



PERSPECTIVES
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SEPTEMBER 2023

Topic of Interest

The rising rate environment's impact on real estate cap rates

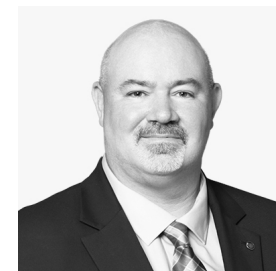
Executive summary

The quickly rising interest rate environment has changed the landscape for commercial real estate so much that investors are questioning how the appraised values of their private real estate assets might change in the future. To illuminate this question, we begin with a discussion of historical cap rate movement, which has tended to track interest rates directionally but imperfectly. We examine how the private real estate market has responded to rising interest rates compared to the public real estate market, and how its response has contributed to disparities in performance. Finally, we show how the slow appraisal process of private assets has led to large gaps in valuations.

Verus believes a gap still exists between where private market values should be and where they are actually marked. There will likely be continued pressure on property valuations, and we urge caution in deploying into existing pools of assets such as open-end funds. We also believe that there are real estate strategies that can benefit from investing in the current environment, such as allocating to opportunistic General Partners.

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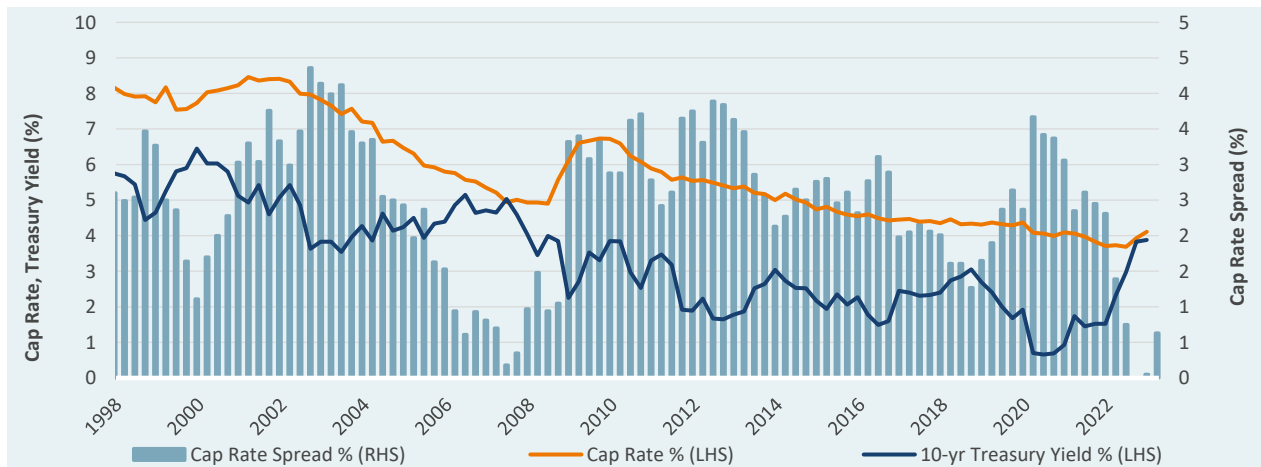


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Relationship between interest rates and real estate

- Capitalization rate ("cap rate") is a measure used to evaluate the return on investment of a real estate property.
- Interest rates, on the other hand, refer to the cost of borrowing money or the return on investment for fixed income securities.
- The two are generally considered to be correlated; when interest rates are low, borrowing costs decrease, making it more affordable for investors to finance real estate purchases. This increased demand for real estate investments can drive up property prices and result in lower cap rates (lower yields).
- Conversely, when interest rates rise, borrowing costs increase, which can reduce the demand for real estate investments. This decrease in demand can lead to lower property prices and higher cap rates.
- It is important to note that the relationship between interest rates and cap rates is not always linear or immediate. **While interest rates can significantly determine cap rates, they are not the sole determinant.**

HISTORICAL SPREAD BETWEEN INTEREST RATES AND CAP RATES



Source: NCREIF, FRED, as of 3/31/23

Average cap rates have generally tracked interest rates, but not in lockstep. Over this period, the 10-year treasury rate fell from ~6% to below 1% in 2020. During the same timeframe, cap rates fell from ~8% to just below 4%.

Recent impact on cap rates

Although the Federal Reserve began raising short-term interest rates at the beginning of 2022, private real estate cap rates continued to decline until September 2022. Since that time, average cap rates on core properties (according to NCREIF) have climbed only 0.4% to 4.2% at the end of the 1st quarter, 2023.

The public real estate market tends to be

more sensitive to changes in interest rates and current market conditions. Implied cap rates are calculated based on the total market prices of REIT shares outstanding and the net operating income generated by their underlying real estate assets.

Implied cap rates historically reflected a premium to private real estate cap rates. This is partly due to differences in

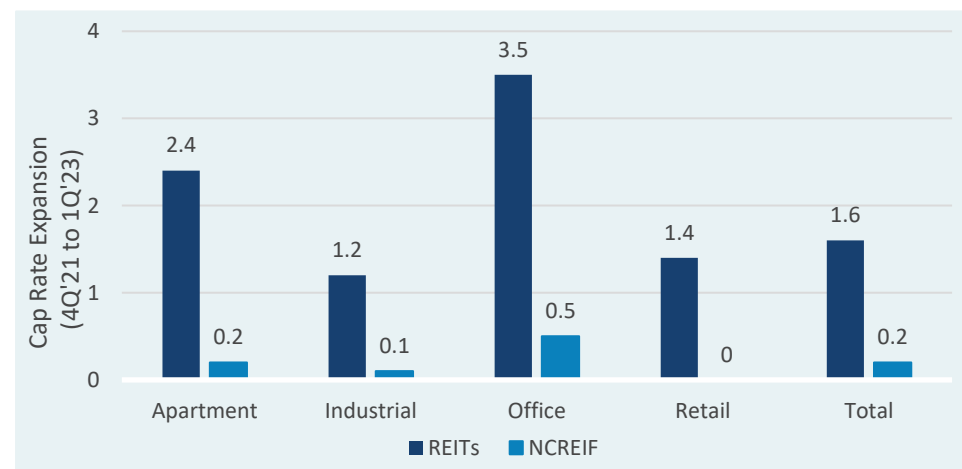
composition of assets between the two markets. The REIT Market includes a larger percentage of non-core property types. Over the last 10 years, the average premium was 1.4%, which is where this premium sat at the end of 2021. Since then, implied cap rates for listed REITs have expanded 1.6% at the end of Q1 2023, while private market cap rates have only expanded 0.2%.

PUBLIC VS. PRIVATE REAL ESTATE CAP RATE EXPANSION

| | <u>Apartment</u> | | <u>Industrial</u> | | <u>Office</u> | | <u>Retail</u> | | <u>Total</u> | |
|--------------------|-----------------------|---------------------------|-----------------------|---------------------------|-----------------------|---------------------------|-----------------------|---------------------------|-----------------------|---------------------------|
| | REIT Implied Cap Rate | NCREIF Appraisal Cap Rate | REIT Implied Cap Rate | NCREIF Appraisal Cap Rate | REIT Implied Cap Rate | NCREIF Appraisal Cap Rate | REIT Implied Cap Rate | NCREIF Appraisal Cap Rate | REIT Implied Cap Rate | NCREIF Appraisal Cap Rate |
| 4Q 2021 | 4.0 | 3.8 | 3.2 | 3.6 | 6.6 | 4.6 | 5.9 | 5.3 | 5.4 | 4.0 |
| 1Q 2023 | 6.4 | 3.9 | 4.4 | 3.7 | 10.1 | 5.1 | 7.3 | 5.3 | 7.0 | 4.2 |
| Cap Rate Expansion | 2.4 | 0.2 | 1.2 | 0.1 | 3.5 | 0.5 | 1.4 | 0.0 | 1.6 | 0.2 |

Source: Angelo Gordon, Greenstreet, NCREIF, as of 3/31/23

CAP RATE EXPANSION BY PROPERTY TYPE

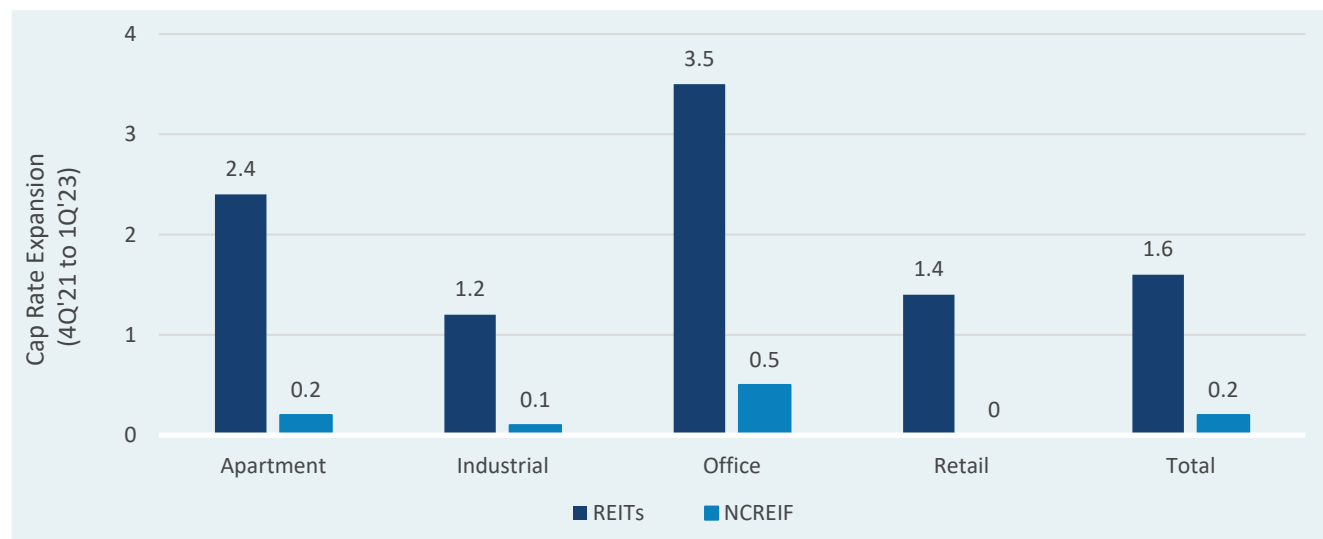


Source: Angelo Gordon, Greenstreet, NCREIF, as of 3/31/23

Impact on cap rates by property type

- Cap rate expansion has not been the same for every type of property.
- On one end of the spectrum, industrial properties, which have seen greater demand and favorable fundamentals due to the tailwinds of e-commerce, came into the rising rate environment with the lowest overall cap rates in the low-to-mid 3s and have experienced less cap rate expansion than other property types.
- Office, on the other hand, has seen significant uncertainty of demand due to the COVID-19 pandemic and emerging work-from-home trends. REIT implied cap rates for Office were already the highest at 6.6% at the beginning of 2022 and have expanded to 10.1%, while private cap rates have only modestly increased from 4.6% to 5.1%.

CAP RATE EXPANSION BY PROPERTY TYPE

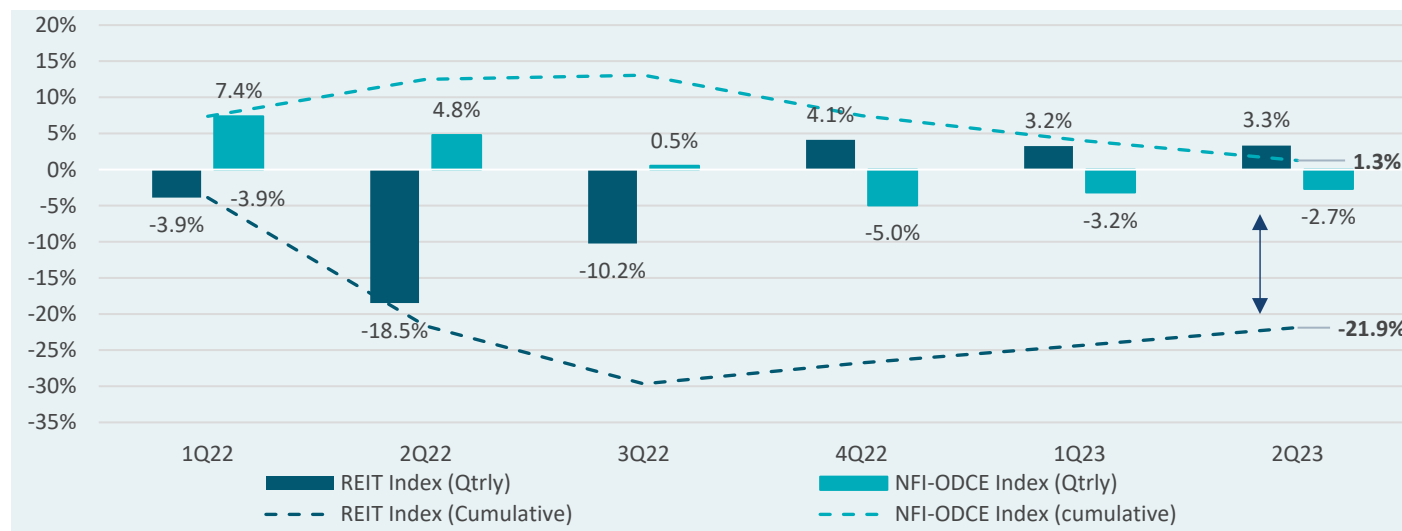


Source: Angelo Gordon, Greenstreet, NCREIF, as of 3/31/23

REITs vs. Private Real Estate

- REITs were quick to respond to the rising interest rate environment.
 - These investments began seeing write-downs in Q1 2022 when the Federal Reserve first began raising rates.
 - In the first three quarters of 2022, REITs experienced a cumulative drawdown of -30%, recouping only +8% of the drawdown since that point.
- Private real estate, on the other hand, continued to appreciate in the first three quarters of 2022, experiencing a cumulative +13% mark up during that time.
 - Not until Q4 2022 did private markets finally take their first write-down.
 - Since the beginning of 2022, private real estate valuations are still up +1% in aggregate with a -12% write-down from their peak valuation.

PUBLIC VS. PRIVATE REAL ESTATE PERFORMANCE DISPERSION



Source: eVestment, NCREIF, as of 3/31/23.

Lag effect in private real estate

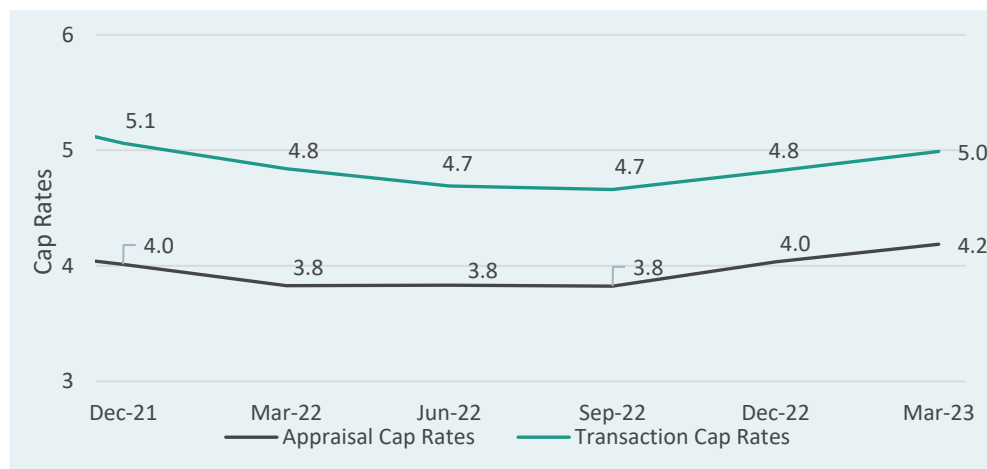
— The appraisal process used to value private real estate takes longer to recognize macro changes than the market-sensitive listed REIT market. This is due to two main reasons:

- Appraisers anchor estimated property values on the most recent appraised values, which means valuations can be slow to reflect true market value.
- The appraisal process is more reliant upon comparable trades or “comps,” which have slowed dramatically over the last year.

— In periods of uncertainty such as ours, appraisers have fewer trades or comps to compare existing property values to and must rely on older comps that may be higher in value than what is reflected in the current building market.

— We believe there will continue to be upward pressure on cap rates, even with limited transaction volumes.

APPRAISAL CAP RATES VS. TRANSACTION CAP RATES



Source: NCREIF, as of 3/31/23.

Transaction cap rates have been 0.8% to 1.1% higher than appraised values, in aggregate. For transactions that have closed, we have seen higher cap rates associated with those properties than existing assets going through traditional appraisal processes, as seen in the chart.

Dry powder and transaction cap rates

- The other dynamic in private real estate revolves around transaction cap rates happening *below* the cost of debt, most noticeably in the multi-family and industrial sectors. Transaction cap rates in industrial are hovering in the low 4s, while multi-family are closer to the low 5s.
- The cost of debt varies by property but ranges 6-8%, meaning leverage is negatively contributing to returns on deals being financed today. **The pressure to put money to work is contributing to what we consider a bizarre deal environment where equity is priced to return less than the debt sitting in front of it.**
- While we have no certainty about where interest rates are headed in the next two years, we are concerned that real estate valuations reflect an unrealistically rosy scenario of continued growth in income and interest rates moving back down to near zero in the not-too-distant future.
- Overall, until we see transaction values move higher, we expect private fund appraisals to continue a slow grind downwards.

Conclusion

- Verus believes that **a gap still exists between where private market values *should be* versus where they are currently marked.** The slow appraisal process and unusual transaction market means that many existing private market properties have not marked *cap rates up enough*, and, therefore, have not marked *values down enough*.
- While it may be *unlikely* that private market cap rates can reach levels implied by the REIT market, the spreads are too wide to ignore. This means that **open-end funds and existing pools of properties will likely keep facing more valuation pressures in the upcoming quarters** with appraised values further falling.
- **Verus recommends taking a cautious approach to deploying capital in the current environment.** We favor opportunistic General Partners that have experience in investing in stress and distress as many property owners are facing challenges in refinancing and need creative solutions such as equity gap financing, rescue capital, and preferred equity solutions.
- Until we see existing property valuations stabilize, **we prefer closed-end funds that will be deploying fresh capital over the next several years**, likely buying in at more attractive entry prices post dislocation.
- For more information regarding our views on these topics, please reach out to your Verus consultant.

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