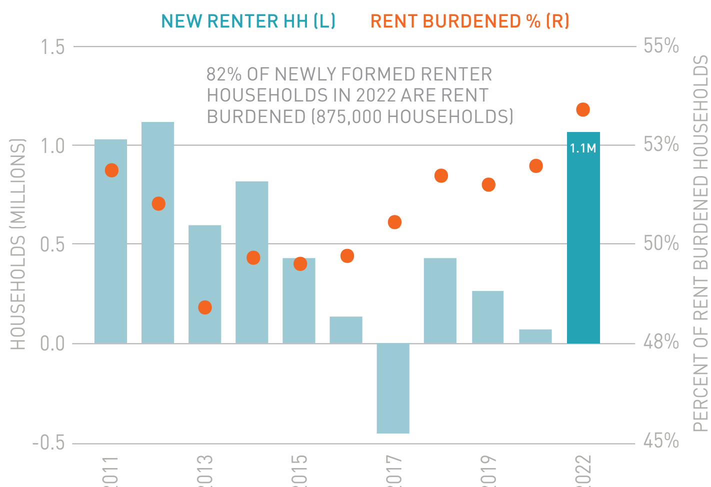
*MULTIFAMILY*

Expect to see the multifamily sector experience a significant supply surge in 2024. But by the end of the year, we anticipate a rebalancing of supply-demand dynamics and a path towards undersupply.

Anticipate increased demand from a new generation of renters, particularly younger individuals. However, affordability remains a major issue, with a high percentage of renter households being cost-burdened. Despite these pressures, the sector is expected to show resilience, with potential for modest rent growth and improved rent collections.

### EXHIBIT 2: ANNUAL RENTER HOUSEHOLD FORMATION HIT A DECADE HIGH IN 2022

Source: US Census Bureau, American Community Survey 1-Year Estimates, as of September 2023.



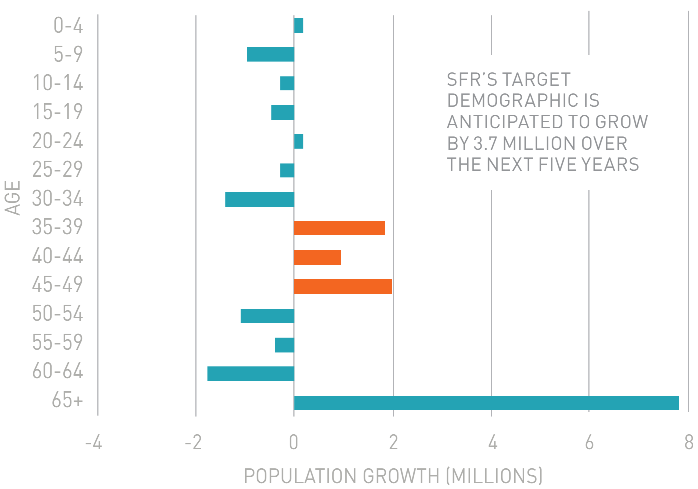
*SINGLE-FAMILY RENTAL*

The SFR sector is expected to thrive in 2024, driven by a strong macroeconomic environment, demographic trends favoring rental demand, especially in the Sunbelt region, and barriers in the single-family ownership market, such as chronic undersupply and elevated homeownership costs.

We see demand for SFR is increasing, fueled by demographic growth and economic factors, including the expansion of the prime age cohort for SFR. High home prices and interest rates have made homeownership less accessible, which we see as a key contributor to a growing tenant pool.

### EXHIBIT 3: OUTSIZED GROWTH IN KEY AGE DEMOGRAPHIC COHORTS

Source: Moody's Analytics, Baseline Scenario, as of November 2023. Chart shows the projected compound annual growth rate (CAGR) during Q3 2023 to Q3 2028.




Demand for SFR is likely to increase, fueled by demographic growth and economic factors, including the expansion of the prime age cohort for SFR.

## NAVIGATING THE ECONOMIC HORIZON

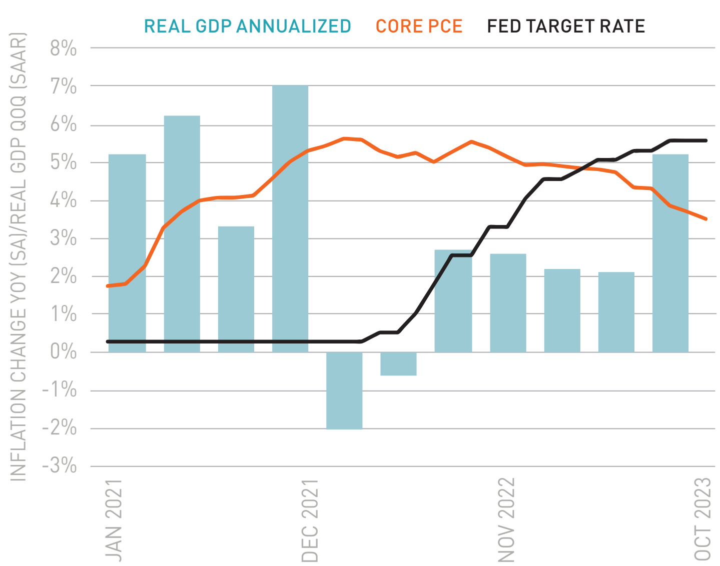
Entering 2024, we build on the economic momentum gained in 2023, a year that showcased remarkable resilience. This resilience was evident despite central banks' rapid interest rate hikes and significant events in the banking sector ranging from mid-size US regional banks to major global institutions. A number of key economic indicators and trends are shaping the opportunity set for alternative asset investment landscape.

*The Economic Landscape of 2023: A Foundation for 2024*

The story of 2023, in economic terms, was one of remarkable endurance. The US economy displayed resilience that defied expectations, particularly mid-year anticipations of a labor market downturn and a potential recession. Providing meaningful economic tailwinds, the labor market remained robust, accompanied by remarkable growth rates. We anticipate there is additional resilience ahead, setting the stage for the 2024 Outlook and providing a backdrop against which to assess opportunities across real assets, credit, and private equity.

### EXHIBIT 4: INFLATION IS SOFTENING WHILE GROWTH PERSISTS

Source: Bloomberg, US Bureau of Economic Analysis, US Bureau of Labor Statistics, as of November 2023.



*The Role of Interest Rate Policy: A Balancing Act*

Central to the 2024 narrative is the role of the Federal Reserve (Fed) and the potential downward shift in interest rates over the year. In our view, the Fed's final policy meeting in 2023 was likely an indication that not only was its rate tightening campaign finished, but we are likely to see multiple rate cuts by year-end.

Over the past year, the US economy has managed to stay atop choppy waters while reducing inflation to nearly three percent with minimal impact on growth.[1] We believe this trend will continue into 2024, with inflation gradually aligning with the Fed's targets. However, at the same time economic growth will likely be moderate in 2024 before accelerating toward year-end. We expect this growth to be based on the combination of a stable labor market, modest consumer activity, decelerating inflation, and interest rate cuts in the second half of the year.

Entering 2024, we build on the economic momentum gained in 2023, a year that showcased remarkable resilience.

*Risks to the Outlook*

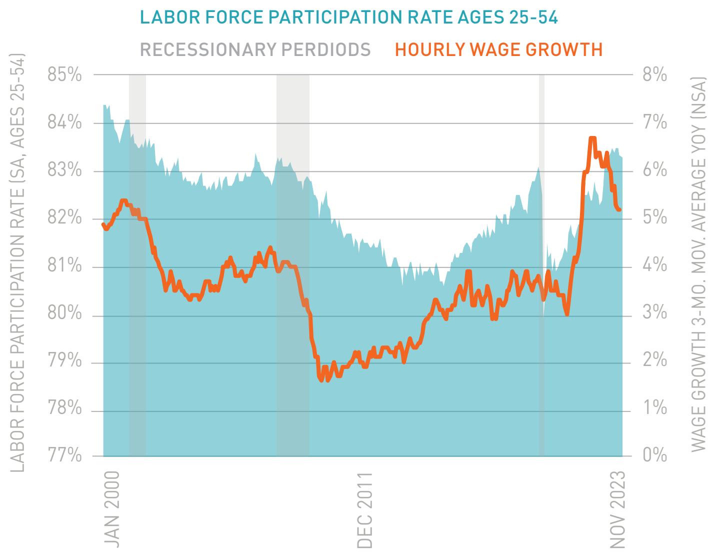
Some risks to the outlook remain. For example, even with the gradual decrease in inflation, the central bank remains cautious about decelerating shelter costs. In navigating monetary policy, timing is essential; premature rate cuts risk reigniting inflation, jeopardizing the stability achieved over the past year. Looking ahead to 2024, there are several key challenges.

1. Sticky inflation, where prices in some sectors are slow to adjust to interest rate changes or changing economic conditions. This type of inflation, which constitutes over two-thirds of the overall rate,[2] is declining but its persistence may necessitate prolonged high interest rates.
2. The labor market, while strong throughout 2023, is showing signs of cooling heading into 2024. Wage growth is decreasing and job growth, while still positive, is losing momentum. In our view, this suggests a shift towards moderation rather than a downturn.
3. Consumer debt is another critical area, especially with high interest rates. Younger consumers face increasing debt burdens, highlighted by the resumption of student loan payments and a rise in credit card debt, which now stands at $1.08 trillion, predominantly held by those aged 30-59.[3] This may impact consumer spending, crucial for economic vitality. Furthermore, banks' continued strict lending standards limit access to credit for both individuals and businesses.
4. The bond market also faces uncertainties, with increased volatility stemming from economic and geopolitical changes potentially leading to higher government deficits and debt, which could exert upward pressure on yields.

Despite these risks, the outlook for 2024 is cautiously optimistic. We anticipate the economy to maintain moderate growth, supported by the labor market and consumer strength.

**EXHIBIT 5: PRIME AGE LABOR FORCE PARTICIPATION RATE AND WAGE GROWTH**

Source: US Bureau of Labor Statistics via FRED, National Bureau of Economic Research, as of December 2023.



*Momentum Driver #1: The Labor Market*

Over the course of 2024, we expect the labor market to maintain stable growth, though monthly job growth may moderate as businesses and consumers adjust to the potential for long and variable lags of rate hikes. We expect high labor force participation should continue, buoyed by wages that remain elevated compared to the prior two economic cycles.

We see the labor market's resilience as a standout feature of 2023, withstanding rate hikes and remaining robust in a historical context. Factors like wage growth and demographic shifts pushed the labor force participation rate to a 20-year high of 83.5% in the prime age group (between 25 and 54 years old). However, mismatches in supply and demand, especially in sectors like healthcare and leisure and hospitality, persisted.[4] Unemployment levels stayed historically low, with only a slight increase from 3.4% in January to 3.7% in November, in part due to a growing labor force.

*Momentum Driver #2: Consumer Spending*

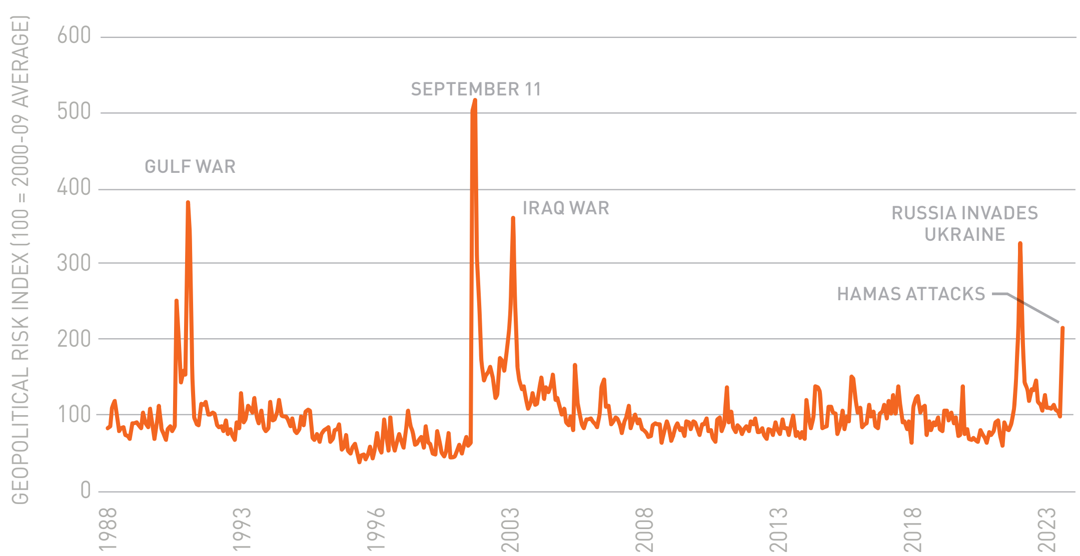
Fortifying household balance sheets creates the potential for increased momentum for the US consumer in 2024, and we have seen how wage growth helped establish a strong foundation entering the year.[5] Excess savings in liquid household accounts grew by 30% from 2019 to 2022.[6] This boost supported retail spending, which saw an average monthly growth of 3.2% year-over-year in 2023, slightly below the previous cycle's average of 3.9%.[7] A major driver of US GDP, consumer spending helped reduce the household debt to GDP ratio to the lowest level since 2005 at 2023's start. In 2024, we anticipate decelerating price pressures are likely to sustain moderate growth in consumer spending.

*2024: A Road Paved with Cautious Optimism*

As we look towards 2024, the narrative of the US economy is one of cautious optimism. The implication for the rate environment and its influence on alternative assets, particularly real assets, is the strong likelihood that interest rates will remain higher for longer and require a conservative approach in the face of higher borrowing costs. However, in our view the strength of the underlying economy will continue to provide tailwinds to select demand-driven sectors. Consumer spending activity, a key driver of economic health, have remained consistent, reflecting the resilience of the American consumer. This resilience, underpinned by a stable labor market, highlights the secular strength driving a number of real estate sectors such as residential rental (broadly defined as multifamily, workforce and affordable housing, single-family rental), logistics and advanced manufacturing, and private credit strategies focused on real assets.

**EXHIBIT 6: MEASURES OF GEOPOLITICAL RISK HAVE BEEN ELEVATED SINCE RUSSIA INVADED UKRAINE**

Source:Dario Caldara and Matteo Iacoviello, Measuring Geopolitical Risk (Working Paper), Board of Governors of the Federal Reserve Board, November 2021.



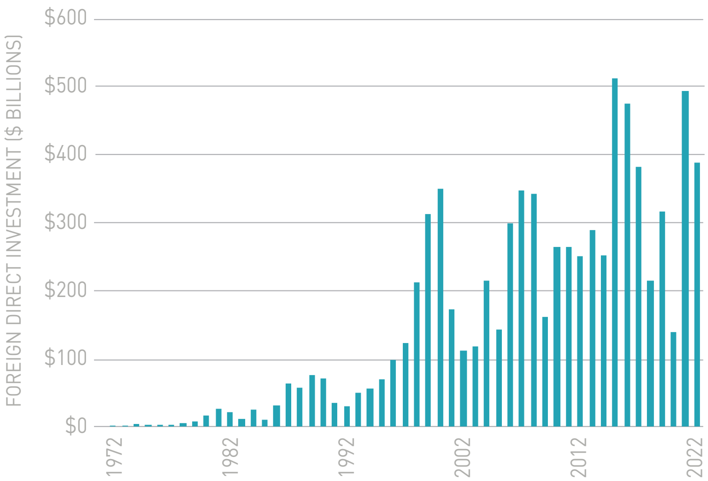
## MACRO CURRENTS: POST-PANDEMIC SHIFTS SHAPING THE INVESTMENT LANDSCAPE

*The New Global Landscape:* A worldwide resurgence of geopolitical uncertainty is catalyzing a shift toward Globalization 2.0 and reinforcing the views of the US as the preeminent destination for capital.[8] With the intensifying US-China rivalry pulling in allies, ongoing conflict in Ukraine, and a new outbreak of hostilities in the Middle East, Globalization 2.0 is reshaping the contours of international finance and trade. In this evolving geopolitical climate suggestive of an increasingly multipolar world, we expect the US will continue to stand out for its robust consumer base and dynamic labor market.

In 2023, Mexico supplanted China as the largest supplier of US imports.

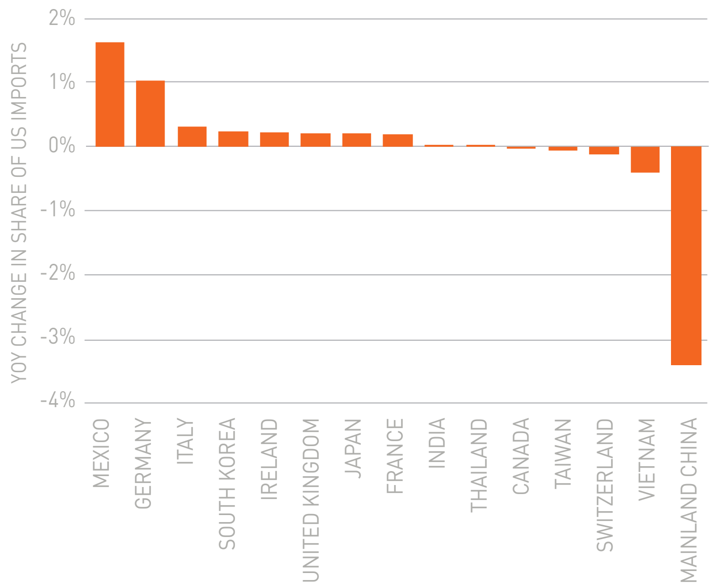
### EXHIBIT 7: THE US RANKS AS THE TOP GLOBAL DESTINATION FOR FOREIGN DIRECT INVESTMENT

Source: World Bank, as of November 2023.




### EXHIBIT 8: CHINA'S SHARE OF THE US IMPORT MARKET HAS DROPPED SINCE 2017

Source: US Census Bureau, US International Trade in Goods and Services (FT900), as of October 2023. Chart covers the 15 largest sources of US imports.




*Evolving Capital Flows:* The US continues to attract an outsized share of global capital and has emerged in recent years as the number one destination for foreign direct investment, bolstering productive capabilities and long-term growth prospects.[9] We expect that the tangible impact of these capital flows will be most pronounced in goods-producing sectors, in part due to new federal measures to invigorate domestic manufacturing. Multiplier effects could ripple across additional sectors as vendors along the production chain ramp up operations to meet demand.

- US advanced manufacturing positioned for further acceleration, though job gains may be muted if firms turn to automation amid a still-tight labor market.
- Improved economic outlook in secondary and tertiary metros as legacy cities capture an outsized share of new activity.

*Altered Trade Patterns:* Geopolitical considerations, rather than pure economics, are increasingly driving cross-border trade relationships and leading nations and multinational firms to turn to like-minded peers to source critical commodities and goods.[10] The strategic tug-of-war between the US and China vividly illustrates this evolution, marked by stiff tariffs and new controls to safeguard technology and intellectual property. Already we note a substantial decline in China's share of the US import market that, if continued, could pave the way for further regionalization in the cross-border movement of goods.[11]

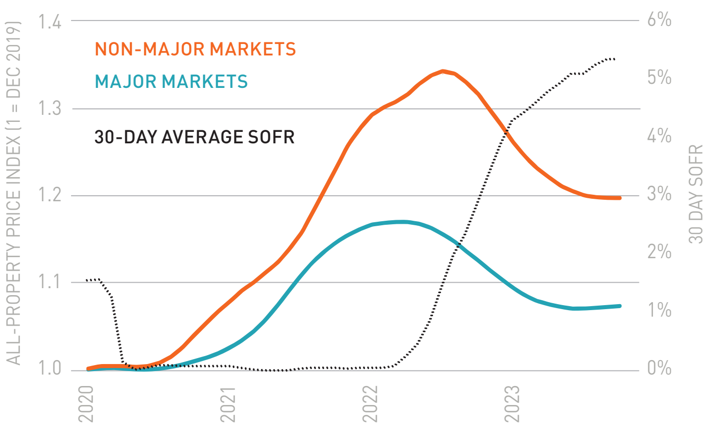
- More diversified and resilient supply chains less vulnerable to systemic trade shocks.
- Uptick in industrial demand on the southern border and East Coast as shifting trade routes funnel imports through a wider number of US entry points.
- Potential for stickier inflationary pressures on a longer-time horizon as production relocates away from low-wage countries.

*Active Global Conflicts:* Ongoing and new conflicts underscore the potential for enduring volatility in global commodity markets during 2024. The war in Ukraine, involving two of the world's top wheat producers, triggered a spike in global food prices.[12] Separately, renewed hostilities between Israel and Hamas raises the prospects of wider instability that could throw a wrench into global oil markets if other regional actors are pulled into direct conflict.

- Though the US has a measure of protection against global price instability given its status as the world's second largest agricultural producer and a net oil exporter, increased price volatility could filter through to consumers and dampen sentiment given heightened sensitivity to the cost of staples.[13]

### EXHIBIT 9: PRICES STABILIZING ACROSS MARKETS IN TANDEM WITH BENCHMARK RATES

Source: MSCI Real Capital Analytics, Trend Tracker, November 28, 2023.




## CAPITAL MARKETS: GREAT (RESETTING) EXPECTATIONS IN COMMERCIAL REAL ESTATE

We believe CRE capital markets have navigated to a new cyclical baseline and are transitioning to the next phase of expansionary activity. CRE navigated bumpy skies in recent quarters amid an evolving rate environment that prompted a reevaluation of the sector's risk-return profile. But as of early 2024, we believe the sector has refueled and taxied back to the runway, prepared for the next cycle of opportunity as asset values have reset meaningfully in many sectors. Looking forward to the next expansionary phase, we believe these capital market developments have meaningful implications for various segments of real assets, including private credit focused on real assets.

### *Certainty about an Accelerated Pace of Activity Will Come after It Has Already Started*

We see transaction activity start to accelerate through the curve in the first half of 2024, and our views of the sector's cyclical momentum derive from three distinct but interrelated developments. First, baseline interest rates have started leveling out, providing increased clarity on debt costs and cash flow. Second, the market appears to have come to terms with the reset in values, which have shown increased steadiness in recent months across both gateways and secondary metros. Third, deal flow has started ramping up—in part forced by debt maturities—which opens the door to a faster pace of capital deployment. Momentum will be hard to measure as transaction volume will record closed transactions, resulting in a monthslong lag.

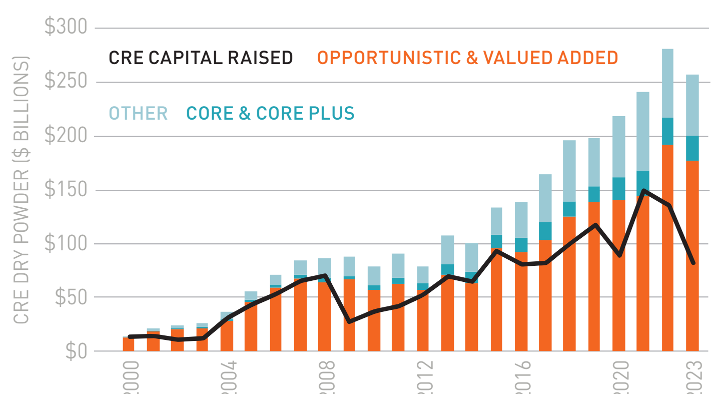
### *Some Challenges Lie Ahead*

Despite these promising signals, hurdles still remain before a full resumption of activity can take place. In our view, we anticipate a meaningful shift from end-of-year 2023 conditions early in 2024.

At the end of 2023, still-frozen debt markets stood out as the biggest challenge to regular-way transactions as conventional lenders remain on the sidelines in risk-off mode, forcing borrowers to high-cost options and preventing a wider range of opportunities from penciling. Additionally, a meaningful bid-ask spreads persisted in pockets of the CRE sector as would-be sellers delayed bringing assets to market in hopes of improved valuations at a future date. These factors combined resulted in decreased transaction volume across all sectors, which we believe will be remedied with greater clarity on the trajectory of the rate environment during early 2024.

### EXHIBIT 10: US CRE DRY POWDER CONCENTRATED IN HIGHER RISK/RETURN STRATEGIES

Source: Preqin, as of November 29, 2023.



*Distress Coming to Fruition*

Until debt capital markets thaw and bid-ask spreads narrow, we anticipate that 2024 will see opportunistic plays account for an outsized share of deal flow compared to previous years, driven primarily by troubled loans and maturing debt. Across CRE, there was an estimated $65 billion worth of current distress as of the fourth quarter of 2023, and the number of troubled loans continues to edge higher because of either operational shortcomings or mishandled capital stacks.[14] With $650 billion of CRE loans set to mature in 2024[15] into a conservative lending environment, we anticipate that many borrowers will find it difficult to refinance at workable terms and could be forced to sell.

We anticipate these opportunistic plays, once available, will transact quickly given the $177 billion wall of opportunistic and value-added dry powder ready to deploy early in the next cycle in search of greater upside opportunities from asset appreciation.[16] As a result, we believe asset managers that have appropriately adapted to new market conditions will boast a distinct competitive edge, while those that wait for the green light may find the window of greatest opportunity closed.

## PRIVATE REAL ASSET CREDIT: TAKING THE INSIDE LINE THROUGH THE CORNER

We believe private debt is likely to benefit from a confluence of factors ranging from the rapid rise in interest rates, near-term maturities and unanticipated refinancing conditions, and the potential for conventional lenders to be on the sidelines after a year of low liquidity. In our view, a broader opportunity set may be available to private debt markets as a result, but there is also the potential for increased selectivity and quality given borrowers' lack of broader market options. We see nuanced opportunities in attracting high-quality borrowers at favorable terms as a meaningful tailwind for the sector in 2024.

*Dynamics Driving Private Credit Markets*

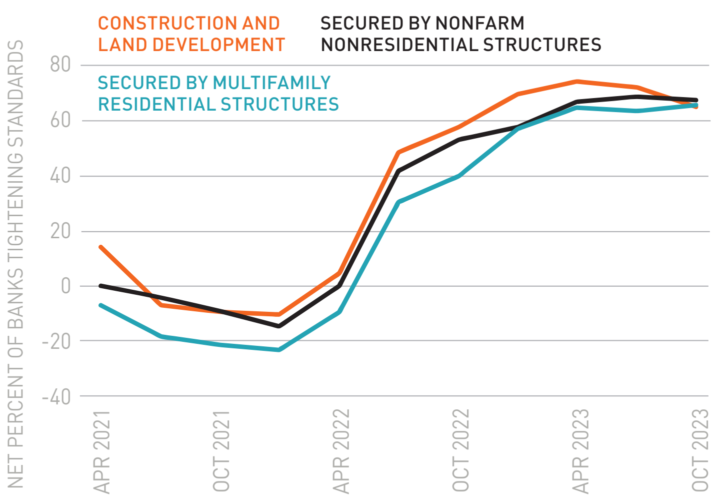
The global rise in interest rates has already reshaped financial conditions, which we see as contributing positively to private credit's rise in 2024. For real assets, tightened lending standards in the US, influenced by early-2023 disruption in the banking sector and ongoing regulatory changes for conventional lenders, highlight the opportunities for private credit to provide clarity and surety in a complex capital markets environment.

*Higher for Longer vs. Higher for How Long?*

The Fed's late 2023 signaling of the likelihood for rate cuts in 2024 is a meaningful pivot, but it does not change that we are in a materially higher rate regime. We see traditional lenders continuing to be cautious and sidelined, paving the way for private credit for real assets to capture value through opportunistic market dislocation.

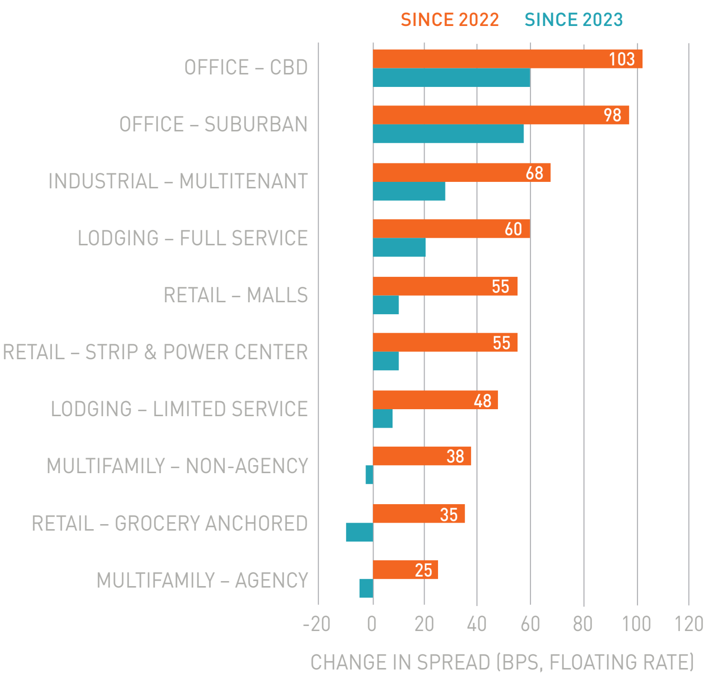
### EXHIBIT 11: BANKS CONTINUE TO PRACTICE SIMILAR LEVELS OF TIGHTNESS IN LENDING STANDARDS

Source: Board of Governors of the Federal Reserve System (US), Senior Loan Officer Opinion Survey (SLOOS), November 2023.



### EXHIBIT 12: LENDING SPREADS HAVE INCREASED SINCE THE BEGINNING OF 2022

Source: Bloomberg, Cushman Senior Mortgage Matrix, as of November 2023.




*Tightening Lending Standards—What It Means for Real Assets*

As public banks tighten lending standards in response to increasing risks and regulatory pressures, we believe this creates a unique opportunity for private real estate debt to fill the gap. While the early-2023 banking sector turmoil was somewhat of a catalyst, a few factors contribute to the relationship between tightening credit conditions and implications for real estate debt. Over recent decades, banks have significantly increased their exposure to CRE. The resetting of asset values broadly compounded existing challenges stemming from high reserve requirements, reduced loan-to-value ratios, and increased regulatory oversight. As we anticipate these conditions to continue, we expect both large and mid-size public banks to maintain or further tighten lending standards in 2024.[17]

It is important, however, to not overstate default risk by placing current conditions in historical context. Despite an observable rise in CRE delinquencies, conditions are meaningfully lower at year-end 2023 than the start of the previous cycle. As of Q2 2023, the delinquency rate on bank commercial real estate mortgage loans was less than 1%, with a charge-off rate of only 0.16%.[18] Comparatively, during the GFC, the delinquency rate was close to 9%, and the charge-off rate was 2.5%.[19] We see this as an indication of secular resilience with resetting values largely embedded in capital markets heading into 2024.

*The Road Ahead: Accelerating Trends for 2024*

In our perspective, significant market shifts over 2023 are gaining momentum with respect to the implications of higher interest rates and tighter credit conditions, which present a unique investment opportunity in private debt markets. For real assets, over the past year there has been a substantial reduction in active public real estate lenders (approximately 20-30%),[20] and alongside the reduction in the number of active lenders, the market has witnessed an increase in spreads, ranging from SOFR plus 220 to SOFR plus 460, depending on asset type.[21] This combination of higher base rates, widened spreads, and potentially more favorable loan terms represent an attractive opportunity set.

Additionally, the looming maturity of over $1 trillion in real estate loans in 2024 and 2025, over 35% of which are multifamily loans, coupled with elevated interest rates, has given lenders increased pricing and negotiating power.[22]

Non-conventional lenders, including private debt funds, have expanded CRE debt holdings at the fastest pace of any lender group since the Fed started the rate hike cycle in Q1 2022, while the volume of maturing CRE loans will continue to accelerate over the next few years. We believe that these trends suggest non-conventional lenders will continue to take market share as a function of both the build-up of maturing mortgages as well as new originations.

The combination of higher base rates, widened spreads, and potentially more favorable loan terms represent an attractive opportunity set.

## CONCLUSION: SEIZING OPPORTUNITIES AND NAVIGATING CHALLENGES IN 2024

In the year ahead, we believe that we are approaching the inflection point for US commercial real estate strategies, ranging from asset-backed credit strategies as well as equity investments in real assets and select business sectors. With the past year's challenges not fully in the rear-view mirror, the focus is on navigating the curves ahead. "Accelerate through the Turn," is not just a theme but a strategy, focusing on seizing the right opportunities rather than trying to time the market.

*What We Like and Why*

The reset in asset values and adjustments to the rate environment open doors to fresh opportunities. We anticipate a wave of opportunistic transactions driven by distressed loans and maturing debt in the CRE sector. These conditions present a compelling opportunity for asset managers who can act with conviction, deploy capital with surety, and quickly adapt to evolving market conditions.

The private credit sector is poised for significant growth. With public banks constrained, private credit providers can tap into what we believe will be robust demand from high quality borrowers and excellent assets. We believe there will be particularly attractive opportunities in sectors like residential rental and logistics, where we see strong demand-driven tailwinds and decelerating supply on the horizon. Moreover, tighter lending conditions are likely to divert higher-quality borrowers towards private credit, giving providers an edge in new originations and portfolio sales.

In the logistics sector, a slowdown in new construction looms, particularly in major coastal markets. However, this deceleration in supply comes at a time of sustained demand, driven by the growth of e-commerce and a reshaping of US supply chains.

While the multifamily sector is set to experience a supply surge, by year-end we anticipate a slowdown in new deliveries will shift supply-demand dynamics into favorable conditions. Further, we anticipate increased demand from a new generation of renters who are likely to experience affordability challenges in the absence of scalable strategies to restore balance across the spectrum of housing choices.

The SFR sector presents a robust outlook for 2024. Driven by strong labor market conditions for key age groups, demographic trends, and barriers in the single-family ownership market, we expect this sector will thrive in its second cycle of institutional expansion.

The strategy is clear: identify and leverage secular tailwinds, focus on high-conviction themes, and navigate through inflection points with conviction.

While the multifamily sector is set to experience a supply surge, by year-end we anticipate a slowdown in new deliveries will shift supply-demand dynamics into favorable conditions.

## ABOUT THE AUTHOR

Jack Robinson, PhD, is Chief Economist and Head of Research for Bridge Investment Group.

## NOTES

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[7] Referencing data from Bloomberg, as of December 2023.

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[13] Referencing data from the Food and Agriculture Organization of the United Nations, FAOSTAT, 2021. US Energy Information Administration, Oil and Petroleum Products Explained, October 2, 2023.

[14] Referencing data from MSCI Real Capital Analytics, Distress Tracker, as of 17 October 2023.

[15] Mortgage Bankers Association, Estimated Total Commercial Mortgage Maturities, March 10, 2023.

[16] Preqin, as of November 29, 2023.

[17] Board of Governors of the Federal Reserve System (US), Senior Loan Officer Opinion Survey (SLOOS), November 2023.

[18] Board of Governors of the Federal Reserve System (US), Charge-Off Rate on Credit Card Loans, All Commercial Banks, November 2023.

[19] Board of Governors of the Federal Reserve System (US), Charge-Off Rate on Credit Card Loans, All Commercial Banks, November 2023.

[20] MSCI Real Capital Analytics, Capital Trends: US Big Picture, August 2023.

[21] Bloomberg, Cushman Senior Mortgage Matrix, as of November 2023.

[22] Trepp Inc. Based on Federal Reserve Flow of Funds Data, as of Q3 2022.

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The strategy is clear: identify and leverage secular tailwinds, focus on high-conviction themes, and navigate through inflection points with conviction.

# LIQUIDITY FREEZE

**Christopher Muoio**
Head of Data & Research
Madison International Realty

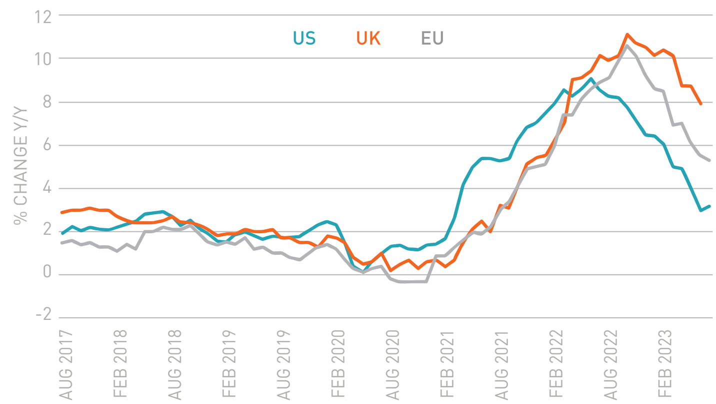
Over the last two years, global central banks have undertaken aggressive monetary policy stances in pursuit of taming the outbreak of inflation that occurred following the COVID-19 pandemic.

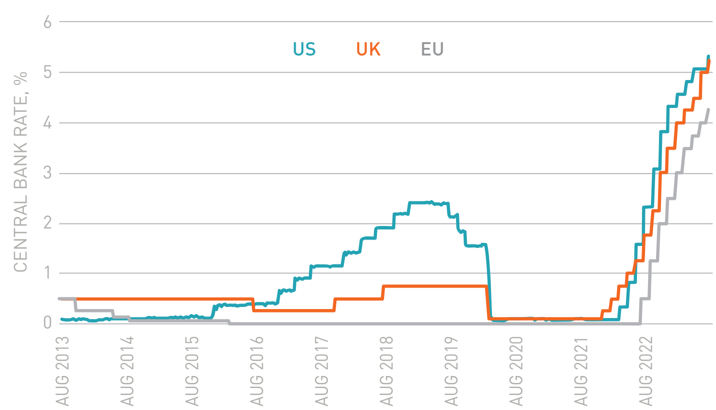
Major central banks such as the Federal Reserve, Bank of England, and European Central Bank have hiked rates at a pace and to levels not seen in decades. On average, the major central banks have hiked rates more than 500BPS in just over 18 months, bringing financing rates to their highest levels since pre-GFC in the US and UK and to their highest level since 2001 in the EU.[1]

While rate hikes and pricing dislocations have frozen CRE liquidity, there is still a significant demand for equity. These conditions create prime vintage for secondary investments.

**EXHIBIT 1: RISING INFLATION CAUSED CENTRAL BANKS TO INCREASE INTEREST RATES**

Source: BLS; Eurostat; ONS; Federal Reserve; Bank of England; European Central Bank




To date, the significant re-pricing of credit has not yet appeared to have a major impact on economic growth, as the major economies have not only avoided recession, but in the case of the US, continue to grow at a strong pace with Q3 2023 GDP growth measuring 4.9%.[2]

However, despite the topline healthy economic backdrop, the commercial real estate (CRE) industry is clearly experiencing its own recession. Looking solely at high-level deal volume metrics, CRE private market transaction activity in the US is at its lowest level since the COVID-19 pandemic onset in 2020, with an average of $93 billion transacting through the first three quarters of 2023. And in the EU, deal volume is at its lowest level since 2012, with an average of $40b per quarter through the first three quarters of 2023.[3]

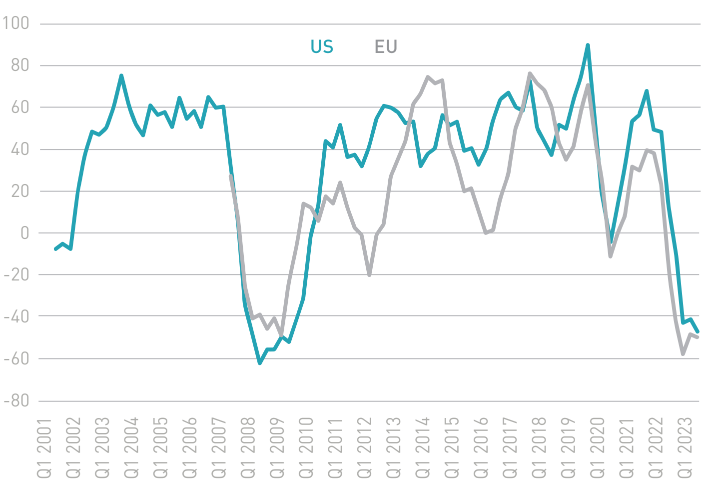
However, Madison believes the extent of the CRE recession is likely much deeper than even these metrics indicate—and is actually on par with what was observed during and following the GFC when incorporating the full mosaic of CRE capital markets data.

Madison's proprietary Liquidity Indices for the US and Europe highlight just how deep the contraction in CRE liquidity and activity has been, with both indices measuring at levels last observed during the GFC for each of the last four quarters. These indices capture data points across a myriad of CRE capital markets including: 1) Private Market Deal Volume and Pricing, 2) Public Markets Performance, 3) CMBS Issuance, and 4) Capital Raising Performance and Trends. The indices are published on a scale of 100 to -100, with figures above 0 indicating improving or healthy CRE conditions and those below 0 indicating the opposite.

As shown in *Exhibit 2*, both the US and EU Liquidity indices currently measure at levels last observed during the GFC and its aftermath. This underscores sthe breadth of the current freeze the new interest rate regime put in place.

## EXHIBIT 2: MIR US AND EU LIQUIDITY INDICES

Source: MIR Research, November 2023




However, investors continue to demonstrate the need for liquidity within the CRE space. Public REITs, which are liquid, have seen their value fall 29% from their peak as of this writing,[4] handily outpacing the decline in less liquid instruments such as private CRE and non-traded REITS (NTRs), as investors have used them as a source of liquidity.

Looking solely at high-level deal volume metrics, CRE private market transaction activity in the US is at its lowest level since the COVID-19 pandemic onset in 2020, with an average of $93 billion transacting through the first three quarters of 2023.

Signs of liquidity strains are also evident in large NTRs such as BREIT and Starwood's SREIT, that began restricting investor redemption requests in November 2022 as their fund-raising levels declined significantly and redemptions requests from investors rose. Through July 2023, NTRs raised just $8.6 billion of capital, well off the average pace of $34 billion per year they raised in each of the two years prior to rate hikes.[5] Capital raising head winds are impacting other real estate vehicles as well, with Delaware Statutory Trusts (DSTs) vehicles designed for 1031 exchange investors, having raised just $2.9 billion through July, falling well below the pace of $9.2 billion raised in 2022.[6]

The CRE market is facing a wave of debt maturities that is also driving demand for liquidity. The US is facing nearly $500 billion in maturing commercial property loans in 2024 alone, with an additional ~$425 billion per year in maturities in the three years that follow, resulting in total maturities of over $1.7 trillion through 2027.[7]

The EU faces a similar cliff of debt maturities, with €235 billion of maturing debt in 2025 and an average €255 billion per year thereafter through 2028, for total maturities of €1 trillion.[8] As interest rates are much higher now than when the debt was issued, Madison believes there will be a significant need for equity and recapitalization of many property and portfolio balance sheets.

While the rate hikes and subsequent pricing dislocations have frozen CRE liquidity, it is clear that across structures and asset classes there is still a significant demand for liquidity and equity. Madison believes that these market conditions are creating a prime vintage for secondary investments as a way to satisfy these acute liquidity and equity needs as they emerge. Secondaries currently account for 2% of total CRE AUM,[9] but Madison believes the time is now for this proportion to grow as they serve as a vital bridge in during periods of liquidity dislocation.

The US is facing nearly $500 billion in maturing commercial property loans in 2024 alone, with an additional ~$425 billion per year in maturities in the three years that follow, resulting in total maturities of over $1.7 trillion through 2027.

It is clear that across structures and asset classes there is still a significant demand for liquidity and equity.

## ABOUT THE AUTHOR

Christopher Muoio is Head of Data and Research for Madison International Realty.

## NOTES

[1] Federal Reserve, Bank of England, European Central Bank via Bloomberg, November 2023

[2] Bureau of Economic Analysis via Bloomberg, November 2023

[3] Real Capital Analytics, www.rcanalytics.com, November 2023

[4] MSCI RMZ Index, Bloomberg, November 2023

[5] Stanger Market Pulse, July 2023

[6] Mountain Dell Consulting, 1031 DST/TIC Markey Equity Update, August 2023

[7] Real Capital Analytics, www.rcanalytics.com, April 2023

[8] Green Street, September 2023

[9] Preqin, August 2023

# SUPPLY WAVE

**Sabrina Unger**
Managing Director, Research and Strategy
American Realty Advisors

**Britteni Lupe**
Associate, Research and Strategy
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# Anticipated moderation in new developments and the positive outlook for rent growth signal a more balanced multifamily market. Until then, investors should maintain a strategic and long-term perspective.

Multifamily has remained a staple in most investors' US portfolios, and with good reason. Unlike other property types whose basic function may evolve with changing market dynamics or technological advancements, multifamily properties consistently satisfy a fundamental human need for housing.

Today, this need is complemented by a for-sale market marked by low inventory and high prices, providing some resiliency against an otherwise uncertain investment backdrop. Even still, the sector has its growing pains. Multifamily deliveries for 2023, on an absolute basis, set high water marks in many markets, and projects under construction suggest another meaningful year of new supply into 2024. Assuredly the next year and a half will challenge investors' commitment to the sector, but a closer look at historical development cycles suggests there is reason for optimism in the medium term.

To fully understand the context of the latest supply wave in the multifamily market, this analysis measures the volume of incoming units relative to each market's existing inventory, expressed as a percentage. This method provides a contextualized view of supply impacts on local fundamentals, compared to how an exclusive focus on the absolute number typically masks these impacts, allowing for consistent comparisons across markets. The effect of adding a thousand new units in a market with only one thousand existing units (an addition of 100%) is likely to be materially different than adding the same number into a market of ten thousand existing units (where the new supply represents the addition of 10% of inventory).

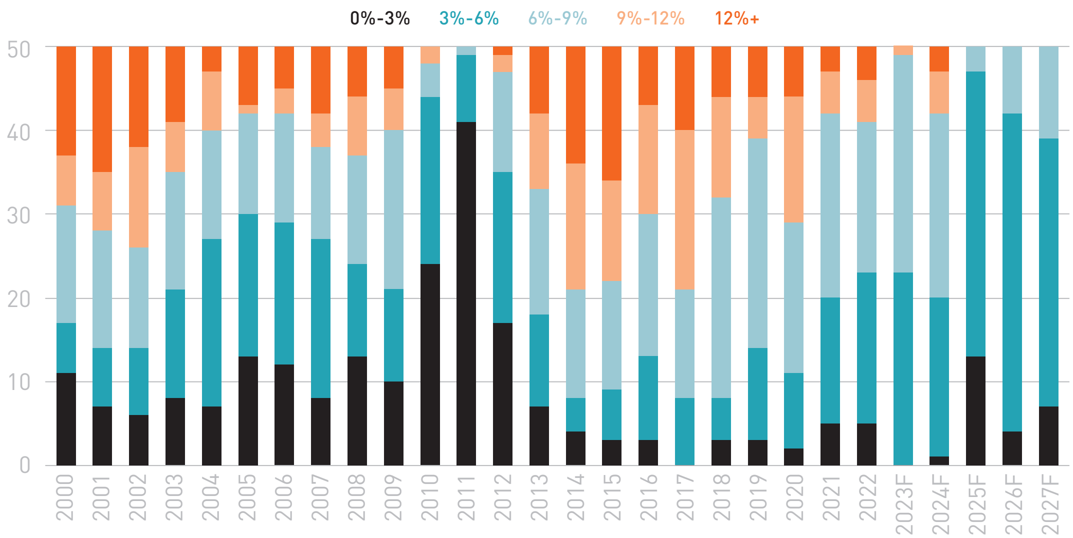
## CURRENT AND FUTURE WAVES

Though the current wave of new supply represents a peak regardless of an absolute or relative evaluative lens, it otherwise seems to fit a very logical and routine national supply cycle.

A detailed look into the supply data from 2000 to 2027—inclusive of a five-year forecast period—underscores this point. During the four-year period from 2014 to 2017, more than half of the top fifty US markets experienced an increase in their inventory of 9% or more; a scale comparable to the current situation where 68% of markets are seeing similar levels of supply growth *(Exhibit 1)*. A similar trend of heightened supply growth is also evident in 2001 and 2002, suggesting that such surges in supply are typical occurrences within the multifamily sector.

### EXHIBIT 1: TOP 50 MARKETS BY PERCENT OF EXISTING INVENTORY BEING ADDED (2000–2027F)

Source: American Realty Advisors, based on data from CoStar as of November 2023. F=forecast.




In periods marked by significant supply increases, a subsequent reduction in construction activity typically follows. This cyclical ebb and flow becomes clear when noting that, after each surge, the number of markets with robust supply growth exceeding 9% of existing inventory dwindled to fewer than 12. At the same time, the number of markets experiencing more subdued supply growth—specifically, increases of 6% or less relative to existing inventory—rose to encompass nearly half of major markets in tandem.

The forecasts from this present analysis for 2025 through 2027 align with this historical pattern, predicting a similar pullback in new multifamily developments following the surge in 2023 and 2024. By 2025, 47 of 50 markets are expected to reduce their development pipelines to 6% or less of existing inventory, with this trend projected to continue in 2026 (42 markets) and 2027 (39 markets). The anticipated moderation in development activity across this broad swath of the national apartment landscape is likely to stabilize supply levels and jumpstart a return to more balanced market fundamentals.

Multifamily permitting activity is anticipated to contract by 17.3% this year, falling a further 17.5% in 2024 and flat in 2025.

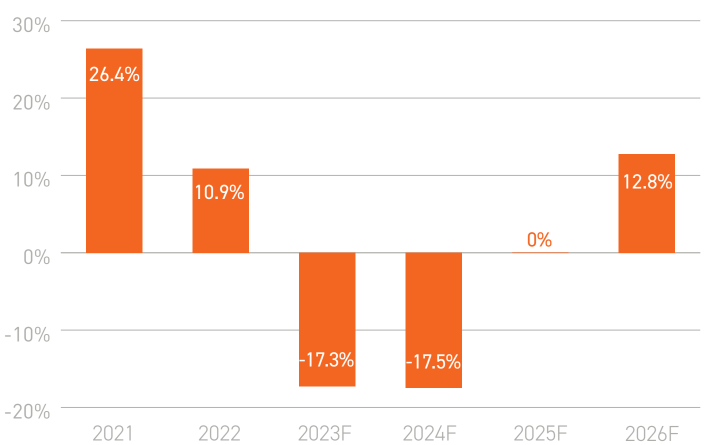
## DETAILING THE CONSENSUS VIEW

Recent permitting data supports the forecasted decline in deliveries from 2025 to 2027. Multifamily permitting activity is anticipated to contract by 17.3% this year, falling a further 17.5% in 2024 and flat in 2025 *(Exhibit 2)*.

Considering that permitting typically precedes multifamily development by an average of seventeen months, this pattern in contracting activity bolsters the credibility of forecasts anticipating a reduction in supply pipelines in the outer years.[1] This is good news for multifamily asset holders, as it signals a period of less aggressive supply growth, allowing for the existing inventory to be more fully absorbed and potentially leading to a more predictable and manageable market environment.

### EXHIBIT 2: MULTIFAMILY PERMITTING ACTIVITY; YEAR-OVER-YEAR CHANGE (2021–2026)

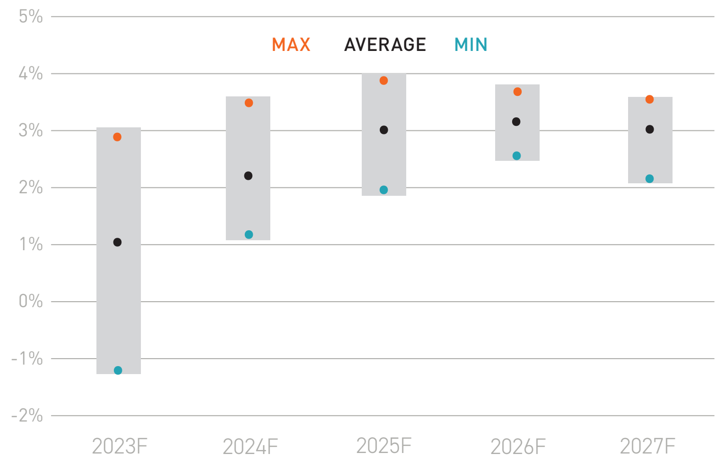
Source: American Realty Advisors, based on data from John Burns Real Estate Consulting as of November 2023. F=forecast.




While a 6% average market-wide addition may not seem like a meaningful enough reduction to be conducive to rent growth, the data shows that this has been a fairly healthy level. On average, 32 of 50 markets, or 64% of markets, experience an average annual growth rate of 6%–9% to their inventories in a given year over the long term. This suggests that a 6–9% stock addition reflects general market stasis and is generally supportive of fundamentals.

### EXHIBIT 3: COMPREHENSIVE RENT GROWTH FORECAST COMPARISON (2023–2027)

Source: American Realty Advisors, based on data from CoStar, CBRE-EA, Yardi Matrix and Green Street Advisors as of November 2023. F=forecast.




The consensus view is for this relative improvement in delivery pipelines to create an upswing in and a generally more convicted outlook for rent growth—another point for the pro-multifamily camp. Even with three quarters of hard data at forecasters' disposal as of the time of this writing, the volume of supply and challenge in anticipating its full effects created materially different views of where full-year rent growth would land for 2023.

The spread between the most optimistic and most pessimistic views is considerable, denoting a 411-basis point possibility range *(Exhibit 3)*. Wider outcome bands denote greater uncertainty, which tends to influence sentiment; but there is reason to believe the future looks brighter. From 2024 onwards, the gap between the highest and lowest forecasts begins to close. This general alignment among providers demonstrates a collective confidence in the market's resilience and future direction that should help calm jittery nerves. While it's unlikely we will see the anomalously high rent growth levels recorded in 2021 and 2022 repeated, the consensus is that rent growth will recover and return to more normal, sustainable levels.

## LOOKING FORWARD

As we navigate the current multifamily landscape, it's clear that the market is undergoing a period of adjustment. It's important for investors to remember that the current surge in multifamily supply, while significant, is part of a cyclical market phase presenting both challenges and opportunities. History has shown that the multifamily sector is resilient, capable of adapting to and absorbing fluctuations in supply. While some markets may temporarily experience oversupply, this is largely a transient stage in the broader market cycle.

Looking forward, the anticipated moderation in new developments and the positive outlook for rent growth signal a return to a more balanced multifamily market. Until then, investors should be encouraged to maintain a strategic and long-term perspective. The multifamily market is on a path to stabilization and growth, and those who navigate this phase with patience and insight may be well positioned for the future.

Looking forward, the anticipated moderation in new developments and the positive outlook for rent growth signal a return to a more balanced multifamily market.

## ABOUT THE AUTHORS

Sabrina Unger is Managing Director, Research and Strategy, and Britteni Lupe is Associate, Research and Strategy, for American Realty Advisors.

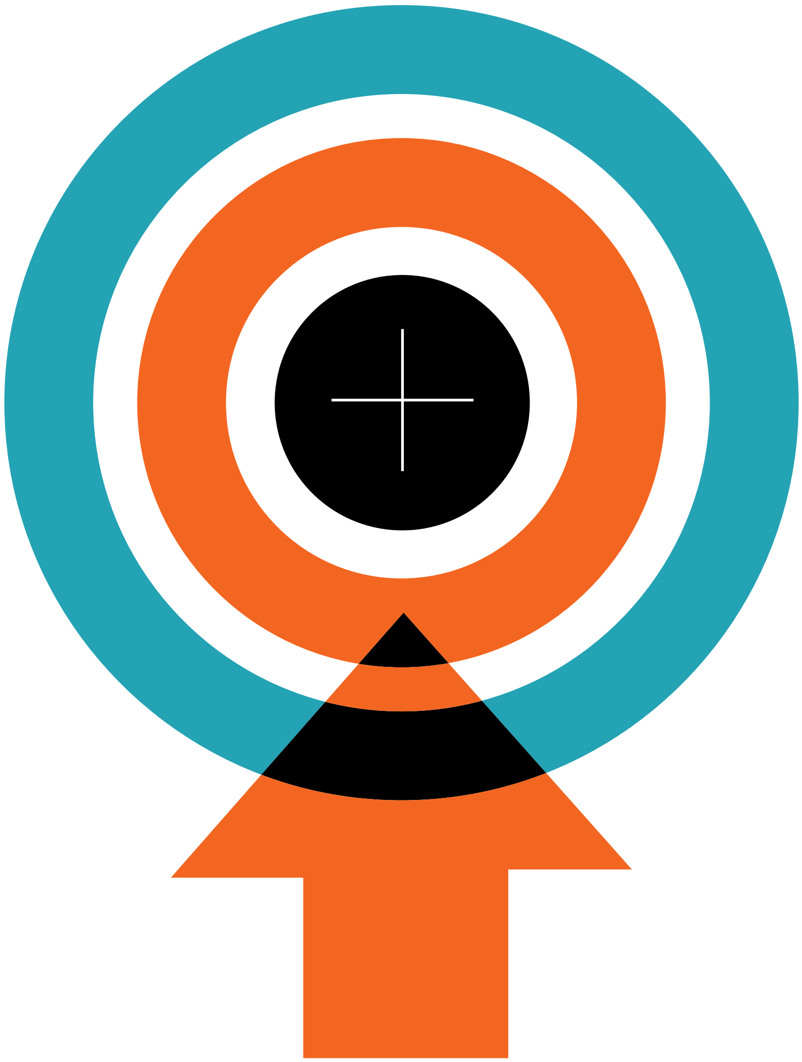
## NOTES

[1] National Association of Home Builders. "Cautious Optimism for Builders in February." NAHB Press Releases. February 2023. https://www.nahb.org/news-and-economics/press-releases/2023/02/cautious-optimism-for-builders-in-february. Accessed January 30, 2024.

History has shown that the multifamily sector is resilient, capable of adapting to and absorbing fluctuations in supply.

The multifamily market is on a path to stabilization and growth, and those who navigate this phase with patience and insight may be well positioned for the future.

# MANAGE WHAT YOU MEASURE



**Gleb Nechayev**
Head of Research and Chief Economist
Berkshire Residential Investments

**Webster Hughes, PhD**
Managing Director
ThirtyCapital

# When it comes to market and asset selection, greater availability of property-level operational data and sophisticated tools to measure, analyze, and predict it (including AI) can help address key questions.

In the environment of rising cap rates, growth in net operating income (NOI) is a key driver of property value and ultimately overall investment return. NOI growth is, in turn, a function of growth in revenues and expenses, whose respective impacts determine and explain variation in operational performance across geographic markets, multifamily subtypes, and individual assets.

Historically, much of real estate research focused on analyzing the revenue side of the NOI equation while the expense side was more of an afterthought. Both property valuations and underwriting proformas often simply assume that over a typical holding period, operating expenses tend to keep up with consumer price inflation, or more simply just average 3-4%.

But the reality is quite different.

For example, in the case of higher-quality institutional-grade apartment properties in NCREIF portfolios, same-store expense growth has exceeded inflation over the last five-, ten-, fifteen-, and twenty-year periods. Similar dynamics can be observed in the much broader universe of properties captured by multifamily CMBS data. Moreover, average expense growth was slightly ahead of revenues over the last five years, and it appears this will also be the case in 2023 and likely 2024. This will put pressure on NOI growth and margins, and we see from the data that the impact varies widely across markets, subtypes, and assets.

## LEANING ON HISTORICAL ANALYSIS

Both the headline numbers and these wide variations are essential to consider when underwriting future expense growth. Investors should also pay close attention to the expense loads and performance across the various operating statement line-items (i.e., taxes, payroll, utilities, maintenance, insurance etc.). Each of these line-items have their own specific drivers and in aggregate determine the total expense load, growth, and the subsequent impact on NOI.

As revenue growth slows in the near-term, property owners' ability to control and reduce expenses becomes a key differentiator in achieving proforma assumptions and ultimately cushioning the impact of higher interest rates on property values. The first step to effectively managing various risks associated with expenses is measuring their magnitudes and variation of its impacts across markets, subtypes, and individual assets. This understanding of historical trends is the essential starting point for investors and asset managers for benchmarking individual property performance, establishing more informed and realistic budgets and underwriting assumptions when making buy/sell decisions.

Why is historical trends analysis key to all this? Consider this question when managing your 401K. Suppose your financial advisor did not know long-term total returns on stocks, or historical magnitudes of annual changes, or how growth stocks perform relative to dividend stocks, and so forth. How could you possibly make good investment decisions without this knowledge? You would be lost!

The same logic applies to property investment. What were property investment returns in the past? How did they vary over a multi-year holding period—and why? How much do location and property characteristics impact this variation? Historical performance helps shed light on these and other considerations which provide the foundation for constructing a coherent investment plan, even things as basic as how much it typically costs to run a typical property in each market.

## PERSISTENT EXPENSE PRESSURE IN 2023

The usually boring subject of expenses started to get more attention in 2022 as the economy was experiencing the highest inflation in forty years. While much of the attention focused on unprecedented apartment revenue growth, expenses grew even faster, and this pattern has become even more pronounced in 2023 as market fundamentals moderated substantially at the same time as cost pressures edged even higher.

The good news is that as broader inflation moderates, expenses will likely follow – but that might take some time. The major expense categories such as taxes and payroll are still accelerating, even though their rates of growth may not be as high compared to a much smaller category, such as insurance, which already increased by a third in 2023, more than doubling the pace of 2022 and the five-year trailing average.

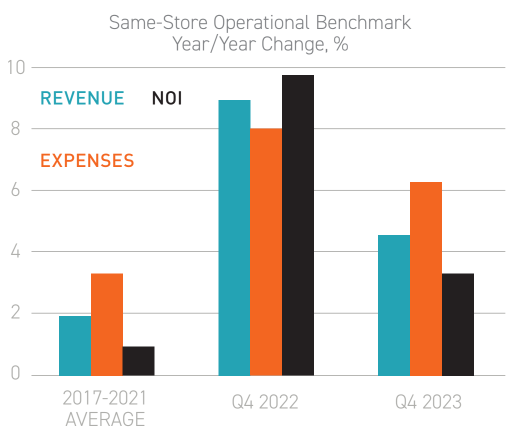
This acceleration in expense growth in 2023 is a broad-based trend nationally, but there remains a wide variation across geographic markets and multifamily subtypes. For example, year-over-year expense growth for institutionally owned garden apartments is about 11% compared to 7% for high-rise properties, which helps explain why the latter segment is now slightly ahead in terms of NOI growth, even as it still lags on revenues.

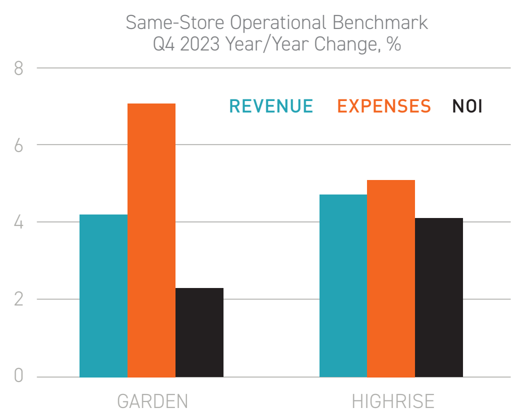
Regionally, expense momentum remains more pronounced across the Sunbelt region, which was already leading this trend last year. Expenses are up about 15% year-over-year in Florida markets from about 9% in 2022 due to outsized increases not only in insurance but also taxes and property management/maintenance. In general, areas with tighter labor market conditions are seeing the dual impact as higher wage growth boosts not only rents but also payroll costs.

The acceleration in expense growth in 2023 is a broad-based trend nationally, but there remains a wide variation across geographic markets and multifamily subtypes.

### EXHIBIT 1: SAME-STORE OPERATIONAL BENCHMARK YEAR-OVER-YEAR CHANGE, AND Q4 2023 YEAR-OVER-YEAR CHANGE

Sources: BLS, NCREIF, Berkshire Research



To better understand and explain how expense trends vary across the entire apartment market rather than just its higher-quality institutionally owned segment, we examined operating statements for all multifamily loans in the CMBS universe that reported full calendar year results for 2022 and 2021. The table in *Exhibit 2* summarizes 2022 changes in revenue, expense, and NOI across 8,734 properties in thirty metro areas, with each having at least a hundred year-over-year property observations and together accounting for about 80% of all multifamily properties nationally that provided their operating statements last year. The prototypical apartment property in this data set had 117 units and average monthly revenue of $1,512 per unit.

## EXHIBIT 2: MARKET REVENUE AND EXPENSE COMPARISONS

Sources: Freddie Mac, ThirtyCapital, Berkshire Research

| | | | | | | | 2022/2021 CHANGE, % | | |
|---|---|---|---|---|---|---|---|---|---|
| MARKET | REGION | PROPERTIES | UNITS | UNITS/ PROPERTY | REVENUE/ UNIT, $ | EXPENSE LOAD, % | REVENUE | EXPENSES | NOI |
| Tampa | South | 141 | 33,401 | 237 | 1,431 | 45.6 | 14.4 | 12.1 | 16.4 |
| Miami | South | 270 | 28,422 | 105 | 1,805 | 43.7 | 12.3 | 12.0 | 12.5 |
| Atlanta | South | 298 | 61,572 | 207 | 1,390 | 45.0 | 10.3 | 11.9 | 9.0 |
| Orlando | South | 112 | 27,964 | 250 | 1,447 | 41.5 | 13.2 | 11.6 | 14.3 |
| Phoenix | West | 239 | 41,295 | 173 | 1,398 | 34.1 | 13.1 | 11.5 | 14.0 |
| Charlotte | South | 105 | 20,375 | 194 | 1,297 | 40.3 | 11.1 | 11.5 | 10.9 |
| Minneapolis | Midwest | 193 | 14,936 | 77 | 1,356 | 49.2 | 3.6 | 11.2 | -2.9 |
| Denver | West | 298 | 42,028 | 141 | 1,575 | 37.1 | 8.6 | 11.0 | 7.3 |
| Riverside | West | 123 | 17,410 | 142 | 1,710 | 38.1 | 8.0 | 10.4 | 6.5 |
| Austin | South | 105 | 18,430 | 176 | 1,384 | 50.9 | 10.7 | 10.4 | 11.0 |
| Las Vegas | West | 128 | 26,911 | 210 | 1,306 | 37.1 | 10.7 | 10.3 | 11.0 |
| Boston | Northeast | 163 | 13,693 | 84 | 2,066 | 40.6 | 9.2 | 9.9 | 8.7 |
| San Antonio | South | 128 | 25,720 | 201 | 1,185 | 51.6 | 8.9 | 9.2 | 8.7 |
| Washington, DC | South | 253 | 53,543 | 212 | 1,697 | 44.7 | 6.0 | 9.2 | 3.5 |
| Kansas City | Midwest | 148 | 20,922 | 141 | 1,063 | 48.7 | 7.7 | 9.0 | 6.5 |
| Philadelphia | Northeast | 258 | 38,537 | 149 | 1,500 | 44.0 | 7.0 | 9.0 | 5.6 |
| Baltimore | South | 143 | 27,847 | 195 | 1,481 | 44.7 | 4.8 | 9.0 | 1.6 |
| Columbus | Midwest | 132 | 23,156 | 175 | 1,153 | 45.3 | 9.7 | 8.9 | 10.4 |
| Chicago | Midwest | 607 | 40,450 | 67 | 1,454 | 47.4 | 7.6 | 8.4 | 6.9 |
| Cincinnati | Midwest | 129 | 15,270 | 118 | 1,053 | 43.0 | 8.3 | 8.3 | 8.3 |
| Dallas | South | 501 | 101,816 | 203 | 1,325 | 51.0 | 10.2 | 8.2 | 12.5 |
| Los Angeles | West | 1,167 | 70,769 | 61 | 2,025 | 36.4 | 7.6 | 8.1 | 7.3 |
| Portland | West | 258 | 22,688 | 88 | 1,492 | 37.6 | 7.4 | 7.9 | 7.0 |
| Detroit | Midwest | 146 | 24,510 | 168 | 1,099 | 45.6 | 6.7 | 7.9 | 5.7 |
| San Diego | West | 180 | 15,978 | 89 | 2,107 | 36.8 | 8.8 | 7.6 | 9.5 |
| Houston | South | 340 | 64,238 | 189 | 1,189 | 52.7 | 6.8 | 7.5 | 5.9 |
| Cleveland | Midwest | 108 | 13,319 | 123 | 1,096 | 49.1 | 8.0 | 7.4 | 8.7 |
| San Francisco | West | 245 | 12,209 | 50 | 2,184 | 42.0 | 5.1 | 6.3 | 4.2 |
| Seattle | West | 405 | 30,275 | 75 | 1,716 | 38.8 | 9.4 | 5.4 | 12.0 |
| New York | Northeast | 1,411 | 72,431 | 51 | 1,948 | 45.5 | 6.4 | 5.1 | 7.6 |
| **Total** | | **8,734** | **1,020,115** | **117** | **1,512** | **44.1** | **8.8** | **9.0** | **8.6** |

Even before getting into the details of multiple expense line items, one should note that both overall expense growth and expense loads (ratios of expenses to property revenues) vary widely across markets.

There was only moderate (55%) correlation between revenue growth and expense growth across markets, and in many cases above-average revenue growth was still accompanied by below-average expense growth or vice versa. Minneapolis was the most extreme example, as the only major market where average NOI growth turned negative due to expense inflation running well ahead of revenues. This impact was further exacerbated that Minneapolis also had had above-average expense load, which made its rising pressure even more pronounced.

## LINE ITEMS MATTER

Depending on how they are being accounted for, operating expenses for apartment properties are typically grouped and reported as 8-10 major line items, such including property taxes, maintenance, payroll, repairs, utilities, management fees, marketing, and other.

Taxes are by far the largest component, accounting for about 26% of the total expense for a typical multifamily property in the CMBS universe and 31% of the total for a typical institutionally owned multifamily property. Share of the total expense accounted by taxes does vary widely across markets however and that is also the case with all other line items. As a result, even the same change in a line item can have a different impact on the total, depending on a market. But changes in line items also vary widely across markets as the table below illustrates.

While changes in individual line items are indeed correlated with the total across markets all and each of them need to be considered to explain the variation in overall expense inflation. Changes in line items such as taxes and payroll do tend to matter more due to their share of the total, but others can be very significantly too, depending on their trends each year. In the case of Minneapolis, for example, surging utility costs were one of the key drivers behind the total expense inflation in 2022.

### EXHIBIT 3: EXPENSE COMPOSITION AND CHANGES

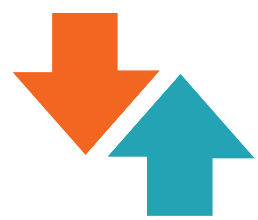
* based on full calendar year data.
Sources: NCREIF, Berkshire Research.

| | AVERAGE ANNUAL CHANGE*, % | | | | |
|---|---|---|---|---|---|
| EXPENSE | 2023 % TOTAL | 2023 | 2022 | 2018-22 AVERAGE | 2013-22 AVERAGE |
| Taxes | 31.4 | 3.7 | 2.9 | 3.1 | 4.6 |
| Maintenance | 16.8 | 9.5 | 10.8 | 5.1 | 4.9 |
| Administrative | 16.7 | 7.9 | 3.1 | 3.1 | 3.2 |
| Utilities | 10.4 | 5.8 | 9.7 | 4.1 | 2.8 |
| Insurance | 7.0 | 33.5 | 16.5 | 14.8 | 6.7 |
| Other | 6.7 | 11.3 | 3.4 | 1.4 | 1.1 |
| Management Fee | 6.7 | 5.8 | 11.4 | 3.6 | 3.1 |
| Marketing | 4.1 | -0.9 | 1.0 | 0.0 | 0.9 |
| **Total** | **100.0** | **7.7** | **6.1** | **3.8** | **3.7** |

### EXHIBIT 4: EXPENSE CHANGES ACROSS MARKETS

Sources: Freddie Mac, ThirtyCapital, Berkshire Research.

| | 2022/2021 CHANGE, % | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| MSA | TOTAL | TAXES | PAYROLL | UTILTS | REPRS | INSUR | MGMT | OTHER |
| Tampa | 12.1 | 5.0 | 11.3 | 12.1 | 6.5 | 22.0 | 16.5 | 28.5 |
| Miami | 12.0 | 6.6 | 8.6 | 9.4 | 13.1 | 37.1 | 13.1 | 11.2 |
| Atlanta | 11.9 | 10.2 | 6.3 | 7.3 | 15.4 | 22.4 | 8.1 | 28.9 |
| Orlando | 11.6 | 9.6 | 9.5 | 7.9 | 10.9 | 20.4 | 12.6 | 18.3 |
| Phoenix | 11.5 | 2.0 | 7.3 | 8.6 | 17.9 | 18.5 | 13.9 | 24.6 |
| Charlotte | 11.5 | -1.8 | 10.0 | 5.9 | 20.2 | 18.6 | 10.3 | 33.6 |
| Minneapolis | 11.2 | 3.0 | 10.3 | 24.0 | 10.8 | 11.3 | 3.1 | 28.2 |
| Denver | 11.0 | 7.1 | 10.2 | 14.7 | 10.3 | 11.1 | 6.8 | 18.1 |
| Riverside | 10.4 | 4.8 | 10.6 | 9.2 | 10.6 | 14.9 | 7.0 | 29.9 |
| Austin | 10.4 | 3.7 | 10.4 | 11.0 | 15.0 | 16.5 | 10.2 | 24.6 |
| Las Vegas | 10.3 | 5.0 | 7.6 | 8.3 | 22.3 | 8.5 | 12.2 | 10.9 |
| Boston | 9.9 | 1.3 | 9.3 | 15.3 | 7.4 | 8.0 | 14.2 | 25.2 |
| San Antonio | 9.2 | 3.0 | 5.5 | 9.5 | 11.4 | 16.7 | 6.5 | 30.3 |
| Washington, DC | 9.2 | 3.0 | 3.7 | 8.3 | 7.2 | 14.5 | 5.2 | 42.2 |
| Kansas City | 9.0 | 6.2 | 8.1 | 6.3 | 16.6 | 18.1 | 7.6 | 4.1 |
| Philadelphia | 9.0 | 6.9 | 9.7 | 13.0 | 3.4 | 7.9 | 7.4 | 16.5 |
| Baltimore | 9.0 | 1.0 | 4.1 | 5.2 | 16.4 | 26.6 | 6.4 | 28.1 |
| Columbus | 8.9 | -2.5 | 11.9 | 9.4 | 11.2 | 15.6 | 9.1 | 25.3 |
| Chicago | 8.4 | 6.3 | 10.5 | 9.6 | 1.2 | 14.6 | 7.4 | 15.1 |
| Cincinnati | 8.3 | 1.2 | 9.2 | 9.7 | 14.6 | 11.3 | 8.6 | 7.9 |
| Dallas | 8.2 | 2.2 | 7.5 | 9.7 | 9.6 | 16.4 | 9.4 | 19.8 |
| Los Angeles | 8.1 | 3.8 | 2.2 | 9.5 | 15.0 | 8.1 | 9.0 | 16.6 |
| Portland | 7.9 | 3.0 | 9.5 | 6.6 | 16.5 | 10.1 | 6.8 | 8.9 |
| Detroit | 7.9 | 1.5 | 10.8 | 8.5 | 12.6 | -0.3 | 5.0 | 15.2 |
| San Diego | 7.6 | 5.6 | 4.8 | 7.4 | 7.5 | 22.0 | 10.3 | 9.7 |
| Houston | 7.5 | -0.4 | 5.0 | 11.4 | 9.9 | 26.2 | 5.6 | 14.6 |
| Cleveland | 7.4 | 9.9 | 2.1 | 2.2 | 11.1 | 17.0 | 8.0 | 11.6 |
| San Francisco | 6.3 | 3.5 | 4.7 | 8.0 | 17.2 | 21.8 | 4.7 | -4.1 |
| Seattle | 5.4 | -1.1 | 6.1 | 5.4 | 13.3 | 7.6 | 12.0 | 8.1 |
| New York | 5.1 | 2.1 | 5.5 | 10.9 | 2.4 | 10.9 | 6.4 | 4.8 |
| **Total** | **9.0** | **3.7** | **7.2** | **9.6** | **11.1** | **15.8** | **8.7** | **19.1** |



Of course, how each line-item changes in turn depends on both the macro trends and how those trends might be impacting various regional markets or types of assets. Utility expenses experienced high growth last year largely due to rising prices of electricity, piped gas, and oil. Nationally, the price of electricity per kilowatt hour grew by 4.4% in 2021 and 12.8% in 2022, compared to the historical (2001–2020) average of 2.2%. The price of piped gas per therm increased by 18.2% in 2021 and 26.7% in 2022, versus the historical average of 2.1%. Gasoline prices increased by 39.7% in 2021 and 33.8% in 2022, versus the historical average of 3.0%.[1]

Payrolls also grew more than in prior years as the tightening labor market boosted wages. Nationally, average hourly earnings in the private sector increased by 4.9% in 2021 and 6.4% in 2022, well above the historical average of 3.0%.[2] Stronger economic conditions in parts of the country including the Sunbelt region, led to much higher wage growth in those areas.

Insurance-related expenses grew at record pace as incidents and costs of severe climate/weather disasters (with combined insured losses over $1 billion) continued to rise, pushing premiums higher. There were twenty such events reported in 2021 and eighteen in 2022, with combined insured losses of $159 billion and $172 billion, respectively, compared to the 2001–2020 period, which averaged eleven events and $83 billion in insured losses per year.[3] Furthermore, negative returns for both stocks and bonds in 2022 also made operating environment for insurers and their re-insurers challenging from the capital reserves perspective, contributing to the hardening market.

For the higher quality institutionally owned apartments, insurance costs were still accelerating in the first half of 2023 at an annual pace of 29%, or twice the pace of the 2022 annual average over the prior five years. These increases are even more dramatic in states such as Florida, which is viewed as increasingly riskier from the property insurance perspective. The impact of rising insurance expense has become more pronounced over the last few years, and while its share of the total is still relatively small compared to other major line items, it is now more than twice of what it was in 2018.

Change in taxes—by far the largest expense for apartments—is a function of changes in property values and tax rates, and both drivers are greatly impacted by the broader macro trends, such as fundamentals, capital markets environment, and fiscal health of state and local finances.

As these factors interact, they do tend to impact changes in property taxes with some lag, however (i.e., sharp drops in property values that took place in 2009 did not show up as decline in tax expenses in 2010 and the subsequent strong recovery in values that took place in 2012 did not show up as a spike in tax expenses until 2013). The most recent surge in values that took place in 2022 has started to be reflected in higher tax expense growth in 2023.

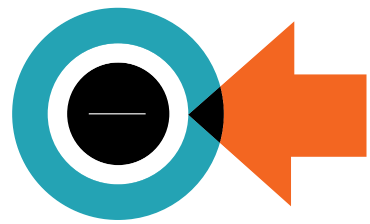
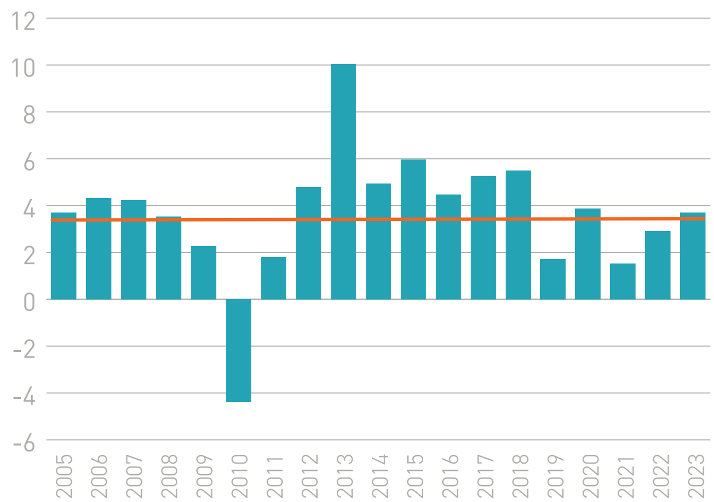


**EXHIBIT 4: PROPERTY TAXES, YEAR-OVER-YEAR CHANGE**

Sources: NCREIF, Berkshire Research



While it does appear that rising expenses will continue to pressure on apartment NOI growth in the near term, some of them, such as payroll and utilities, are likely to start moderating—at least judging by the current trajectories in energy and labor costs. Insurance expenses should also rise much less as so far this year cumulative insurance losses being less than a third of those incurred in 2022.

And on the tax front, recent drops in apartment values should help ease that burden too (if tax rates don't change). Of course, whether that assumption holds also ultimately depends on the ability of local governments generate sufficient revenues, especially as office real estate becomes less viable and reliable source. With a record wave of new apartment properties expected to be completed over the next two years, many of them could face above-average tax increases as has been the case in 2022 and historically.

To make better decisions and have more realistic underwriting, apartment investment, owners, as well as their lenders need to pay close attention not only to variation in rent and occupancy trends across markets and property sub-types, but also expenses.

## TAKEAWAYS

There are two main practical take-aways stemming from our analysis. First, to make better decisions and have more realistic underwriting, apartment investment, owners, as well as their lenders need to pay close attention not only to variation in rent and occupancy trends across markets and property sub-types, but also expenses. In the environment when expenses are rising ahead of revenues initial proforma assumption could make a difference between a current or delinquent loan.

Second, to understand the above variation in the total expense change more fully one must consider that all major line items matter for the overall picture and both their shares of the total and changes ultimately impact the overall result. Furthermore, changes in these line items can and should be evaluated in the context of broader macro trends affecting them.

Greater availability of property-level operational data and sophisticated tools to measure, analyze, and predict it (including AI) can help address key questions not only with regards to revenue but also expense side of property operations as well as portfolio construction when it comes to market and asset selection decisions.

## ABOUT THE AUTHORS

Gleb Nechayev is Head of Research and Chief Economist for Berkshire Residential Investments. Webster Hughes, PhD, is Managing Director for ThirtyCapital.

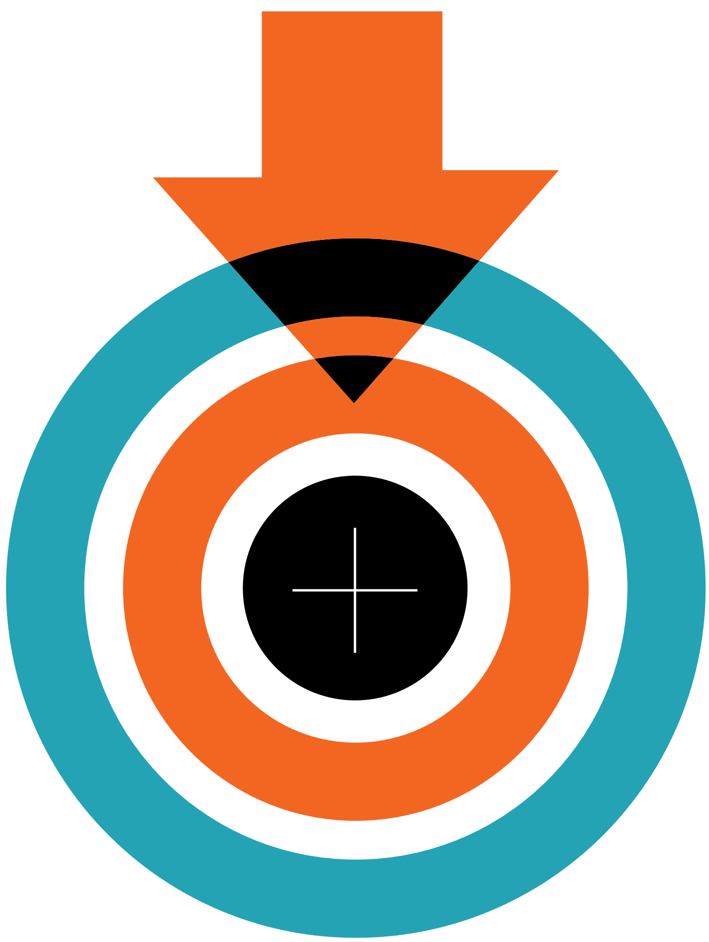
## NOTES

[1] U.S. Bureau of Labor Statistics. https://www.bls.gov/.

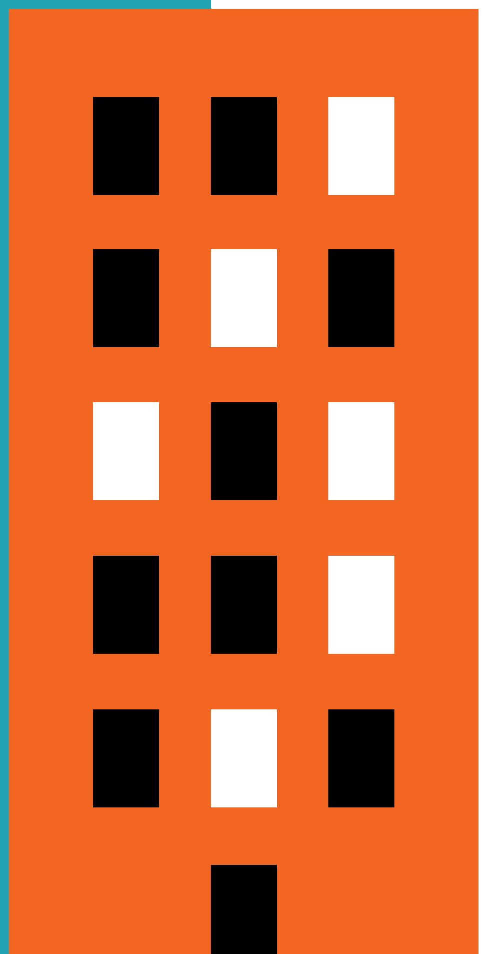
[2] U.S. Bureau of Labor Statistics. https://www.bls.gov/.

[3] National Centers for Environmental Information (NCEI). https://www.ncei.noaa.gov/.

Greater availability of property-level operational data and sophisticated tools to measure, analyze, and predict it (including AI) can help address key questions not only with regards to revenue but also expense side of property operations as well as portfolio construction when it comes to market and asset selection decisions.



# PARSING OFFICE DISTRESS



**Dags Chen, CFA**
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# Without a framework that considers the causal factors underpinning the current office market dislocation, investors are left sifting through millions of square feet of office space in search of the right property.

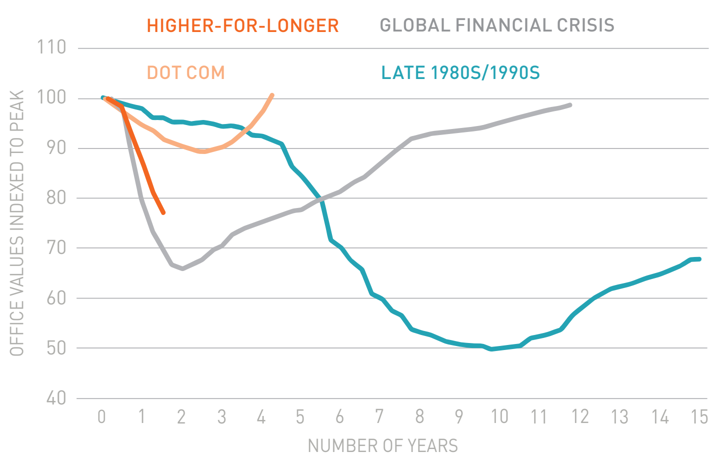
The tide of investor sentiment has turned definitively against the office sector. Publicly traded office REIT share prices have fallen by 44% from March 2022 through December 2023, portending further declines for private valuations, which were down an estimated 30% over the same period.

While office utilization has slowly crept back up following the pandemic, it is still short of where it was prior to COVID. Office downturns can take years to play out, as the industry experienced during the late 1980s to early 1990s Savings and Loan Crisis (S&L). The GFC and dot-com downswings lasted slightly more than two years, and the current higher-for-longer dislocation has lasted almost two years.

However, in no prior downturn has office faced such an existential threat due to remote work. Additionally, there are few indications of a "bottom" to office values presently, and even once values stabilize, the prospective recovery would still be tenuous.

**EXHIBIT 1: OFFICE DOWNTURNS AND RECOVERIES TAKE YEARS TO UNFOLD**

Source: NCREIF; as of Q3 2023




New office leasing generally necessitates significant capital outlay on the part of the owner. This is in the form of tenant improvements by which space is reconfigured to accommodate the tenant's space needs and preferences. Tenant improvements are an upfront cost to the owner that is usually amortized over the lease term. However, in the post-pandemic era, tenants are more inclined to downsize their space footprint while landlords, faced with weakening demand, are understandably hesitant to accommodate tenant improvements—especially given the spike in construction costs.

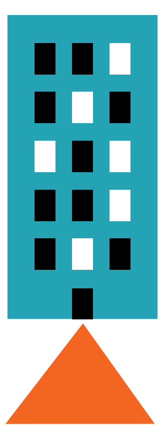
Debt costs were accretive to office values when the Fed Funds rate was near zero. However, with the policy rate above 5% and lenders averse to increasing their office exposure, financing has become prohibitively expensive for borrowers. Rents are being slashed and lease terms truncated as landlords struggle to retain, much less attract, tenants. Anecdotally, some institutional-quality office properties are pricing below their loan balances. At present, distress appears imminent.[1]

Investors willing to brave this dislocation are likely to find ample opportunity in this sector. There are approximately $400 billion of office loans scheduled to mature from H2 2023 through 2027, and while not all those loans are challenged, many are, or will be. Given the rising risk of functional obsolescence, the potential for missteps is high, and the rest of this article will deal with a framework for parsing upswell in distress around the office property type.

> There are approximately $400–$500 billion of office loans scheduled to mature over the next five years, and while not all those loans are challenged, many are or will be.

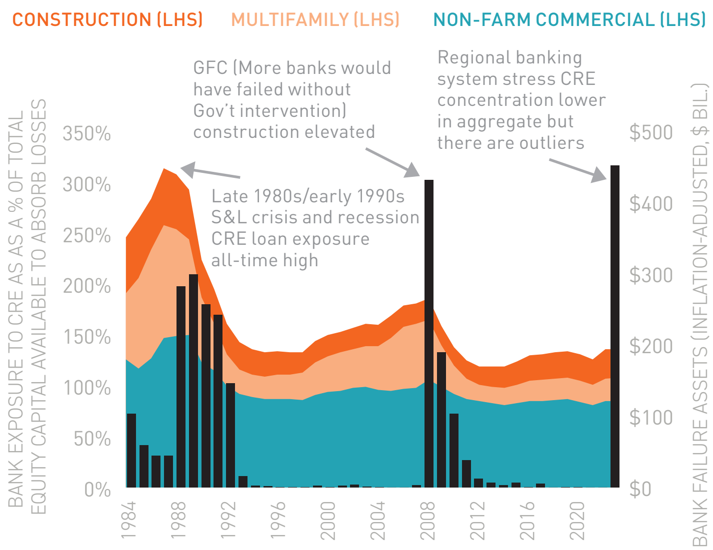
## INSTABILITY AMONG REGIONAL BANKS

The last period of pervasive distress for US commercial real estate was over a decade ago during the aftermath of the GFC. While distressed real estate investors found it challenging to capitalize on opportunities created by the pandemic, they now see an opportunity following the rapid monetary tightening orchestrated by the US Federal Reserve. There are commonalities between market downturns: overleverage and a prolonged lack of liquidity are often cited as causal factors, but it is usually an event or series of events—shocks if you will—that serve as a catalyst. A key catalyst recently was the sudden failure of three large regional banks—First Republic, Silicon Valley, and Signature—between March and May of 2023. The pivotal moment came when these banks' securities portfolios generated significant unrealized losses, which caused deposit outflows, forcing some lenders to realize the losses by selling bonds to create liquidity, resulting in further deposit runs and regional banking system stress.



## EXHIBIT 2: THIRD MAJOR BANKING SHOCK IN THE PAST 40 YEARS REGISTERED

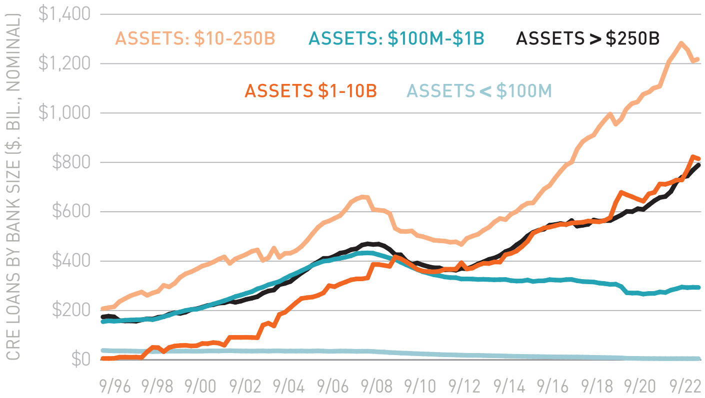
Sources: FDIC, FFIEC; as of Q3 2023

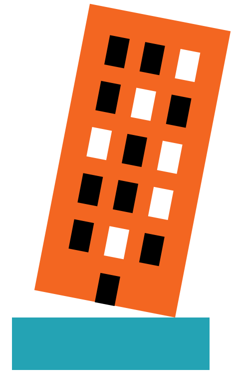



For more than a decade, regional banks with $10–$250 billion in total assets have been an active commercial mortgage lender. Their exposure increased from $468 billion outstanding as of 2012 to $1,207 billion outstanding in the second quarter of 2023. Although each cycle is different and the banking system is better capitalized today, the environment has parallels with two other banking system shocks: the S&L crisis and the GFC. Facing deteriorating liquidity positions and overexposure to CRE, regional banks are now in retreat from the commercial mortgage market, exacerbating the shortage of debt capital that office investors had come to rely so heavily upon.

### EXHIBIT 3: REGIONAL BANKS LENT AGGRESSIVELY ON COMMERCIAL MORTGAGES LAST CYCLE

Source: FDIC; as of Q3 2023



The regional banking system is diverse with lenders focused on different segments of the CRE market. Super-regional banks ($250–$650 billion total assets) tend to have a national portfolio and are more likely to have institutional quality STEM office[2] properties. Meanwhile , smaller regional banks ($10–$250 billion total assets) focus more so on their local markets and their portfolios are generally less weighted towards higher-end buildings.

In addition, super-regional banks tend to carry a broader range of loans on their balance sheets, whereas smaller regional lenders are more exposed to CRE loans, particularly as the bank size declines. As an example, super-regional banks' CRE concentration ratio—the amount of CRE loans outstanding relative to the amount of risk-based capital—was 101% as of Q3 2023 compared to 311% for regional banks with $10–$50 billion total assets based on an analysis of approximately sixty banks.

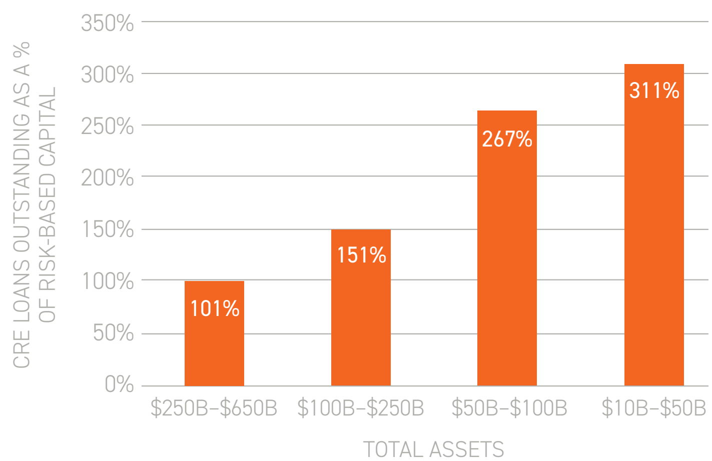
This poses a risk for certain regional banks as the FDIC recently noted loans backed by office properties "face challenges," while Fed and OCC research shows banks with elevated CRE exposure had significantly higher failure rates during past downturns and are a focus of supervisory exams. The regional banking system's CRE challenges can be compounded by a weaker funded base, such as uninsured deposits, which are also vulnerable from unrealized losses on their securities portfolio.

Although the overall banking system has been resilient, there are challenged banks and negative outliers. Their issues present opportunities as problem office loans continue to materialize. As an example, nonfarm nonresidential real estate loans, which includes office property loans, 30+ days past due delinquency rates increased 55 BPS year-over-year to 1.26% as of Q3 2023, while some banks increased their allowance for loan losses given weaker expected office mortgage performance.

These headwinds may create incentives for banks to sell loans, potentially at a discount, to repair their balance sheets and raise liquidity. This would likely create distressed opportunities for well-capitalized investors.

### EXHIBIT 4: MEDIUM AND SMALLER REGIONAL BANKS HIGHLY EXPOSED TO CRE

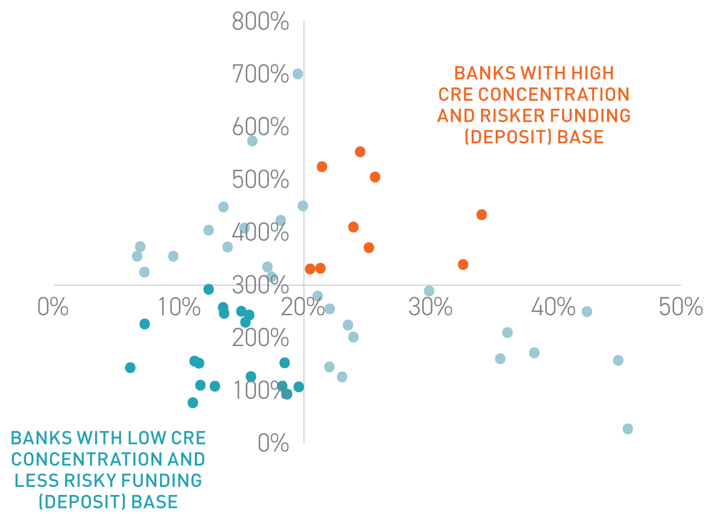
Source: Bank FFIEC Call Reports; as of Q3 2023




These headwinds may create incentives for banks to sell loans, potentially at a discount, to repair their balance sheets and raise liquidity, which would create distressed opportunities for well-capitalized investors.

## EXHIBIT 5: TRACKING BANKS BY CRE CONCENTRATION RATIO AND NON-CORE DEPOSIT BASE

Source: Bank FFIEC BHCPR and Call Reports; as of Q3 2023




## A DIFFERENT APPROACH FOR A DIFFERENT DOWNTURN

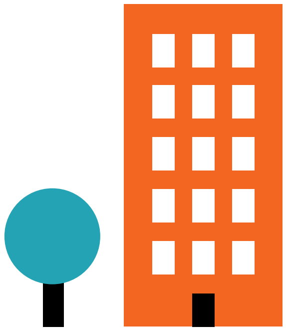
Plenty of headlines lament the confusion created by the current market's deviation from its historical pattern. Intense monetary tightening has not "broken" the economy as it has in prior cycles. Rather, fundamentals have been resilient as valuations faltered. Consumer spending and the labor market have defied repeated prognostications of their imminent collapse.

Even experienced distress investors concede that distress investing can be loosely defined. Outside of buying discounted bank notes or foreclosure properties, there are many ways to provide short-term equity or debt capital that allows a borrower time to avoid an impending default or foreclosure. Distressed capital often plays in gray areas, and there are myriad variations to "kicking the can". Preqin reports that in the US alone there is $269 billion of dry powder—capital committed in real estate real estate funds but not yet deployed. At points in the market cycle, capital often finds a way of providing an interim solution for troubled borrowers.

For those that approach opportunities by assessing capital stack restructuring, theirs is ultimately akin to finding the proverbial needle in the haystack. Though accomplished distress investors have deep industry connections that can reduce search costs, it can also be an excruciating waiting game. Often, the investors who wait for distress to land on their desk can end up feeling like there are far fewer opportunities than they expected. Past cycles can provide a helpful reference, but without discerning the fundamental causal factors leading to dislocation, history and experience are only partial guides.

A refreshed approach to distress investing is necessary today. Functional obsolescence is foremost on the minds of investors. Even nominally Class A office properties that seemed viable prior to the pandemic are now outmoded as workers and firms embrace hybrid work arrangements. The link between office-using employment and office space absorption has diminished greatly. Nationally, office-using payrolls are 6% above their pre-pandemic peak even as office vacancy has risen to record highs. Obsolescence risk is evoking fear among investors to the extent that many are now avoiding new investment in the property sector entirely.

However, there are office properties that remain well-leased and command premium rents. These high-quality properties are often found in desirable live-work-play neighborhoods that can help firms attract and retain talent while promoting firm culture and collaboration. Understanding the difference between a defunct asset and one that either is or could become a next-generation STEM office building is critical to a successful investment outcome. For the past few years, investors have been less discerning in the differentiation between the "haves" and "have nots" as illustrated by the diminishing spread between the cap rates of top tier properties and those of commodity space.

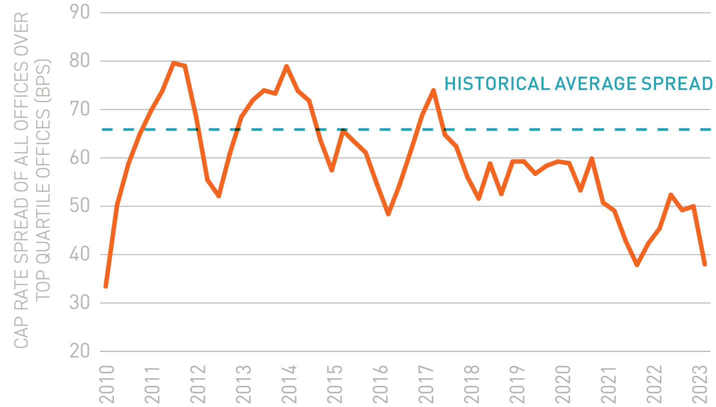


Understanding the difference between a defunct asset and one that either is or could become a next-generation STEM office building is critical to a successful investment outcome.

For those investors able to employ an operational lens against the thousands of buildings that comprise troubled or distressed loan portfolios, there is a high probability that there will be meaningful discounts for office properties that are or can become next-generation space.

### EXHIBIT 6: FOR OFFICE, BABY GETTING THROWN OUT WITH THE BATH WATER

Source: MSCI RCA; as of Q3 2023




For those investors able to employ an operational lens against the thousands of buildings that constitute troubled or distressed loan portfolios, there are meaningful discounts for relevant office properties. However, without a framework that takes into consideration the causal factors underpinning the current market dislocation, investors are left sifting through millions of square feet of office space in search of the right property—a daunting task even considering how much informational transparency has improved for the CRE industry. Identifying at-risk lenders—especially certain regional banks—and their recent office loan originations makes the search much more manageable and ultimately accessible.

### ABOUT THE AUTHORS

Dags Chen and Lincoln Janes are on the US Real Estate Research and Strategy team for Barings Real Estate, a global real estate platform with extensive capabilities across both debt and equity strategies.

### NOTES

[1] See also: Dags Chen. "Workplace Values." Summit Journal. https://www.afire.org/summit/workplacevalues/. Accessed January 30, 2024.

[2] STEM office refers to office in geographies where 40% of the population has at least a bachelor's degree and Science, Technology, Engineering, and Mathematics sector employment is at least 5% of total employment.

# MODEL STATES

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Economic state models can provide investors with empirical assumptions across different regimes. And when combined within a probabilistic framework, these models allow investors to create a set of expectations and possible forward-looking strategies.

A complex and conflicting set of macroeconomic and capital market data has complicated forecasts for the US economy. The Federal Reserve is actively slowing the economy through aggressive monetary policy tightening to offset a strong economy. The Treasury curve has been inverted for quite some time and the recent volatility in ten-year bonds has made the economic outlook murkier.

Given the heterogeneity of real estate markets, this complicated setup has made the landscape challenging to navigate, even for the most seasoned strategists. Against this backdrop, economic state models can be powerful tools for investors seeking to formulate investment strategies in periods of uncertainty by systematically grouping real estate market cycles into discernable regimes potentially identifying actionable trends.

## DEFINING AN ECONOMIC STATE MODEL

There are several approaches to modeling economic cycles: structural, non-structural, and large-scale models. Structural models are mostly based on economic theory while non-structural models are statistically driven and without pre-defined relationships. Large-scale models are hybrid models that combine the benefits of underlying economic theory (structural models) and build relationships among different key indicators using empirical data (non-structural models).

Economic state models are used in identifying shifting patterns of growth or transition from one set of conditions or "state" to another. In commercial real estate, economic state models can be used as another valuable tool for investors to (a) recognize cycles given market conditions and (b) signal inflection points in demand cycles to potentially prepare for a shift from one state to another.

## A NON-STRUCTURAL MODEL THAT USES EMPIRICAL OBSERVATIONS

This article aims to provide investors with a framework for navigating real estate markets through the use of non-structural economic state models. These models provide a simplified view of the economy and real estate markets that helps understand current and future market conditions and can allow investors to formulate forward looking strategies using a probabilistic transition matrix derived from empirical observations. We also limited our model to the office sector because it encompasses a large set of heterogeneous characteristics and is currently in the eye of a storm given very weak operating fundamentals.

Because our economic state model focuses on commercial real estate, inputs include supply and demand fundamentals, investment performance, NOI growth, working-age population growth, and treasury spreads. Using a clustering algorithm, we identified six regimes focusing on the US office real estate market with data starting in 1990. The model relied on the following key indicators:

- Rent growth, vacancy rates, new supply as a percentage of stock, and new demand as a percentage of stock.
- NOI growth rates, appreciation, and income returns from the NCREIF National Property Index.
- Working-age population growth, the spread between the 10-year and the 2-year US bond yields, and the spread between the 10-year bond yield and office cap rates from NCREIF.

*Exhibit 1* below provides a breakdown of our regimes using average values from the key indicators above to describe US office real estate markets:

### EXHIBIT 1: REGIME SUMMARY STATISTICS, QUARTERLY BASIS

Source: Principal Asset Management, January 2024

| REGIME | NEW DEMAND AS % OF STOCK | NEW SUPPLY AS % OF STOCK | WORKING AGE POPULATION GROWTH | RENT GROWTH | VACANCY | NOI GROWTH (SAAR) | APPRECIATION RETURN | INCOME RETURN | SPREAD 10Y-2Y (BPS) | SPREAD CAP RATE - 10Y (BPS) |
|---|---|---|---|---|---|---|---|---|---|---|
| REGIME 1 | 0.22% | 0.25% | 0.22% | -0.49% | 16.64% | -0.35% | -0.84% | 1.72% | 0.02% | 6.96% |
| REGIME 2 | 0.57% | 0.51% | 0.24% | 1.45% | 12.19% | 1.26% | 1.67% | 1.64% | 0.00% | 6.32% |
| REGIME 3 | 0.14% | 0.32% | 0.15% | 0.06% | 14.86% | 0.69% | -0.04% | 1.44% | 0.01% | 5.68% |
| REGIME 4 | 0.29% | 0.32% | 0.22% | 0.52% | 13.78% | 0.71% | 0.15% | 1.70% | 0.01% | 6.66% |
| REGIME 5 | 0.20% | 0.36% | 0.12% | 1.18% | 14.89% | 1.45% | -3.17% | 1.42% | -0.01% | 5.60% |
| REGIME 6 | 0.20% | 0.31% | 0.21% | -0.29% | 15.49% | -0.06% | -1.55% | 1.62% | 0.02% | 6.54% |

Each state represents a unique combination of market conditions and associated investment performance for US national office market over the time horizon of our analysis, spanning four decades.

Under the current state (Q3 2023), our analysis indicates that the US office sector is in Regime 5, historically characterized by the worst appreciation returns, -3.17% (-12.08% on an annualized basis). This regime is more characteristic of a deep contraction, although it still has positive NOI and rent growth which is unusual for this stage in the cycle.

Conversely, Regime 2, with the lowest vacancy rate (12.19%) among all regimes, and the highest appreciation rate of 1.67% (6.86% on an annualized basis), which is characteristic of an expansion for the US national office sector in our analysis.

Each state represents a unique combination of market conditions and associated investment performance for US national office market over the time horizon of our analysis, spanning four decades.

## INSIGHTS INTO US OFFICE

To understand how US office sector regimes may transition from one state to another, we use probability-based analysis to generate a matrix.

To understand how US office sector regimes may transition from one state to another, we use probability-based analysis to generate a matrix *(Exhibit 2)*. These probabilities calculate the likelihood of transition from one state to the next within a single quarter based on the input variables described above. Each iteration represents a quarter: Iteration 1 is the first quarter ahead, Iteration 2, the second quarter ahead, and so on. Our model suggests:

- The probability that the US office sector goes from Regime 5 to Regime 2 within the first quarter is about 17%; and
- The probability that the US office sector stays within Regime 5 during the same time (Iteration 1) is 83%.
- In the second iteration, which refers to the first quarter of 2024, the probability that the US office sector remains in Regime 5 drops to 70% while the transition to Regime 2 moves to 27%.

### EXHIBIT 2: REGIME TRANSITION SCENARIOS FOR US OFFICE

Source: Principal Asset Management, January 2024

| | REGIMES | REGIMES 1 | REGIMES 2 | REGIMES 3 | REGIMES 4 | REGIMES 5 | REGIMES 6 |
|---|---|---|---|---|---|---|---|
| Q4 2023 | 1 | 84% | 0% | 0% | 0% | 0% | 16% |
| | 2 | 0% | 78% | 0% | 16% | 6% | 0% |
| | 3 | 0% | 0% | 55% | 23% | 0% | 23% |
| | 4 | 0% | 20% | 16% | 60% | 0% | 4% |
| | 5 | 0% | 17% | 0% | 0% | 83% | 0% |
| | 6 | 17% | 0% | 25% | 0% | 0% | 58% |
| Q1 2024 | 1 | 73% | 0% | 4% | 0% | 0% | 23% |
| | 2 | 0% | 65% | 3% | 22% | 10% | 1% |
| | 3 | 4% | 5% | 39% | 26% | 0% | 27% |
| | 4 | 1% | 28% | 19% | 43% | 1% | 8% |
| | 5 | 0% | 27% | 0% | 3% | 70% | 0% |
| | 6 | 24% | 0% | 28% | 6% | 0% | 42% |

By repeating this process over multiple iterations, we get to a point where there is no more change in the probability distribution, indicating an equilibrium state where the odds of moving from one state to the other are stationary. In considering six regimes for our study of the US office sector, we reach equilibrium after nine quarters with the probability of remaining in Regime 5 dropping to 30%, and the probability to transition from Regime 5 to Regime 2 or Regime 4, standing respectively at 41% and 18%, indicating improved market conditions.

## FORECASTING OFFICE PERFORMANCE

An additional benefit of economic state models is their ability to forecast expected returns for the US office sector. By employing the transition matrix in conjunction with the annual appreciation returns associated with each regime, we estimated expected annual appreciation returns for the NPI US office index using two transition paths as illustrated in the table below.

### EXHIBIT 3: POTENTIAL OFFICE VALUE DRAWDOWN; MOST LIKELY PATH

Source: Principal Asset Management, January 2024

| | CURRENT REGIME | Q4'23 | Q1'24 | Q2'24 | Q3'24 | Q4'24 | Q1'25 | Q2'25 | Q3'25 | Q4'25 |
|---|---|---|---|---|---|---|---|---|---|---|
| REGIMES | Regime 5 | Regime 5 | Regime 5 | Regime 5 | Regime 5 | Regime 5 | Regime 5 | Regime 2 | Regime 2 | Regime 2 |
| TRANSITION PROBABILLITIES | | 84.00% | 70.49% | 60.42% | 60.42% | 46.02% | 40.82% | 41.42% | 39.97% | 38.40% |
| ANNUALIZED APPRECIATION RETURN | | -12.08% | -12.08% | -12.08% | -12.08% | -12.08% | -12.08% | 6.86% | 6.86% | 6.86% |
| EXPECTED APPRECIATION RETURN | | -10.15% | -8.51% | -7.30% | -7.30% | -5.56% | -4.93% | 2.84% | 2.74% | 2.63% |

CUMULATIVE APPRECIATION RETURN -44%

This relatively simple approach allows us to derive key takeaways for US office sector.

Following the most likely path scenario depicted above, which is based on the highest transition probability of each regime along the path, we'd expect the US office national sector to continue to face headwinds for at least the next two years and crossing positive territory only in the second quarter of 2025.

Using historical measure and the performance associated with this scenario, the estimated cumulative value decline for US office market starting in Q2 2022 would be around 44% for the index.

It is important to recognize that the use of economic state models in forecasting forward-looking returns is limited by their heavy reliance on historical patterns. As such, caution should be exercised in times of unprecedented changes in the market like what we've seen in the US office sector. There is also an appreciable lag between the index and the "spot" transaction market which is already suggesting material price dislocation in the office sector. Therefore, given well documented appraisal lags in private markets, our estimate may never be realized within the index but is likely to be recognized in transaction data.

## GAUGING THE STATE OF THE ECONOMY

Economic state models are valuable in providing investors with a systemic way to gauge the state of the economy, and perhaps more importantly, a path forward especially in times of uncertainty. Employing the transition matrix in conjunction with annual appreciation returns associated with each regime can help investors extrapolate expected annual returns over their forecast horizon. Economic state models are also a valuable tool for investors seeking a framework to methodically analyze dynamics between macroeconomic indicators and local market trends, as well as anticipate changes in real estate cycles and formulate better-informed strategies.

Applying our non-structural economic state model to the office sector, we conclude a difficult period lies ahead. While this will be challenging to navigate, it could also offer investors confidence, and decision-making tools as well as a potential time frame to deploy capital in the office sector with input from potential outcomes using an economic state model.

## ABOUT THE AUTHOR

Armel Traore Dit Nignan is Head of Real Estate Data and Analytics for Principal Real Estate.

Economic state models are valuable in providing investors with a systemic way to gauge the state of the economy, and perhaps more importantly, a path forward especially in times of uncertainty.

# OUTWARD SHIFT

**Kerrie Shaw**
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# With solid rental growth and a shift in pricing, investor appetite for the logistics sector remains relatively strong—and with these trends intact, the logistics sector is positioned to continue its outperformance.

Occupier demand for logistics space has fallen from the exceptional-yet-unsustainable levels seen during the height of the coronavirus pandemic. However, several structural drivers are in place that should provide tailwinds for demand.

For example, vacancy rates are likely to rise in the short term, but are largely expected to remain contained, and a pull back on construction is likely to result in the return of very tight supply conditions. In combination with high development costs and higher yields, this is projected to result in further, above-inflation, prime rental growth. Much of the outward shift in logistics yields has likely already occurred and, having repriced faster and earlier than other sectors in many markets, logistics yields will likely recover first. Unsurprisingly, investor appetite for logistics remains strong and, with trends intact, we expect the logistics sector to continue to outperform.

## THINKING OF THE SLOWDOWN

Over the past few quarters, there has been a slowdown in the drivers of demand for logistics space, including the volumes of both global trade and retail trade. While the slowdown in demand has been partly related to increased occupier pessimism, because of continued geopolitical and economic uncertainty, in some markets it also reflects very tight availability, which means some occupiers are unable to secure the right space in the right locations. In combination with significant rental increases, this has resulted in more occupiers opting to renew or extend their existing tenancies.

However, lower levels of net absorption must be put in context: year-to-date net absorption as of Q3 2023 is still above the year-to-date ten-year average in many countries across the globe (for example in France, Italy, and the Netherlands).[1]

## STRUCTURAL DRIVERS FOR OCCUPIER DEMAND

While occupier demand will continue to fluctuate with cyclical factors, several structural drivers remain in place, including growth in e-commerce and supply chain reconfiguration, both of which should provide tailwinds for demand.

The slowdown in occupier demand is partly due to lower demand for dedicated e-commerce fulfilment space. However, while e-commerce sales initially slowed from the heights achieved during the pandemic as consumers started to shop more in person and spend more on services and less on goods, they have been recovering in recent quarters.

Consumers are forecast to continue to increase the share of their shopping they do online over the next several years, with especially strong growth expected in countries where penetration rates are still relatively low, such as Italy, Spain, Malaysia, and Hong Kong.[2] This should continue to be a tailwind for demand for logistics space, as e-commerce tends to require more warehouse space than store-based retail for the same volume of sales, reflecting factors such as higher labor intensity, higher volumes of returns, and increasing pressure to deliver goods in shorter time frames.

While the disruption seen during the pandemic has eased significantly, both occupiers and governments remain concerned about the resilience of supply chains. Hence, logistics occupiers are adopting strategies to minimize disruption and improve their overall supply chain sustainability, such as holding more inventory nearer to consumers or end users, diversifying suppliers, and reshoring and nearshoring production and suppliers.

Several markets are experiencing an increase in the proportion of take-up related to manufacturing and automotive-related occupiers. In the US, for example, particularly strong demand has been reported recently in markets such as Dallas-Fort Worth, Austin, Nashville, and Phoenix —all of which also function as superior access routes to Mexico, which has recently overtaken China to become the US' top trading partner. And while they are long-term changes that will take time to play out, reshoring and nearshoring are anticipated to continue to be a tailwind for the logistics sector, especially increasing demand near large population concentrations, manufacturing corridors, ports, and major air hubs.

Reshoring and nearshoring are anticipated to continue to be a tailwind for the logistics sector, especially increasing demand near large population concentrations, manufacturing corridors, ports, and major air hubs.

Unsurprisingly, given high levels of demand, low vacancy rates and low development financing costs, the volume of logistics space under construction increased in many global markets from 2020 to 2022. In combination with the recent slowdown in occupier demand, and some release of space for sub-lease, this has put upward upwards pressure on vacancy rates. However, this is typically from a very low base and vacancy rates are still below or near their ten-year average in most markets *(Exhibit 1)*.

## REGULATION, CONSTRUCTION, AND DEMAND

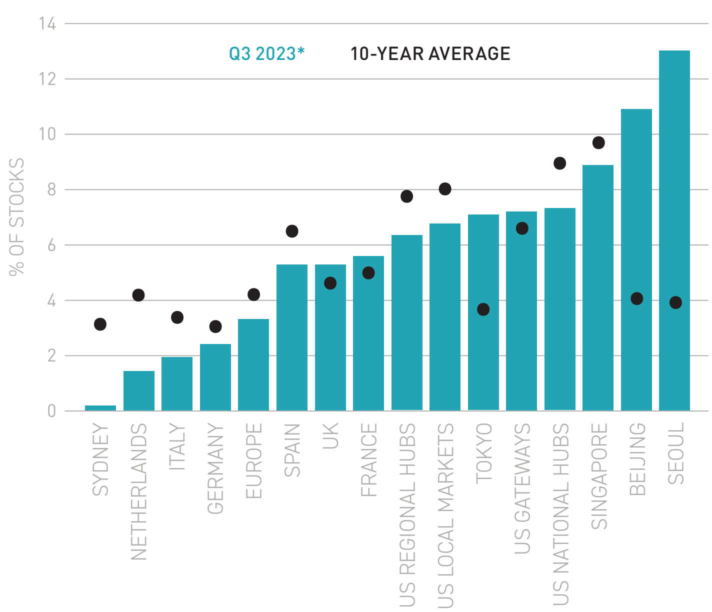
In some markets, regulatory pressure and company commitments are shifting logistics demand towards more sustainable locations and buildings.

Occupiers of logistics space are placing a greater emphasis on quality, with environmental factors increasingly important as businesses look to measure their Scope 3 emissions. Strong ESG practices and modern, well-specified logistics buildings have reportedly helped occupiers attract and retain staff, improve employee motivation, win new business, and reduce costs.

There is early evidence that energy efficient buildings can experience stronger occupier demand, spend less time on the market and achieve rental premiums. Conversely, not complying with counterparties' ESG practices can result in contractual penalties, and occupiers may seek a discount for facilities that fail to meet their ESG requirements.

## EXHIBIT 1: MODERN LOGISTICS VACANCY RATES

Source: CBRE, CBRE EA, JLL, PMA, AXA IM Alts, data as at 18 January 2024



Additionally, the volume of space under construction has been falling for several quarters, reflecting lower confidence, still high construction costs, the more limited availability and higher cost of debt, and lower exit value assumptions. Construction starts also continue to fall. For example, starts in the US were at their lowest level for over two years in Q3 2023, having fallen over 64% year-on-year.[3] While vacancy rates are likely to rise in the short term, availability is expected to remain contained. The pull back on new construction activity is likely to result in very tight supply conditions returning to some markets in the future.

Some markets suffer from zoning and planning challenges that have kept development low for years – these challenges are largely unlikely to improve. For example, the European Union has set an objective of no net land take by 2050, which will potentially further reduce the logistics development pipeline and increase competition for already existing space. Buildings that cannot be retrofitted to meet minimum energy performance ratings and occupiers market standards face becoming stranded assets, putting further downward pressure on availability.

## DELINEATING OCCUPIER DEMAND, RENT, AND DEBT

Despite higher availability, solid occupier demand for high-quality space resulted in continued prime rental growth across most major global logistics markets in 2023.

While growth has typically slowed from the double-digit levels seen in recent years, some markets have still experienced more than 10% rental growth since the end of 2022, including Los Angeles, Philadelphia, Minneapolis, Paris, Dusseldorf, Dublin, Manchester, Melbourne, and Sydney.[4] The combination of a still tight demand-supply balance, lower development, high development costs and higher yields are projected to result in further, above-inflation, prime rental growth in many markets.

While the high levels of growth seen in recent years mean there are some concerns about affordability, rent is a relatively small proportion of total supply chain costs for many occupiers. For example, CBRE recently estimated fixed facility costs (including rent) typically account for 3–6% of total costs, whereas transportation costs represent 45–70%.[5] It can be worthwhile occupiers paying a higher rent for an asset in a location that enables other supply chain costs to be reduced. Improvements to supply chain strategy can also increase revenue generation. For example, Amazon's move from a national to a regional distribution network in the US has cut delivery times and shipping costs, increasing sales, and fuelling higher third-quarter profits.[6]

Debt costs increased dramatically during 2022, largely reflecting rising swap rates rather than higher margins. In combination with geopolitical headwinds and a worsening economic outlook, this led prime logistics yields to rise sharply in most global markets. Nonetheless, there are differences between markets, with European cities typically seeing sharper outward yield shifts than those experienced in the US or Asia Pacific.[7]

While logistics yields are expected to increase further in some markets in the short term, much of the outward shift has likely already occurred. Indeed, logistics yields appear to be at or near stabilization point in many global markets, helped by a view that interest rates have peaked, some stabilization or even improvement in debt costs, and stronger investor demand. Having repriced earlier than other sectors in many markets, we project that logistics yields will recover first.

Logistics yields appear to be at or near stabilization point in many global markets, helped by a view that interest rates have peaked, some stabilization or even improvement in debt costs, and stronger investor demand.

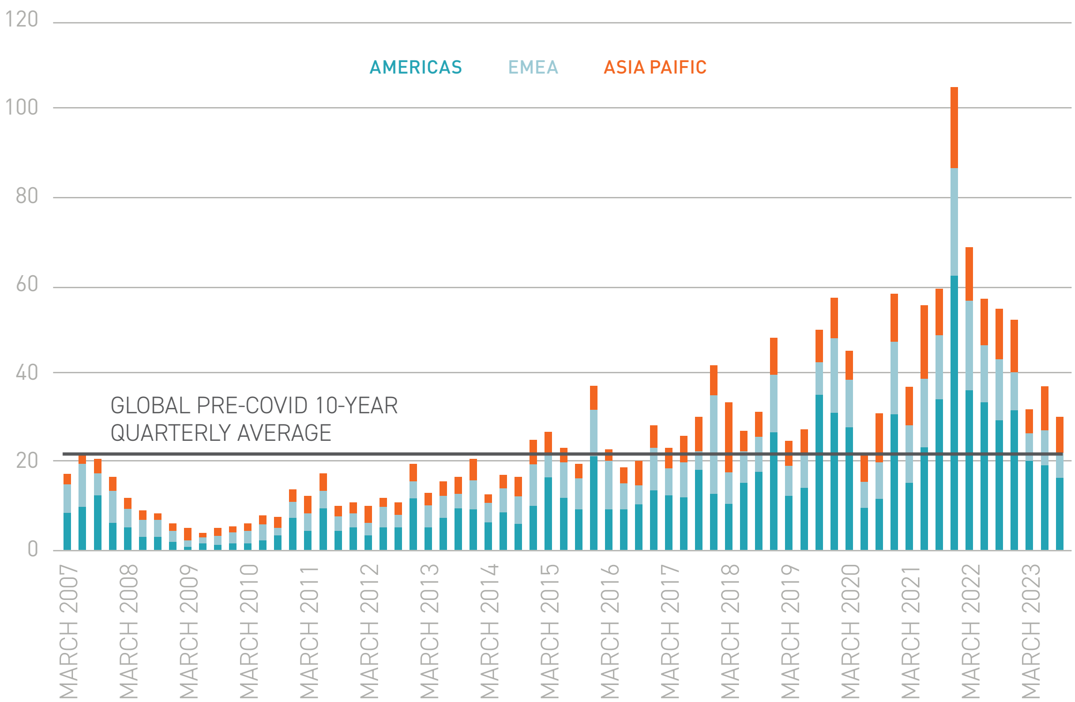
## DEALING WITH HEADWINDS

The combination of economic and geopolitical headwinds, rising logistics yields, and a turbulent lending market have resulted in investors taking a more cautious approach, pulling down industrial and logistics investment volumes since their peak in 2021. With less capital available, banks have been focusing on key relationships, core assets, and smaller deals, with funding for speculative development difficult. Transactions are taking longer to complete and there has been only a limited number of portfolio deals. Nonetheless, global industrial and logistics investment volumes remained well above their pre-COVID average throughout 2023, especially in the US and Asia Pacific *(Exhibit 2)*.

Global industrial and logistics investment volumes have remained well above their pre-COVID average throughout 2023 year-to-date, especially in the United States and Asia Pacific

## EXHIBIT 2: INDUSTRIAL AND LOGISTICS QUARTERLY INVESTMENT VOLUMES

Source: MSCI Real Capital Analytics, AXA IM Alts, data as at 18 January 2024; NB: Includes property or portfolio sales $10 million or greater




In many global markets, logistics capital values repriced more quickly than in previous downturns or in other real estate sectors.[8] These value declines reflect only outward yield shifts, as rental growth has remained strong. Unsurprisingly, investor appetite for the logistics sector remains relatively strong, underpinned by the combination of solid rental growth potential and the shift in asset prices, which is tempting back buyers, some of whom had previously been priced out of the market. With trends intact, we expect the logistics sector to continue to outperform.

## ABOUT THE AUTHOR

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[7] Referencing data from JLL; CBRE; CBRE EA; PMA; AXA IM Alts; data as of 18 January 2024

[8] Referencing data from JLL; CBRE; CBRE EA; PMA; MSCI; AXA IM Alts; data as of 18 January 2024

Investor appetite for the logistics sector remains relatively strong.

With trends intact, we expect the logistics sector to continue to outperform.

# HARNESSING THE WIND

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By blending emerging capabilities such data fluency and AI literacy with distinctly human strengths, creativity, and emotional adeptness, real estate leaders will be positioned to have an outsized impact for the commercial real estate industry.

The winds of technological change are stirring, and artificial intelligence (AI) is at the heart of the gathering storm. And as AI transforms industries from transport to healthcare, the real estate sector stands at the forefront of change.

The pace of change is startling, and the potential impacts of AI are already proving their profundity. After examining more than 900 US jobs, economists at Goldman Sachs concluded that approximately two-thirds are susceptible to partial or complete automation using artificial intelligence.[1] Recently, several technology companies that have scaled back their workforce have referenced AI as a factor. In October 2023, Stack Overflow, the leading question-and-answer platform for computer programmers, reduced its headcount by approximately 28%. Academic research shows that customers were using large language models as an effective substitute[2] and the company was forced to adapt by replacing people with generative AI-driven coding assistants.

Furthermore, the impact of AI is penetrating jobs thought less vulnerable to automation, including creative professions. Though long considered purely logical, AI systems exhibit creativity, conceiving innovative ideas for practical applications. In studies, these AI-generated concepts surpassed what many people produced independently.[3]

However, there is a lot we can learn from the past about disruptive technologies and their impact that can inform our expectations about the impact of AI.

## TECHNOLOGICAL TRANSITIONS THROUGH A HISTORICAL LENS

History teaches that disruptive innovations inevitably spark transition pains. But with hindsight, we also see how economies adapted, and new opportunities emerged.

For example, the introduction of the computer spreadsheet was transformational to office work. Many feared this technology would destroy bookkeeping jobs. However, rather than making accountants obsolete, spreadsheets complemented their skills and reduced costs, allowing small businesses to hire accounting services and creating new industry jobs.

Spreadsheets increased demand for accountants, transforming roles rather than reducing them.

More generally, the history of innovation shows how technology redistributes work more than eliminates it. New industries, jobs, and tasks arise as old ones decline.

Projecting this forward, AI will likely transform real estate work without terminating it. In real estate, content creators will be able to embrace customization, creating bespoke reports for each client highlighting the trends and data points most relevant to them. Appraisers will increasingly work with automated valuation models to add new types of data and processing methods, improving the accuracy and efficiency of their work. Client relationship managers will be able to build and leverage a much deeper understanding of their customers not only through data analysis but also through a deeper understanding of the context their client's face. Manager selectors will be able to utilise qualitative data to, for example, assess the cultural traits of organizations and even score and compare nebulous concepts. Critically, none of these use cases replaces humans and it's easier to think of AI as augmenting their work.

As these examples show, AI promises to elevate productivity and value for professionals who skilfully adapt. Indeed, there is emerging academic evidence that generative AI tools can be a huge productivity enhancer for knowledge workers.

## THE RISE OF HUMAN-AI COLLABORATION

Emerging evidence shows AI empowering knowledge workers. Intelligent assistants such as ChatGPT demonstrate how AI can turbocharge human productivity and creativity.

A recent study by a team of social scientists working with Boston Consulting Group showed that consultants who used Chat-GPT performed significantly better than those who did not. The study found that consultants using AI completed 12.2% more tasks on average, finished tasks 25.1% more quickly, and produced outputs rated 40% higher quality.[4]

Rather than replacing consultants, ChatGPT enhanced their capabilities and value, turbocharging professionals' skills. Consider, for example, how AI can assist an investment risk function within a real estate investment manager. Increasingly, generative AI tools are being used to aid risk identification and the assessment of the scale and probability of each downside scenario. Relatedly, firms are building tools that automatically monitor news flow to highlight trends that might affect the credit worthiness of tenants. More generally, AI can be used to bring efficiencies to the reporting of investment risks to allow more time to be spent on risk analysis and assessment.

The study found that consultants using AI completed 12.2% more tasks on average, finished tasks 25.1% more quickly, and produced outputs rated 40% higher quality.

AI-powered models will enable a probabilistic assessment of the impact of many variables to be built into portfolio construction tools.

## EMERGING REAL ESTATE APPLICATIONS

AI promises a revolution in real estate investing. Historical resource constraints have shaped existing working practices. In a world of cheap and abundant intelligence, those resource constraints have been lifted, and the optimal way of doing things has changed.

Early adopters are achieving significant efficiency gains by partially automating many aspects of the real estate investment process, from market analysis to financial modelling, report writing, and thought leadership.

These tasks often require a lot of manual input, data manipulation, and spreadsheet work. They can take up much valuable time, which could be better spent on more strategic, higher-value activities. No longer bogged down running models or cranking reports, real estate can devote time to strategy, deals, and clients.

Many efficiency gains and opportunities to redeploy resources are being discovered bottom-up. Once empowered to utilize these tools, workers are quickly finding out for themselves how to do their jobs quicker and faster.

After consulting widely across the investment management industry, we are well positioned to highlight some of the most exciting use cases being discovered and suggest the scope for further transformation. The first areas to be affected by AI are determined by where implementation is easy and/or gains from using AI are potentially high.

- Advanced analytics in asset selection: AI tools can help evaluate more opportunities faster and better. These tools reduce the risk of missing an opportunity and enable companies to proactively initiate discussions about off-market transactions, gaining an edge over competitors. AI tools can also speed up the decision-making process, allowing access to transactions requiring quick action. It is relatively easy for processes in this area to be augmented using AI and efficiency gains will make a big difference to their effectiveness.

  AI-powered underwriting can map the risk landscape and understand tail risks before acquisition, avoiding costly mistakes and maximizing returns. Increasingly, investment analysis will be much more like risk analysis. The pace of evolution in the work of many transaction-focused analysts will be unprecedented.

- Superior portfolio construction: Real estate fund managers are better placed than ever to optimize portfolio composition and performance based on their objectives and constraints. Historically, portfolio construction has been focused on geography and sector. This has not been because these two variables are the most important drivers of performance; rather, it is the result of data availability. Real estate fund managers are now entering a new era when diversification can be assessed along many more dimensions.

  Machine learning tools now exist to undertake detailed analyses of dozens of factors to understand what really drives property and portfolio performance and how these variables interact with each other. These tools enable portfolio managers to diversify more effectively, reducing exposure to market shocks and volatility. Going beyond geography and sector, managers will be able to consider specific climate risks, energy efficiency, interest rate, growth and inflation sensitivity, different forms of leasing risk, development risk, buildings of different ages and quality, specific tenants and broader economic sectors, operational expenditure and regulatory risk, for example. Implementing AI in this area is not the easiest as processes are complex and heterogeneous but it adds a huge amount of value to the outcomes.

  AI-powered models will enable a probabilistic assessment of the impact of many variables to be built into portfolio construction tools. Portfolio monitoring can now take place on an ongoing basis with minimal resources. In addition, fund managers can deploy AI-powered hold/sell analysis that constantly looks for an attractive selling point. All this points to portfolio considerations weighing more heavily on investment decisions, rectifying an excessive focus on individual deals and properties.

- Building robust income streams: asset managers can use AI tools to enhance their relationship and interaction with tenants, increasing occupancy and rental income. Market leaders use predictive analytics to target and retain tenants who will pay more and stay longer. Furthermore, asset managers can use AI tools to predict lease renewals, allowing asset managers to devote appropriate resources to each lease event. It is even possible to add qualitative data sources directly into your quantitative analysis and it can come from reports, videos or conversations. AI unlocks multiple opportunities for more proactive tenant acquisition and retention. As smart locks and smart buildings generate more data points, AI-driven analysis possibilities will continue to grow. Implementation will require training of and imagination from individuals as each faces unique challenges, but AI will enable big changes and efficiency gains.

*It is best to focus on tasks where AI is relatively easy to deploy, the scope is manageable and objectives clear.*

- Better client management: AI tools can help portfolio managers improve their communication and service to clients, strengthening trust and reducing the risk of redemptions in periods of market weakness. AI tools can better understand clients' needs, preferences, and concerns and predict their behavior. More profound client knowledge will allow for proactive management. As AI seems to understand human behavior and incentives better than humans, it can tell you much about your clients and help you keep them satisfied. Implementation of AI for client management is easy but involves risk so needs to be done with caution. However, the gains it can create in understanding customers better are likely well worth the risk!

With such compelling use cases, AI clearly allows real estate professionals to thrive, not just survive. Their work is elevated in both meaning and impact.

Real estate executives will be quick to recognize the competitive advantages that lie in adapting to an AI powered workplace. While a lack of technical expertise, an uncertain return on investment and organizational resistance present challenges, executives need to rethink processes now that intelligence is abundant and pre-existing resource constraints are reduced. Initial steps should be to augment data strategies and foster an understanding of AI across teams.

A critical component is cultural. The real estate organizations that have leveraged the most from generative AI tools to data are those that have empowered and encouraged their teams to rethink their processes. By working out how to do their job better and faster, team members are driving bottom-up improvements that compound to meaningful transformation. Real estate executives can accelerate adoption and encourage experimentation by promoting small but scalable projects. It is best to focus on tasks where AI is relatively easy to deploy, the scope is manageable and objectives clear. For example, rapid customization of reports for clients, content creation or predictive analytics may be areas where quick wins are achievable.

## WHY US REAL ESTATE IS PRIMED FOR AI

As AI unlocks new possibilities for real estate professionals, there are good reasons to expect the US market to gain the most.

The US has a track record of maximizing new technological innovations such as AI to fuel economic outperformance. Look to the past benefits of information and communication technology (ICT) for lessons. Between 1995 and 2005, ICT innovations provided a 1.5 percent per year boost to US annual productivity growth—the highest marginal gain globally.[5] Why did America reap disproportionate rewards?

Key advantages such as market size, nimble regulations, and abundant tech investment primed the US economy to adopt ICT and unlock value rapidly. Today, these same structural edges position the US to extract more economic impact from AI than most other countries.

The concentration of venture capital and tech talent are critical advantages. Furthermore, supportive policy and ease of business incentivize more private capital to flow into progressive US tech firms.

Capital Economics has developed an AI Economic Impact Index that allows for an assessment of which economies are best placed to benefit from AI over the next couple of decades. They develop a composite score based on metrics of three critical factors: innovation, diffusion, and adaption. As the *Exhibit 1* shows, the US achieves the highest score.[6]

The massive US real estate sector generates more high-quality data to build precise AI algorithms than anywhere else.

The size of the US real estate market matters, too. It enables scale and data depth, which are critical to advancing new technologies. The massive US real estate sector generates more high-quality data to build precise AI algorithms than anywhere else.

Indeed, some of the most exciting innovations are occurring in the most data-rich markets, such as US single-family rentals and apartment buildings. Uniquely, there is a competitive marketplace of AI-enhanced automated valuation models in the residential market, for example. Utilizing similar technologies, we can foresee a future where the work of appraisers is dominated by the use of AI.

With the proper safeguards and skill building, American real estate is poised to surf the crest of the mounting AI wave.

### EXHIBIT 1: AI ECONOMIC IMPACT INDEX

Source: Capital Economics

## A CHANCE TO CHART A BRIGHTER COURSE

Some turbulence lies ahead as AI continues its relentless advance into real estate. There will likely be pressure on traditional roles, business models, and working methods.

However, the history of innovation teaches us that technology ultimately creates more opportunities than it destroys. While some jobs may become obsolete, many more new and valuable roles will emerge at the human-machine frontier.

Real estate professionals who skilfully surf this wave of change have an exciting future. Real estate professionals are going to have to rethink and relearn their jobs. But by blending emerging capabilities like data fluency and AI literacy with distinctly human strengths, creativity, and emotional adeptness, they will become more impactful than ever.

The winds of change are here—and with them, a chance to chart a brighter course.

The history of innovation teaches us that technology ultimately creates more opportunities than it destroys.

## ABOUT THE AUTHORS

Nikodem Szumilo is an Associate Professor at University College London and the director at the Bartlett Real Estate Institute. He is also a director of VARi Knowledge Partners, an academic visitor to the Bank of England and a Research Affiliate of the UCL Centre for Finance. Chris Urwin is an investment strategist, market analyst and researcher. He is a strategic advisor to Built AI and VARi Knowledge Partners. He is the founder of Real Global Advantage, a platform to promote better investment decisions in global real estate.

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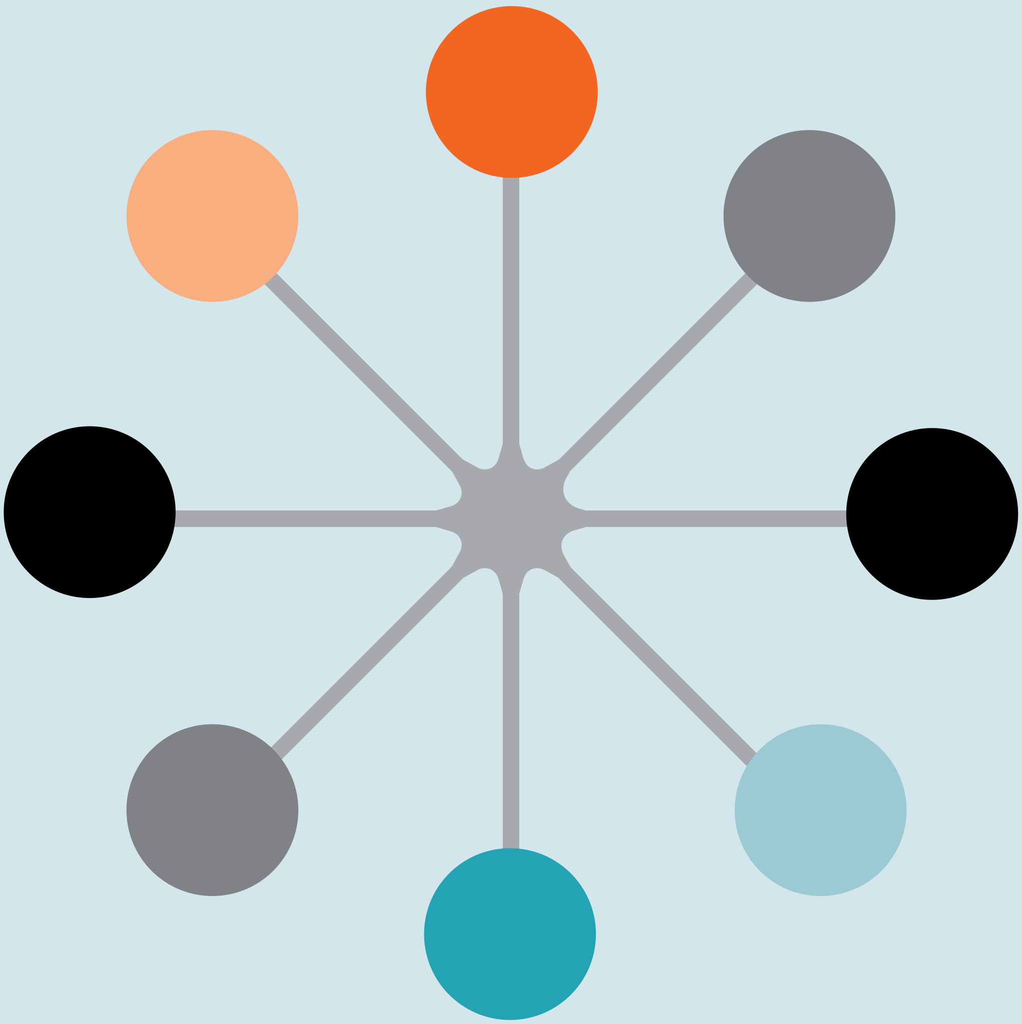
[4] Dell’Acqua, Fabrizio and McFowland, Edward and Mollick, Ethan R. and Lifshitz-Assaf, Hila and Kellogg, Katherine and Rajendran, Saran and Krayer, Lisa and Candelon, François and Lakhani, Karim R., Navigating the Jagged Technological Frontier: Field Experimental Evidence of the Effects of AI on Knowledge Worker Productivity and Quality (September 15, 2023). Harvard Business School Technology & Operations Mgt. Unit Working Paper No. 24-013, Available at SSRN: https://ssrn.com/abstract=4573321

[5] “AI, Economies and Markets – How artificial intelligence will transform the global economy,” , Capital Economics. https://www.capitaleconomics.com/ai-economies-and-markets-how-artificial-intelligence-will-transform-global-economy. Accessed January 30, 2024.

[6] Ibid.

# MIND YOUR DATA



**Ron Bekkerman, PhD**
Strategic Advisor
Cherre

# What does the future of data science mean for everything from location and property selection to asset management and disposition? A data expert weighs in.

In a sense, real estate investing is easy. All you need to do is identify a soon-to-be-hot neighborhood or submarket before anyone else does, acquire the best undervalued properties in the neighborhood, maintain the highest rent rates possible while keeping your properties fully occupied, dispose the moment the market plateaus. And then do it all over again in the next hot neighborhood.

Just follow this recipe and success is guaranteed.

. . . but unfortunately, there seem to be a few obstacles on our way:

1. How do we know that a neighborhood will be hot soon? To the best of my knowledge, time travel hasn't been invented yet.

2. How do we know that the neighborhood will be the hottest of all? If prices in the neighborhood are rising but they are rising even more in other neighborhoods, did we choose the right neighborhood?

3. While picking the "best" property in the neighborhood seems doable, how do we know that it is "undervalued?" What is the fair market value of a property? Won't the property become "overvalued" immediately after the landlord figures out it was "undervalued"?

4. The best property in the neighborhood is most probably not for sale, let alone the discount. How would we buy a property that is not being sold?

5. How do we win the competition for the best property acquisition, while keeping the price in the "undervalued" range?

6. How do we make sure our property is fully occupied? What if it needs some remodeling? What if another better, brighter property is constructed next door?

7. How do we make sure we keep the rents high enough but not too high for tenants to start checking out? What is the fair market rent for our property?

8. How do we know when the market reaches its plateau?

9. How would we find a buyer for our property then, while maintaining the "undervalued" status without actually selling it under its value?

We're putting aside the fact that the interest rates of today appear to make real estate investing simply not economical. While I can't control the interest rates (never mind that time travel is not needed to predict that they will go down eventually), in my career, I have come across data-driven solutions to most (not all) problems mentioned above.

Recently, I co-authored two research articles in the AFIRE Summit journal, one of which (with Donal Warde and Prof. Maxime Cohen) dealing with location selection, and the other (with Donal Warde) providing insights into property selection. Those papers partially cover property acquisition questions above, while the latter questions are related to data-driven asset management, in which Cherre, the company where I served as CTO from 2018 to 2022, is a true expert. Property disposal (last two questions) is to an extent similar to property acquisition, as discussed below.

Based on my experience, which is somewhat unique in this industry, let me walk you through the proposed solutions.

## LOCATION SELECTION

Yes, it's hard to predict the future, but we're in luck: in real estate, things take time to change. If we succeed in recognizing early indicators of the change, we could project them into the future. But what are those early indicators? As I often hear from real estate investors: "If Whole Foods/Starbucks/Shake Shack/pick-your-favorite-food-chain opens in the neighborhood, then it's time to invest."

And my response is always the same: "If they opened a Whole Foods in the neighborhood, it's too late to invest."

If national corporations recognized the potential of the neighborhood and moved in, the neighborhood had been developing for years already.

Another popular concept of "follow the artists" (see which neighborhood artistic people are moving into) is smart but hardly a strategy, as the phenomenon doesn't seem to be measurable. What we suggest is rather "follow the money", or more precisely, see where the wealth is migrating.

In a nutshell, if an average household net worth in the neighborhood is, say, $200,000, and the net worth of families that are moving in is $400,000, then the wealth excess that the new families are bringing would in part be invested/spent/taxed locally, in a way for the neighborhood to eventually enjoy the outcome and become stronger. If ten thousand families live in the neighborhood while only ten wealthier families move in, the influence of their wealth excess would be negligible. If, in contrast, a thousand wealthier families move in, they would probably change the neighborhood quite substantially. How to recognize the wealth inflow trend early enough is the essence of our research.

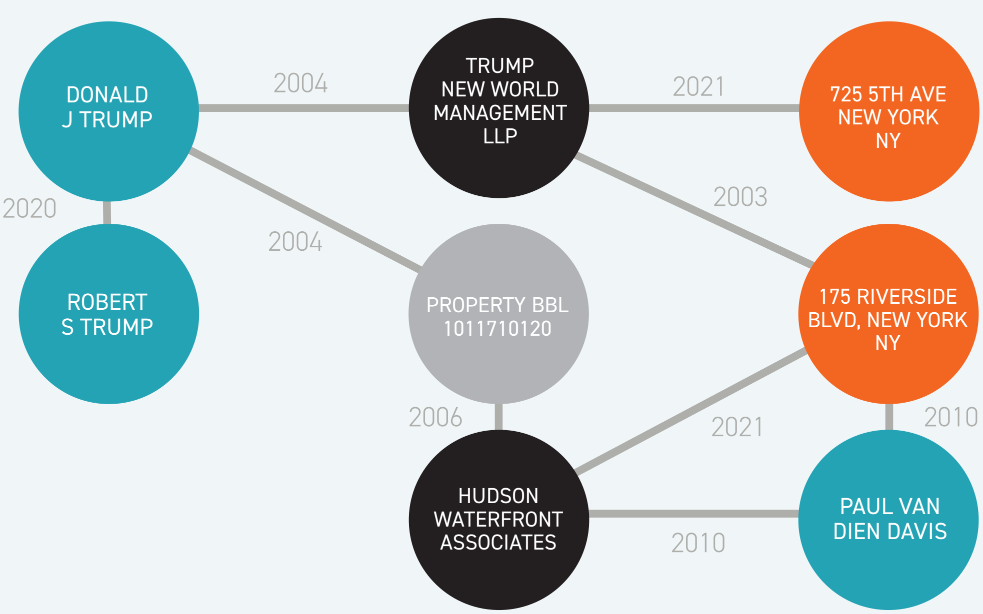
If we had a nationwide, decades-spanning dataset of family relocations (from address *A* to address *B*) which would also incorporate their net worth at the time of the relocation, we would have been able to predict real estate trends quite accurately. Some companies, such as ADP or Intuit, might have a partial view on this data, as they would keep addresses of their customers together with the customers' financial records. Those companies are not in the real estate space though, and there are many reasons for them not to use their data for predicting real estate trends. (The best source of wealth migration data would undoubtedly be the IRS—and I sincerely hope that they are not supplying their data to real estate investors.)

Given the above, the relocation data should be collected from public sources, which includes real estate transactions stored in county records. When a family sells their property at address A for *X* dollars and moves to address B, they are likely to bring *X* dollars with them to the neighborhood where B is located. If the median house price in that neighborhood is *2X*, then the family does not seem to bring any wealth excess into the neighborhood. If, however, the median house price in the neighborhood is *X*/2, this neighborhood is the one to watch for.

When aggregated over all US neighborhoods and over the past two decades, this data becomes an important index using which neighborhoods can be ranked, compared to each other, and monitored over time. If the wealth migration index starts rising for a certain neighborhood (faster than for other neighborhoods), this should attract investors' interest even if the neighborhood does not yet show any other signals of a near-future boom.

While being conceptually intuitive, the wealth migration index is notoriously difficult to construct. How do we define a "family" from the data point of view? Did the family actually live in the property that they sold? Did the family actually sell the property at a fair market price? Did the family actually move into the neighborhood? And, above all, is this the same family that sold a property in one neighborhood and moved to another neighborhood? These and many other related questions can be answered with the help of a real estate Knowledge Graph, which is an actionable model of the entire real estate ecosystem. At Cherre, we developed the largest-of-all real estate Knowledge Graph and used it to disambiguate names of real estate owners. This helped us distinguish between the cases of someone moving from address *A* to address *B* and the cases of someone moving out of *A* while their namesake was moving into *B*.

### EXHIBIT 1: A SMALL PORTION OF A REAL ESTATE KNOWLEDGE GRAPH



Needless to say, utilization of the wealth migration index does not eliminate the neighborhood due diligence process that investors would go through. However, it allows a quick scan of thousands of neighborhoods and opens the door to true globalization of real estate investments as the investors will no longer need to stick to the neighborhoods they are overly familiar with. Moreover, the same wealth migration measurement approach can be used at different levels of granularity, starting with US states, down to counties, towns/neighborhoods, and all the way to the level of a block, providing an opportunity of selecting the best location at the national scale.

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## PROPERTY SELECTION

Once the location has been selected, finding the right property is usually not a complex task as every investor has a specific set of criteria. In many cases, there are very few properties in the neighborhood that meet those criteria, and so the acquisition process would start naturally.

Nevertheless, while focusing on property characteristics, investors often overlook a critical factor in the acquisition process: the property owner. Obtaining as much information about the owner as it can be obtained about the property itself would be a valuable tool in the acquisition negotiation. However, the information on the owner is not readily available. Alas, the ownership information is often unavailable: most commercial properties are owned by obscure LLCs. Owner unmasking is a data-driven solution to the problem of detecting true owners behind the LLCs, but unmasking is not enough.

In the ideal world, where a perfect neighborhood can be selected and all qualified properties in the neighborhood can be listed, detailed information on the owner would be pretty much the only piece of information needed to close a deal. Is the owner inclined to sell? If yes, is the owner ready to sell for a discounted price? If we could assess our chances a priori, even before the acquisition process begins, we would be much smarter throughout the process. Moreover, this would open a gate to the holy grail: off-market deals.

Despite the general consensus that off-market deals are most attractive, they are fairly rare. The main reason is the tremendous amount of work that needs to be put into an off-market deal to close. First, find out who the owner is. Find out how to contact them. And if the owner is not interested in selling, now what? Years, if not decades, may be invested in maintaining a working relationship with a potential seller before the dream deal can be finally executed. And what if, in a few years, this deal won't be a dream deal anymore? Time is money. That's why investors typically opt for on-market deals and rely on their negotiation skills to craft the best terms within the existing circumstances, all this while being left in the dark about the true intentions of their negotiation counterpart.

Fortunately, data science offers solutions. First, it's not hard to find out whether the property owner is an individual or a corporation: in many cases, it's enough to see if the LLC's mailing address is a private residence or a suite in an office building. Individual owners and corporate owners tend to behave differently in the way they craft their deals. As we established in our recent research work mentioned above, individuals tend to buy cheaper properties but they also tend to obtain lower returns when they sell. This indicates that deals should be negotiated differently for individual sellers compared to corporate ones.

Second, many individual owners of commercial real estate are public figures; a lot of information on them can be retrieved from the internet. Corporations, however, are more difficult to crack, still the list of their executives is often publicly available, which points back to the claim above: many real estate corporate executives are public figures.

Companies such as Usearch that operate in the space of web structurization (extracting unstructured information from the Web and organizing it into databases) may provide valuable insights about property owners, which would be sufficient for understanding their intentions. And this can be done on scale, thousands of owners at a time. All a buyer is left to do is to choose an owner that seems to be ready to talk and use the provided insights wisely in the negotiation process.

There is no such thing as the fair market value of commercial real estate: it's up to us—the seller and buyer—to agree on the price, and it's up to us to excel in negotiations.

Data science can help us prepare for the negotiation process, but it is not going to take the human factor out of the equation.

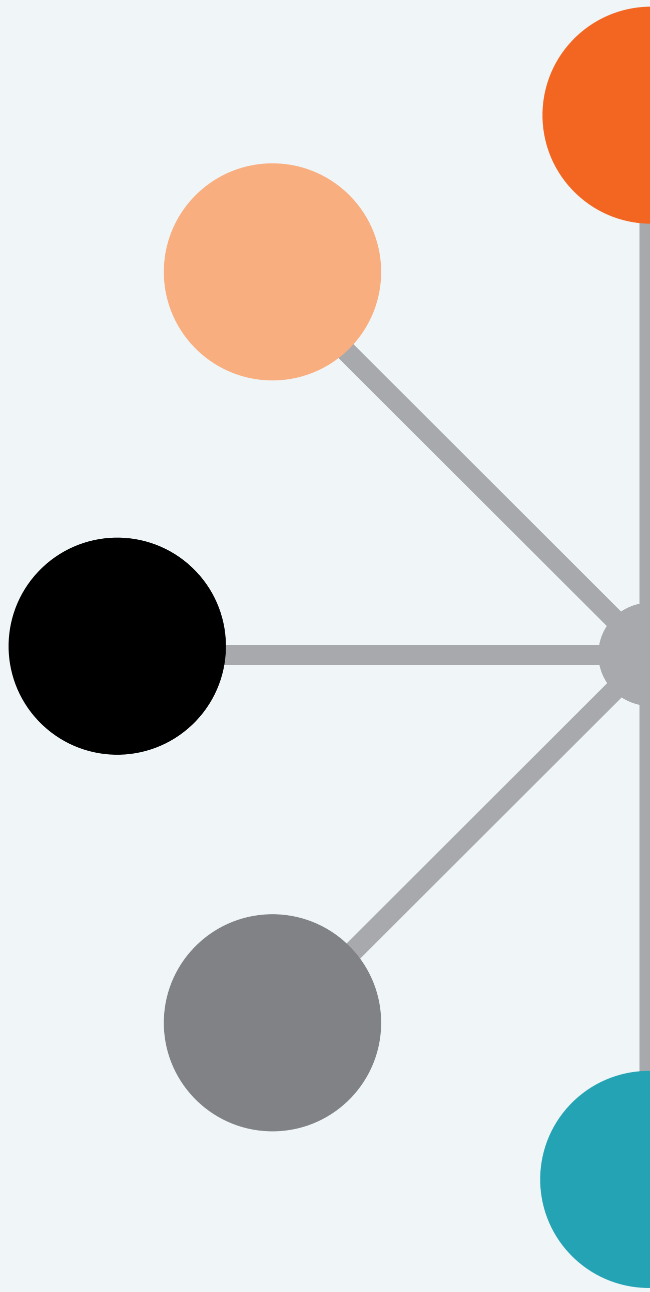
## ASSET MANAGEMENT

After the deal is closed and funds are deployed, it's time for the tedious task of asset management. A large part of the asset management process is focused on monitoring of different key performance indicators, at different levels of granularity: monitoring of neighborhood trends, rent prices, occupancy rates, migration patterns, local employment characteristics, transportation adjustments, municipal legislation, and many other aspects of social development which could directly or indirectly affect the financial health of real estate investments. The starting point of effective monitoring is data aggregation and normalization.

However, monitoring everything everywhere does not seem feasible nor necessary; say, how would a change in gas prices at a local gas station affect our multifamily? That is why asset managers tend to narrow their monitoring efforts down to a few comparable properties (comps). The definition of a comp is usually intuitive to real estate professionals, but the data tells a different story: human intuition may be misleading. Data-driven comp models select substantially different comps. I am not suggesting to trust the algorithm more than we trust our intuition, but I believe that our vision of the market is quite limited and may be significantly enhanced if we take the algorithm's results into account. When I showed the results of a data-driven comp model to domain experts, their response was "these comps I know, those are not comps at all, but these are comps that I overlooked."

The big advantage of a data-driven comp model is in its ability to bring many more comps than those identified manually. In many cases, an asset manager monitors very few comps, and the conclusions that they make may be statistically invalid. For example, if three comps are being monitored and rent prices are rising in all of them, the asset manager may assume an uptrend. However, if thirty comps were monitored, the asset manager would see that rents were rising for only ten of them, and the three original comps ended up among those ten just by pure chance. Moreover, because scale is simply not an issue for data science, a system can monitor three hundred or even three thousand comps, and aggregate the results proportionally to their distance/similarity to the asset at hand. This would count both global and local trends as one.

Monitoring everything everywhere does not seem feasible nor necessary.



Because scale is simply not an issue for data science, a system can monitor three hundred or even three thousand comps, and aggregate the results proportionally to their distance/similarity to the asset at hand.

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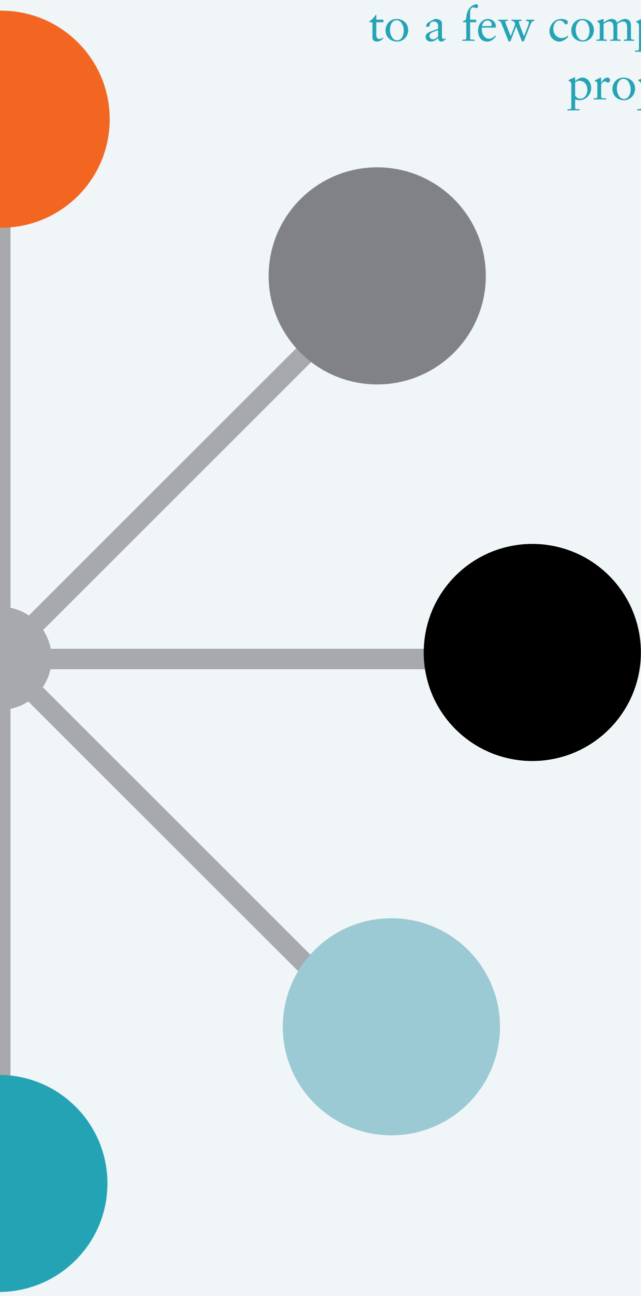

## PROPERTY DISPOSAL

Typically, assets are sold when the fund ends. There is not much variability in the process, and this sounds like a miss. But what's right for private equity funds is not necessarily the correct model for family offices and other investment vehicles. And even in private equity cases, timing is not that rigid after all.

So, when should we sell? First, when the existing assets don't appear to appreciate any longer, and second, when a better opportunity is around the corner. How do we line these two factors up with the fund lifecycle? We monitor!

As asset managers, we can project the appreciation trend of our assets into the near future, and we can use the wealth migration index described above as a tool for assessing the development trend of our neighborhood.

As the neighborhood gentrifies, it will eventually reach its peak, in the most natural way. Illustrating this on an edge case, assume that everyone in the neighborhood is extremely rich, which means that there are simply too few people in the world who would be richer than the neighborhood's residents and willing to move in. With time, whoever moves in will on average be poorer than the current residents, and some of the rich residents will move out, so the wealth migration index will start sliding down, even for the best neighborhoods. As the index slides, no signs of deterioration would yet be visible, and may never be. However, prices will eventually plateau at or below the national trend, which might be too late for selling the property. Detecting the upcoming plateau early enough would be crucial for timing the property disposal.

Identifying the next opportunity is yet another key factor at the property disposal stage of the investment cycle. Is there anything more interesting in the market right now, something that would outshine our existing investments? The wealth migration index would help us figure this out, as we discussed earlier. A bright side of the wealth migration index is that it is timely: at every point of time, it lets us select the top locations, which makes it easy to align with the maturity of existing investments. Even if adversarial microeconomic factors make the investment timing suboptimal, we could still focus on best locations for the current conditions.

Obviously enough, I could not touch on every aspect of the real estate ecosystem in one article, and there are many other aspects of the real estate investment business in which data science can be instrumental (debt structuring being just one example). But for some real estate processes data science would still be quite useless: people would always be better than machines at tasks such as client relations and negotiations. Nevertheless, it's time to jump on the Data Science bandwagon, before it gets overcrowded!

## ABOUT THE AUTHOR

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# OPERATING EXPENSES RISING

**Stewart Rubin**
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Senior Associate, Strategy and Research
New York Life

# The other major component of NOI gets more focus.

Effective Gross Income (EGI) is just one of the two components of Net Operating Income[1] (NOI). Although an obvious truism, expenses are often less of a focus than income. Operating expenses have surged over the past several years. According to our analysis of aggregated operating expense data on a per square foot basis for properties within the NCREIF Property Index, apartment, industrial, and office expenses rose, on average, 5.7%, 5.9%, and 5.5% annually over the past two years compared to the compound annual growth rate (CAGR) of 4.5%, 1.1%, and 3.6% over the 18-year period ending Q2 2019.[2] Retail expenses were held down during the pandemic time period when non-essential retailers were closed, so it may be best to analyze the expense increases in this sector over the four-year period from Q2 2019 to Q2 2023. Retail expenses rose on average 3.8% annually over the past four years compared to the historical compound annual growth rate of 3.6% over the 18-year period ending Q2 2019.

The higher the operating expense ratio[3] (OER), the more sensitive the property's NOI is to declines in EGI. Accordingly, hotels and to a lesser extent offices are the most sensitive. Property types with low OERs such as logistics and self-storage facilities are the least sensitive. In the middle are multifamily and retail properties.

Expenses generally rose at a faster rate since Covid, relative to previous years and, except for industrial, have exceeded rent increases. As a corollary, OERs are up for all major property types except the industrial sector. For a time during the pandemic, rent increases on multifamily exceeded operating expense increases – but that is no longer true. Above-trend increases are expected over the next year as well and will likely outpace revenue growth. Ultimately – expense reimbursement clauses embedded in industrial, retail and office leases do not help because gross rent will need to adjust to maintain market levels.

The greatest expense increases over the past four years were experienced by industrial and multifamily properties. The increases experienced by office and retail facilities were lower, but consequential, considering the anemic rent growth in the sectors. Warehouse facilities exhibited significant increases, however, from a low base as logistics properties have relatively few expenses. Lodging facilities had the greatest swings in expense levels because they were shut down during COVID and the expenses increased substantially as they reopened. Wages for staff at hotels grew faster than for any other category of employment.

Although a relatively small portion of overall expenses, insurance[4] has grown faster than all other expense categories. Other major expense growth contributors include utilities, maintenance and administrative costs. Property taxes – almost always the largest expense category – has increased the most in the industrial sector.

The following table details cumulative growth of property-level income and expenses per square foot over the past one and four years. The industrial sector was the only to experience income growth in excess of expense growth over both time periods.

### EXHIBIT 1: INCOME & EXPENSE GROWTH

Source: NCREIF Property Index; as of September 14, 2023.

| | % YOY | | 2Q19 – 2Q23 (PRIOR 4 YEARS) | |
|---|---|---|---|---|
| PROPERTY TYPE | INCOME | EXPENSES | INCOME | EXPENSES |
| APARTMENT | 4.0% | 6.0% | 16% | 22% |
| INDUSTRIAL | 10.0% | 8.2% | 28% | 26% |
| OFFICE | 3.7% | 7.8% | 12% | 16% |
| RETAIL | 6.6% | 13.3% | 8% | 14% |

## EXHIBIT 2: OPERATING EXPENSE GROWTH BY EXPENSE COMPONENT

Source: NCREIF Property Index; as of September 14, 2023 (2023 is annualized with data through Q2 2023).

| | APARTMENT | INDUSTRIAL | OFFICE | RETAIL |
|---|---|---|---|---|
| Cumulative Past 4 Years (2Q19-2Q23) | 22.3% | 25.8% | 16.2% | 14.1% |
| CAGR Past 4 Years (2Q19-2Q23) | 5.2% | 5.9% | 3.8% | 3.4% |
| CAGR Past 2 Years (2Q21-2Q23) | 5.7% | 5.9% | 5.5% | 10.4% |
| CAGR 18 Years Before Covid (2Q01-2Q19) | 4.3% | 0.9% | 3.4% | 2.9% |

The above table compares expense growth over various time periods. Industrial and apartment sector expenses grew the most relative to their historical averages.

## EXHIBIT 3: OPERATING EXPENSE RATIOS

Source: NCREIF Property Index; as of September 14, 2023 (based on trailing four-quarter average).

| POPERTY TYPE | Q2 2019 | Q2 2023 | CHANGE |
|---|---|---|---|
| APARTMENT | 42.5% | 44.1% | ▲ |
| INDUSTRIAL | 26.4% | 25.3% | ▼ |
| OFFICE | 41.8% | 42.4% | ▲ |
| RETAIL | 32.2% | 33.9% | ▲ |

The above chart compares the change in average OERs by property type. Decrease in industrial sector OER is indicative of expense growth in excess of income growth over the past four years.

We will now further analyze expenses for each of the major property types.[5]

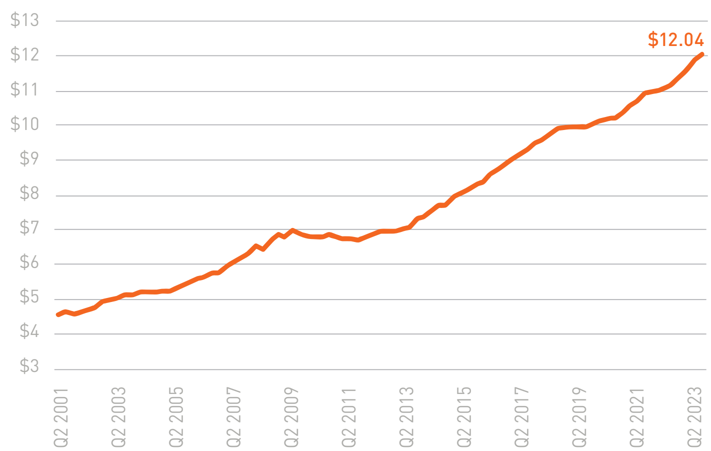
## APARTMENT

We begin with the apartment sector which has been highly impacted by expense increases. During the four quarters ending 2Q 2021 multifamily rents decreased by 0.9%, while expenses grew 7.9%. However, during the four quarters ending 2Q 2022 multifamily rents increased by 14.4%, far outstripping expense increases of 5.3%. In the past year, expenses have risen 6.0% while income increased 4.0%. The apartment sector has exhibited income and expense growth since Q2 2019 growing a cumulative 16% and 22%, respectively. It is likely that expenses will continue to rise faster than trend over the next two years which could result in even higher OERs.

The following chart details the growth of operating expenses of multifamily properties over the past 22 years.

## EXHIBIT 4: OPERATING EXPENSE PER SF – NCREIF PROPERTY INDEX APARTMENT SECTOR (ANNUAL, ROLLING 4-QUARTER TOTALS)

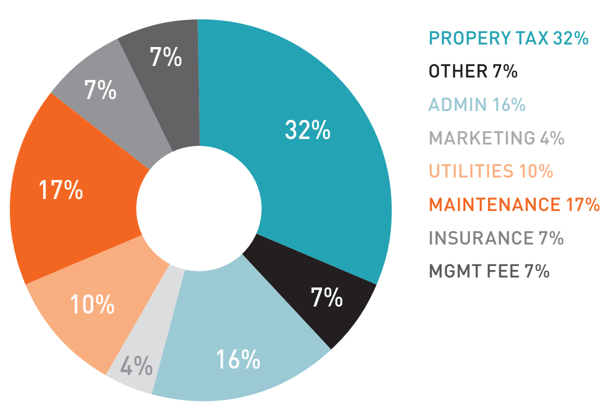
Source: NCREIF Property Index; as of September 14, 2023 (data through Q2 2023).




The following chart highlights the breakout of multifamily operating expenses by category.

## EXHIBIT 5: APARTMENT SECTOR OPERATING EXPENSE BREAKDOWN

Source: NCREIF Property Index; as of Q2 2023.



Since Q2 2019, apartment expenses have increased a cumulative 22%, with the greatest rise experienced by insurance at 156%. The causes of insurance increases include 1) the accelerated rate of climate events[6], 2) higher replacement costs, 3) and regulatory pressure in the insurance market. Rates vary based on location and their exposure to climate events and their severity. Other increases include property taxes (13%), administrative (24%), utilities (23%), maintenance (22%). Property taxes represents the largest share of expenses, but its growth of 3.0% CAGR over the past four years is lower than the 6.5% average (CAGR) over the 18 years ending in 2019, muting its impact. The greater movement in administrative, utilities, maintenance expenses, which constitutes 45% of apartment expenses, resulted in a far greater impact.

The table below details expense increases by category during distinct time periods.

When income does not keep up with expense growth, OERs increase. This renders property cash flows more vulnerable to downturns and increases the chances of a default. The OER for the apartment sector increased from 42.5% pre-COVID to 44.1% as of Q2 2023. In the interim, the OER had increased to nearly 48% since some tenants did not pay rent and in other cases, rent had declined, while expenses increased. As the pandemic continued, migration patterns to the Sunbelt accelerated and demand outstripped supply, resulting in higher rents and lower operating expense ratios. Developers responded to this demand by adding units, which has recently put downward pressure on rents while expense growth has remained elevated (see below chart).

### EXHIBIT 6: APARTMENT OPERATING EXPENSE GROWTH BY EXPENSE COMPONENT

Source: NCREIF Property Index; as of September 14, 2023 (2023 is annualized with data through Q2 2023).

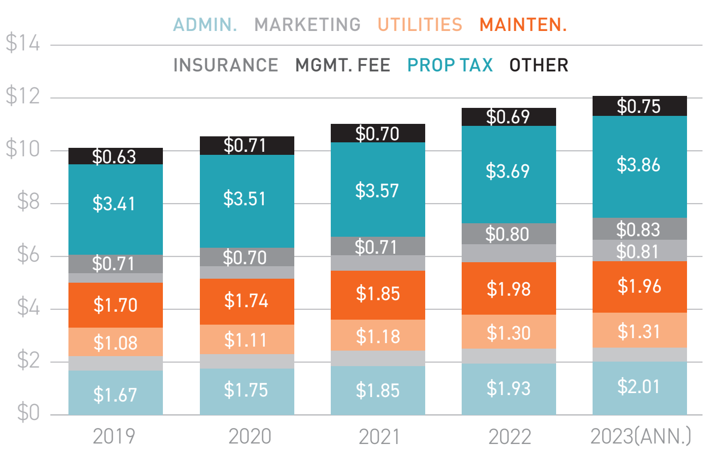
OPERATING EXPENSE GROWTH BY EXPENSE COMPONENT

| | ADMIN. | MARKETING | UTILITIES | MAINTEN. | INSURANCE | MGMT. FEE | PROP TAX | OTHER | TOTAL EXPENSES |
|---|---|---|---|---|---|---|---|---|---|
| Cumulative Past 4 Years (2Q19-2Q23) | 23.9% | -2.4% | 23.1% | 22.5% | 155.9% | 17.1% | 12.6% | 21.0% | 22.3% |
| CAGR Past 4 Years (2Q19-2Q23) | 5.5% | -0.6% | 5.3% | 5.2% | 26.5% | 4.0% | 3.0% | 4.9% | 5.2% |
| CAGR Past 2 Years (2Q21-2Q23) | 2.9% | -5.3% | 6.1% | 5.8% | 27.0% | 9.4% | 3.6% | 8.1% | 5.7% |
| CAGR 18 Years Before Covid (2Q01-2Q19) | 5.1% | 4.2% | 3.5% | 3.8% | 5.7% | 3.6% | 6.2% | -0.3% | 4.3% |

The bar chart below details multifamily expenses by category on a price per square foot basis.

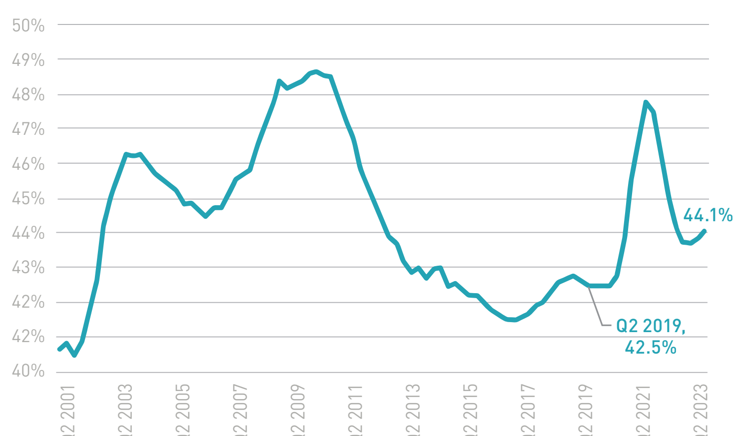
### EXHIBIT 7: OPERATING EXPENSE COMPONENTS PER SF – NCREIF PROPERTY INDEX APARTMENT SECTOR

Source: NCREIF Property Index; as of September 14, 2023 (2023 is annualized with data through Q2 2023).




### EXHIBIT 8: OPERATING EXPENSE RATIO – NCREIF PROPERTY INDEX APARTMENT SECTOR (ANNUAL, ROLLING 4-QUARTER TOTALS)

Source: NCREIF Property Index; as of September 14, 2023 (data through Q2 2023).



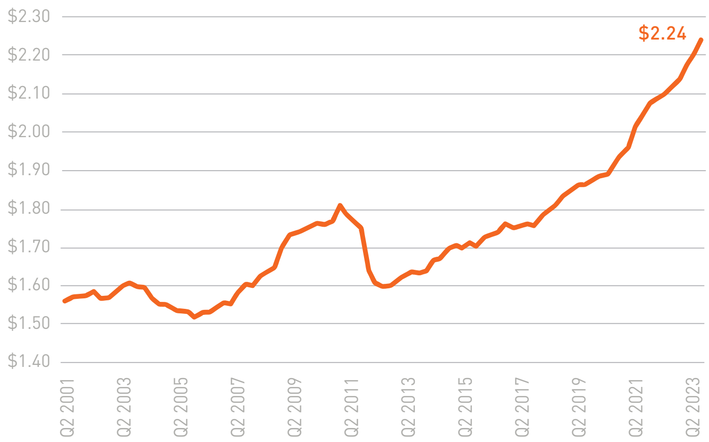
## INDUSTRIAL

The industrial sector has exhibited the most income and expense growth of the four major sectors since Q2 2019, growing a cumulative 28% and 26%, respectively. In the past year, expenses have risen 8.2%, while income increased 10%. It is likely that expenses will continue to rise faster than trend in the next two years, resulting in higher OERs. Most industrial leases are written on a net basis and are, accordingly, reimbursed by the tenant. Nevertheless, expense increases add to the overall tenant rent burden. Should the total rent cost grow beyond market, base rents would need to be reduced to compensate.

The following chart details the growth of operating expenses of industrial properties over the past 22 years.

### EXHIBIT 9: OPERATING EXPENSE PER SF – NCREIF PROPERTY INDEX INDUSTRIAL SECTOR (ANNUAL, ROLLING 4-QUARTER TOTALS)

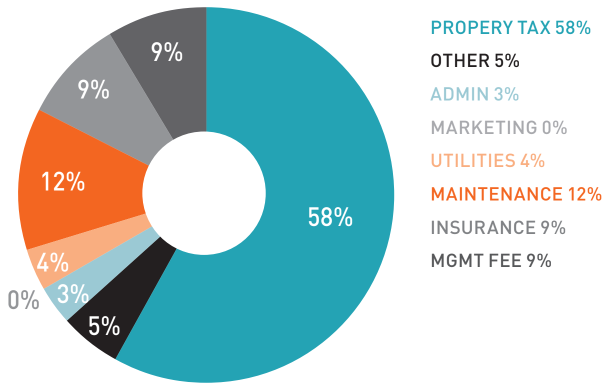
Source: NCREIF Property Index; as of September 14, 2023 (data through Q2 2023).




The following chart highlights the breakout of industrial operating expenses by category. Property taxes make up a far larger share of total expenses relative to other major property sectors.

### EXHIBIT 10: INDUSTRIAL SECTOR OPERATING EXPENSE BREAKDOWN

Source: NCREIF Property Index. As of Q2 2023




The industrial sector has exhibited the most income and expense growth of the four major sectors since Q2 2019, growing a cumulative 28% and 26%, respectively.

Since Q2 2019, industrial expenses have increased 26% with the greatest rise experienced by the insurance expense category at 117%. Other increases include property taxes (25%), administrative (+26%), maintenance (18%). Property taxes represents the largest share of expenses, and its average growth of 5.7% CAGR over the past four years is higher than the 2.6% average over the 18 years ending in 2019, which is reflective of the increase in values spawned by the growth of e-commerce.

The bar chart below details industrial expenses by category on a price per square foot basis.

### EXHIBIT 11: INDUSTRIAL OPERATING EXPENSE GROWTH BY EXPENSE COMPONENT

Source: NCREIF Property Index; as of September 14, 2023 (2023 is annualized with data through Q2 2023).

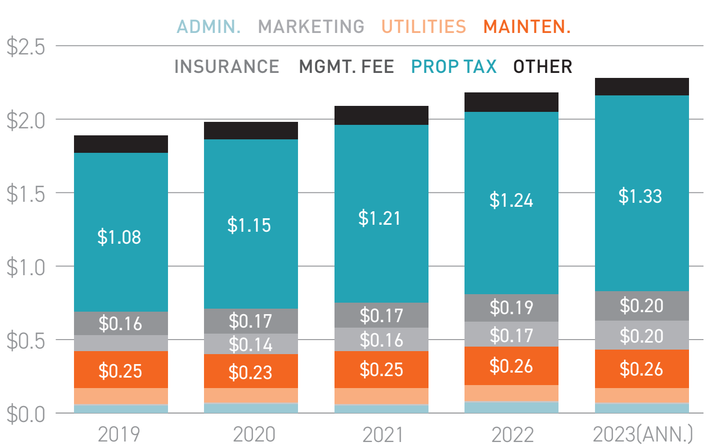
**OPERATING EXPENSE GROWTH BY EXPENSE COMPONENT**

| | ADMIN. | MARKETING | UTILITIES | MAINTEN. | INSURANCE | MGMT. FEE | PROP TAX | OTHER | TOTAL EXPENSES |
|---|---|---|---|---|---|---|---|---|---|
| Cumulative Past 4 Years (2Q19-2Q23) | 26.4% | -28.3% | -2.9% | 18.4% | 117% | 22.0% | 24.9% | 1.4% | 25.8% |
| CAGR Past 4 Years (2Q19-2Q23) | 6.0% | -8.0% | -0.7% | 4.3% | 21.3% | 5.1% | 5.7% | 0.3% | 5.9% |
| CAGR Past 2 Years (2Q21-2Q23) | 13.5% | -9.0% | -2.0% | 5.5% | 17.9% | 6.0% | 5.2% | -1.1% | 5.9% |
| CAGR 18 Years Before Covid (2Q01-2Q19) | -1.6% | 3.6% | 1.5% | -1.5% | 3.6% | 1.8% | 2.6% | -3.8% | 0.9% |

The bar chart below details industrial expenses by category on a price per square foot basis.

### EXHIBIT 12: OPERATING EXPENSE COMPONENTS PER SF – NCREIF PROPERTY INDEX INDUSTRIAL SECTOR

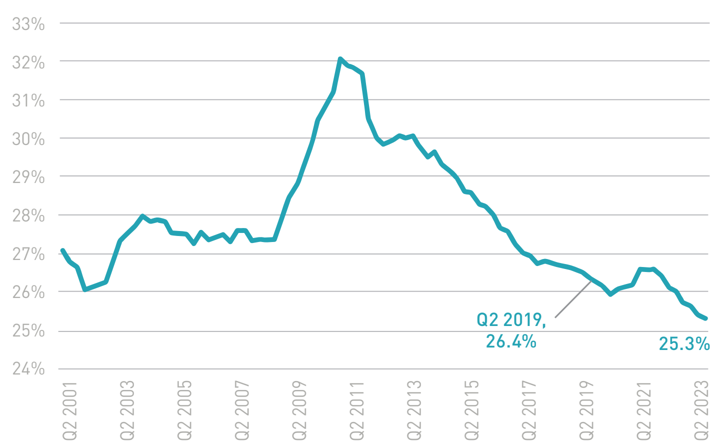
Source: NCREIF Property Index; as of September 14, 2023 (2023 is annualized with data through Q2 2023).




In the wake of increased demand for e-commerce, rental income increased faster than the rate of growth for expenses. Accordingly, OERs decreased from 26.4% pre-COVID to 25.3% as of Q2 2023 (see chart below).

### EXHIBIT 13: OPERATING EXPENSE RATIO – NCREIF PROPERTY INDEX INDUSTRIAL SECTOR (ANNUAL, ROLLING 4-QUARTER TOTALS)

Source: NCREIF Property Index; as of September 14, 2023 (data through Q2 2023).



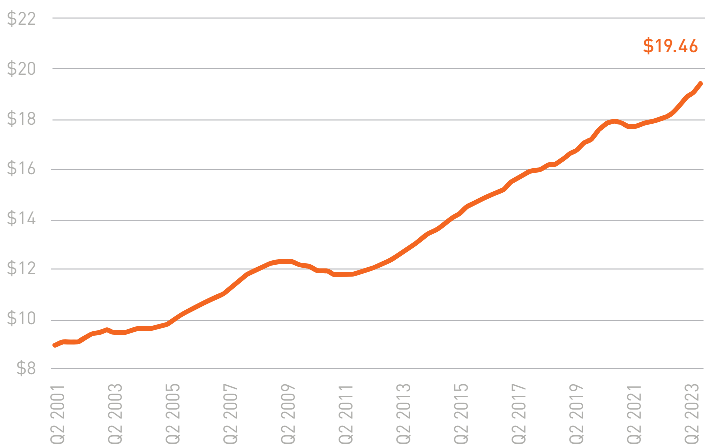
## OFFICE

The office sector has exhibited cumulative income and expense growth since Q2 2019 of 12% and 16%, respectively. However, in the past year, expenses have risen 7.8% while income increased 3.7%. It is reasonable to assume that expenses will continue to rise faster over the next two years and result in higher OERs. Ultimately – expense reimbursement clauses included in office leases do not compensate for expense increases because base rent will have to adjust to keep it at market levels.

The following chart details the growth of operating expenses of office properties over the past 22 years.

### EXHIBIT 14: OPERATING EXPENSE PER SF – NCREIF PROPERTY INDEX OFFICE SECTOR (ANNUAL, ROLLING 4-QUARTER TOTALS)

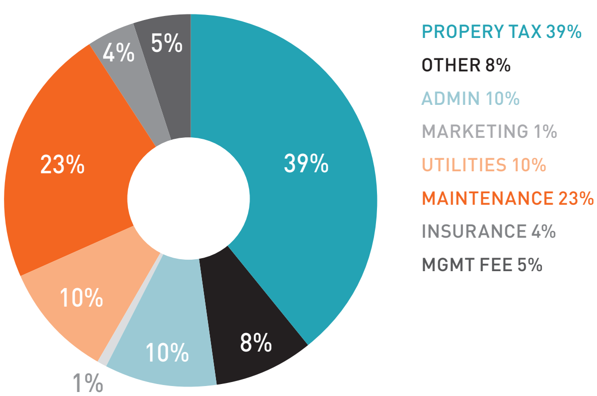
Source: NCREIF Property Index; as of September 14, 2023 (data through Q2 2023).




The following chart highlights the breakout of office operating expenses by category.

### EXHIBIT 15: OFFICE SECTOR OPERATING EXPENSE BREAKDOWN

Source: NCREIF Property Index; as of Q2 2023.




The office sector has exhibited cumulative income and expense growth since Q2 2019 of 12% and 16%, respectively. However, in the past year, expenses have risen 7.8% while income increased 3.7%.

Since Q2 2019, office expenses have increased 16% with the greatest rise experienced by insurance at +107%. Other increases include property taxes (12%), administrative (+32%), and maintenance (15%). Property taxes represents the largest share of expenses, but its average growth of 1.1% CAGR over the past four years, lower than the 5.9% average over the 18 years ending in 2019, muted its impact. The addition or upgrade of certain protective equipment and other measures during Covid may have added to expenses for certain properties. Overall, office values have been negatively impacted by elevated remote work in the wake of the pandemic.

The bar chart below details office expenses by category on a price per square foot basis.

### EXHIBIT 16: OFFICE OPERATING EXPENSE GROWTH BY EXPENSE COMPONENT

Source: NCREIF Property Index; as of September 14, 2023 (2023 is annualized with data through Q2 2023).

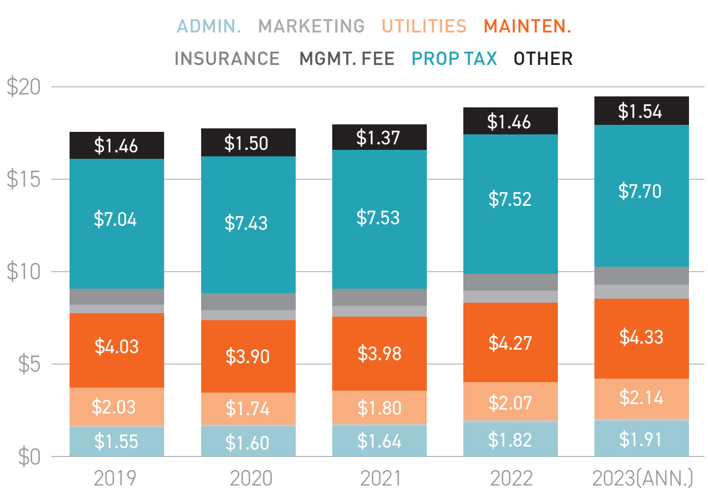
**OPERATING EXPENSE GROWTH BY EXPENSE COMPONENT**

| | ADMIN. | MARKETING | UTILITIES | MAINTEN. | INSURANCE | MGMT. FEE | PROP TAX | OTHER | TOTAL EXPENSES |
|---|---|---|---|---|---|---|---|---|---|
| Cumulative Past 4 Years (2Q19-2Q23) | 31.9% | 8.5% | 7.0% | 15.5% | 106.8% | 9.0% | 12.1% | 12.3% | 16.2% |
| CAGR Past 4 Years (2Q19-2Q23) | 7.2% | 2.1% | 1.7% | 3.7% | 19.9% | 2.2% | 2.9% | 2.9% | 3.8% |
| CAGR Past 2 Years (2Q21-2Q23) | 9.2% | 4.4% | 11.0% | 6.5% | 21.2% | 1.9% | 1.1% | 10.3% | 5.5% |
| CAGR 18 Years Before Covid (2Q01-2Q19) | 4.4% | 4.4% | 1.1% | 2.9% | 5.6% | 3.1% | 5.5% | 2.2% | 3.4% |

The bar chart below details office expenses by category on a price per square foot basis.

### EXHIBIT 17: OPERATING EXPENSE COMPONENTS PER SF – NCREIF PROPERTY INDEX OFFICE SECTOR

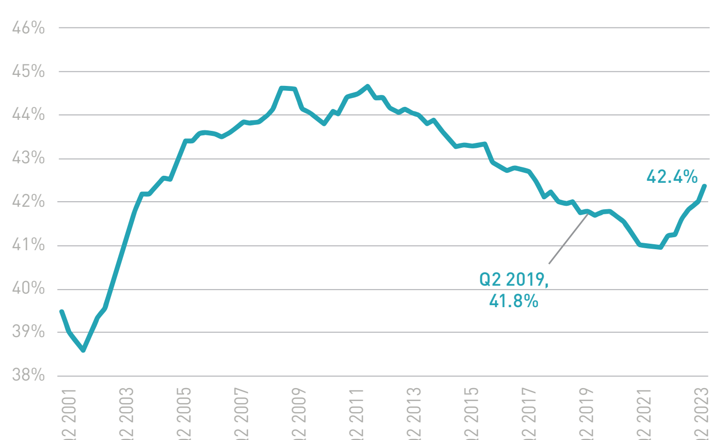
Source: NCREIF Property Index; as of September 14, 2023 (2023 is annualized with data through Q2 2023).




OERs in the office sector increased from 41.8% pre-COVID to 42.4% as of Q2 2023. In the interim, OERs decreased just below 41% because operating costs decreased somewhat when buildings remained empty during the pandemic (see chart below).

### EXHIBIT 18: OPERATING EXPENSE RATIO – NCREIF PROPERTY INDEX OFFICE SECTOR (ANNUAL, ROLLING 4-QUARTER TOTALS)

Source: NCREIF Property Index; as of September 14, 2023 (data through Q2 2023).



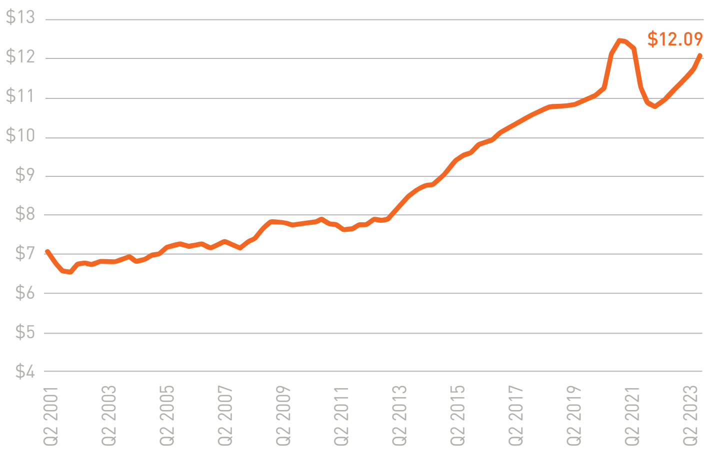
## RETAIL

The retail sector has exhibited cumulative income and expense growth since Q2 2019 of 8.0% and 14.1%, respectively. However, in the past year expenses have risen 13.3% while income increased 6.6%. It is reasonable to assume that expenses will continue to rise faster in the next two years and result in higher OERs. Ultimately expense reimbursement clauses included in retail leases do not compensate for the increases because base rent will have to adjust to keep it at market levels.

The following chart details the growth of operating expenses of retail properties over the past 22 years.

### EXHIBIT 19: OPERATING EXPENSE PER SF – NCREIF PROPERTY INDEX RETAIL SECTOR (ANNUAL, ROLLING 4-QUARTER TOTALS)

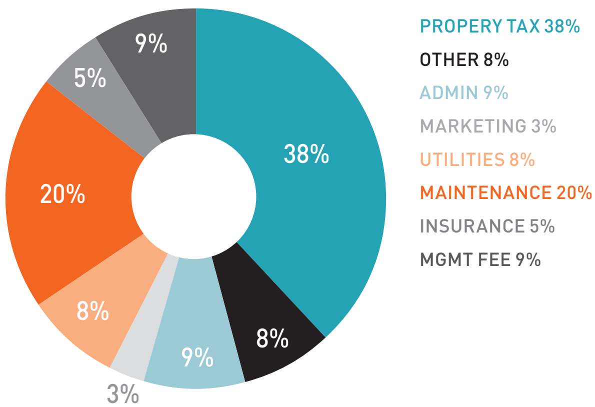
Source: NCREIF Property Index; as of September 14, 2023 (data through Q2 2023).




The following chart highlights the breakout of retail operating expenses by category.

### EXHIBIT 20: RETAIL SECTOR OPERATING EXPENSE BREAKDOWN

Source: NCREIF Property Index; as of Q2 2023.




The retail sector has exhibited cumulative income and expense growth since Q2 2019 of 8.0% and 14.1%, respectively. However, in the past year expenses have risen 13.3% while income increased 6.6%.

Since Q2 2019, retail expenses have increased 14.1%, the smallest increase amongst the four major property types. In terms of individual expenses, the greatest rise was experienced by insurance at +105% followed by maintenance (32.5%), administrative (24.8%), and utilities (23.8%). Property taxes represents the largest share of expenses, but its growth at 2.3% CAGR, lower than the 4.7% average over the 18 years ending in 2019, muted its impact.

The bar chart below details retail expenses by category on a price per square foot basis.

### EXHIBIT 21: RETAIL OPERATING EXPENSE GROWTH BY EXPENSE COMPONENT

Source: NCREIF Property Index; as of September 14, 2023 (2023 is annualized with data through Q2 2023).

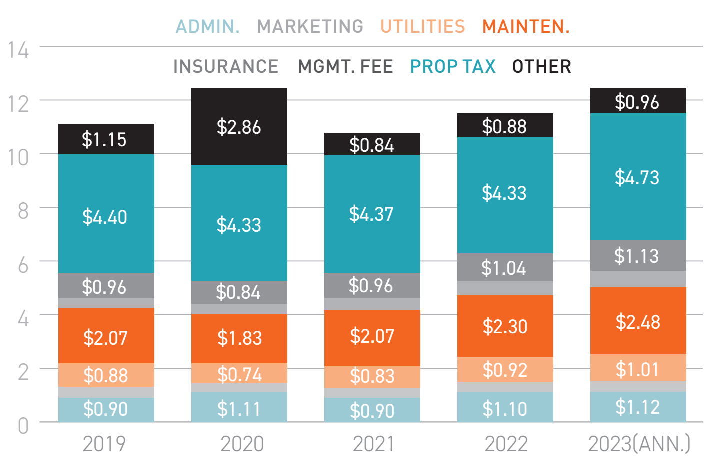
**OPERATING EXPENSE GROWTH BY EXPENSE COMPONENT**

| | ADMIN. | MARKETING | UTILITIES | MAINTEN. | INSURANCE | MGMT. FEE | PROP TAX | OTHER | TOTAL EXPENSES |
|---|---|---|---|---|---|---|---|---|---|
| Cumulative Past 4 Years (2Q19-2Q23) | 24.8% | 10.7% | 23.8% | 32.5% | 104.8% | 22.2% | 9.3% | -33.1% | 14.1% |
| CAGR Past 4 Years (2Q19-2Q23) | 5.7% | 2.6% | 5.5% | 7.3% | 19.6% | 5.1% | 2.3% | -9.6% | 3.4% |
| CAGR Past 2 Years (2Q21-2Q23) | 17.3% | 14.6% | 13.2% | 13.1% | 25.4% | 11.4% | 4.4% | 13.9% | 10.4% |
| CAGR 18 Years Before Covid (2Q01-2Q19) | 3.8% | 2.1% | 2.1% | 1.3% | 4.8% | 4.5% | 4.6% | 2.5% | 2.9% |

The bar chart below details retail expenses by category on a price per square foot basis.

### EXHIBIT 22: OPERATING EXPENSE COMPONENTS PER SF – NCREIF PROPERTY INDEX RETAIL SECTOR

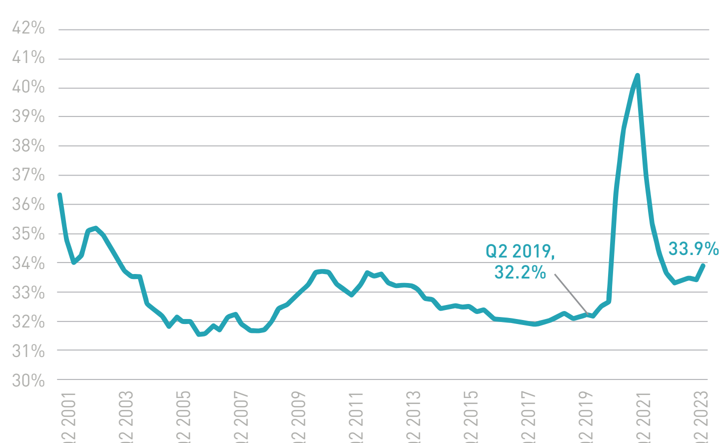
Source: NCREIF Property Index; as of September 14, 2023 (2023 is annualized with data through Q2 2023).




OER for the retail sector increased from 32.2% pre-COVID to 33.9% as of Q2 2023. In the interim, the OER had increased to nearly 41% because many tenants stopped paying rent when malls and all non-essential retail were compelled to close during the pandemic (see chart below).

### EXHIBIT 23: OPERATING EXPENSE RATIO – NCREIF PROPERTY INDEX RETAIL SECTOR (ANNUAL, ROLLING 4-QUARTER TOTALS)

Source: NCREIF Property Index; as of September 14, 2023 (data through Q2 2023).



## REIT EXPENSES

Operating expense increases for properties held in REITs reflect a similar trend. In addition, Green Street projects higher-than-trend increases for 2023 and 2024. Expenses are rising across the property type spectrum. Industrial has experienced the highest cumulative expense growth for a major property type. This is expected to continue, with the greatest increases forecast for the industrial sector through 2027.

### EXHIBIT 24: REIT SAME-UNIT ANNUAL EXPENSE GROWTH BY SECTOR (REIT-WEIGHTED BY # OF PROPERTIES)

Source: Green Street. Data for 2023 is estimated as of Q2. (Each annual figure includes only REITs for which same-unit expense data is available for that annual observation period. The REIT sample set could be different year-to-year. Cumulative and CAGR growth rates include only REITs for which data is available for all years of the observation period.)

| | ACTUAL | | | | | FORECAST | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023E | 2024E | 2025E | 2026E | 2027E |
| APARTMENT | 2.9% | 2.8% | 3.4% | 3.2% | 5.1% | 6.2% | 4.9% | 4.0% | 3.4% | 3.1% |
| SINGLE-FAMILY RENTAL | 5.2% | 3.5% | 2.4% | 2.2% | 8.1% | 9.2% | 5.2% | 4.7% | 4.0% | 3.9% |
| INDUSTRIAL | 4.2% | 3.9% | 3.2% | 6.3% | 8.7% | 9.7% | 11.1% | 12.7% | 12.5% | 10.5% |
| OFFICE | 3.7% | 3.3% | -3.7% | 1.6% | 3.9% | 3.1% | 2.8% | 2.7% | 1.3% | 1.3% |
| TOWER | 3.5% | 2.1% | 6.1% | 5.1% | 5.4% | 5.5% | 5.5% | – | – | – |
| SELF-STORAGE | 3.4% | 4.9% | 1.9% | 0.0% | 6.0% | 5.4% | 2.8% | 3.3% | 2.9% | 2.7% |
| LODGING | 2.1% | 2.2% | -46.8 | 18.8% | 40.6% | 9.1% | 2.3% | 2.0% | 1.5% | 1.2% |

## CONCLUSION

Expenses generally rose at a faster rate over the past several years than in the years prior to COVID. Above-trend increases are expected over the next year, as well. The greatest increases were experienced by industrial properties; however, this was more than compensated for by robust income growth. Multifamily, also experienced substantial expense growth, but did not achieve offsetting income increase. The increases experienced by office building were relatively minimal – likely because buildings are currently occupied to only a fraction of the level of several years ago. Lodging facilities had the greatest swings in expense levels because they were shut down during COVID and the expenses increased substantially as they reopened. Warehouse facilities also exhibited significant increases, however, from a low base as logistics properties have relatively few expenses.

The higher the operating expense ratio (OER), the more sensitive the property's NOI is to declines in EGI. Accordingly, hotels and to a lesser extent offices, are the most sensitive. Property types with low OERs such as logistics and self-storage facilities are the least sensitive. In the middle, are multifamily and retail properties.

## ABOUT THE AUTHORS

Stewart Rubin is Senior Director and Head of Strategy and Research, and Dakota Firenze is a Senior Associate, for New York Life Real Estate Investors, a division of NYL Investors LLC, a wholly-owned subsidiary of New York Life Insurance Company.

## NOTES

[1] Net operating income is effective gross income less operating expenses.

[2] NCREIF Property Index (NPI) is a quarterly, unleveraged composite total return for private commercial real estate properties held for investment purposes only. All properties in the NPI have been acquired, at least in part, on behalf of tax-exempt institutional investors and held in a fiduciary environment. Annual expense figures are based on compound annual rate of growth (CAGR) as of Q2 2023.

[3] The operating expense ratio is the quotient of operating expenses divided by effective gross income.

[4] Based on data from RealPage, U.S. apartment insurance costs went up by about 33% last year. In San Diego, for example, they only went up by about 8%. But in Jacksonville, insurance costs went up by about 65%.

Expenses generally rose at a faster rate over the past several years than in the years prior to COVID. Above-trend increases are expected over the next year, as well.

# IN MEMORIAM: JANICE STANTON (1965–2024)

A phone on the table starts to buzz. Maybe it's work or maybe it's personal, but the purpose is often the same; as novelist E.M. Forster wrote in *Howards End*—"Only connect!"

I still expect a call—a connection—from Janice. She initiated so many of those conversations. In rapid fire and punctuated with warm laughter, there would be business, there would be ideas, and always connection.

The *Commercial Observer* once described Janice Stanton as "Cushman & Wakefield's International Woman of Mystery." A trusted advisor to institutional investors around the world, for over twenty-five years she worked in real estate investment research, analytics, finance, and pension fund management. She advised global investors as the Executive Managing Director of Capital Markets for Cushman. Before that, she was a founding partner of Equinox Investments, and a portfolio manager for the real estate divisions of MetLife and SSR Realty.

Janice was an enthusiastic member of AFIRE, ultimately becoming the Director of Membership as well as a brilliant speaker, moderator, and organizer of thoughtful real estate discussions. She had a clear view of what was really going on, and was as comfortable navigating Asia, Europe, the Middle East, and Latin America as she was with New York's Upper East Side.

AFIRE members around the world were surprised to lose her so soon, but grateful for the impact she had on all of us. Wherever Janice went, community blossomed.

She leaves behind so many who miss her, including her husband and son, Ron and Jack, and a global village of friends, family, and colleagues.

"Only Connect!"—that's what Janice did, and we are all richer for it.

*Please consider a donation to Regis High School in memory of Janice Stanton P'24*

*55 East 84th Street, New York, NY. 10028*
*Attn: Advancement Office*

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