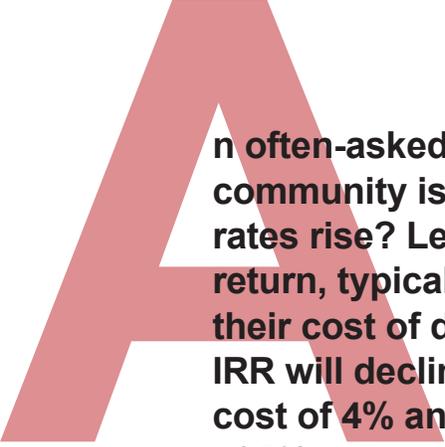


ABR Capital Partners — Research

When Things Are Not What They Seem

Understanding the Relationship Between
Cap Rates and Interest Rates



An often-asked question in the real estate investment community is what happens to cap rates when interest rates rise? Levered investors solving for a net equity return, typically measured by IRR, know intuitively that if their cost of debt increases, all things equal, the equity IRR will decline. A 65% levered investment with an interest cost of 4% and a going-in cap rate (based on leading NOI) of 6% will result in a year-one equity return (or, “cash on cash return”) of 9.7%. But, if interest rates increase to 5%, the year-one return drops to 7.9%, a 180 basis points decline. To achieve the original 9.7% year-one return, the going-in cap rate would have to be 6.65%, a 65 basis points increase, effectively a 10% decline in purchase price. Of course, the hold period IRR will be a function of cash flows throughout the life of the investment, not just the first year. But, such cash flows will start with the first year, which of course is a function of the purchase price, or going-in cap rate. Thus, it would seem that an increase in debt costs will lead to lower returns, which can only be offset (again, emphasis on all things equal) by a lower purchase price, i.e., a higher cap rate.

A second, somewhat intuitive reason to expect cap rates to increase as interest rates rise is related to the long duration nature of real estate as an investment and its ability (if stabilized) to generate reasonably predictable income distributions. The useful life of most properties, if properly maintained, is comfortably 30 years or more. However, most investors have a shorter hold period and the industry has generally adopted ten years as the duration to consider this cap rate/interest rate relationship. In addition, while real estate investments are (by far) not a perfect substitute for fixed income instruments, most research

regarding cap rate/interest rate relationships settles on comparing cap rates to the U.S. 10-year Treasury rate (10yr UST). As the 10yr UST rises, investors will expect more return from all their similar duration assets, including real estate. This is most easily obtained (all things equal) by decreasing the purchase price of an asset, which in turn, results in a higher cap rate.

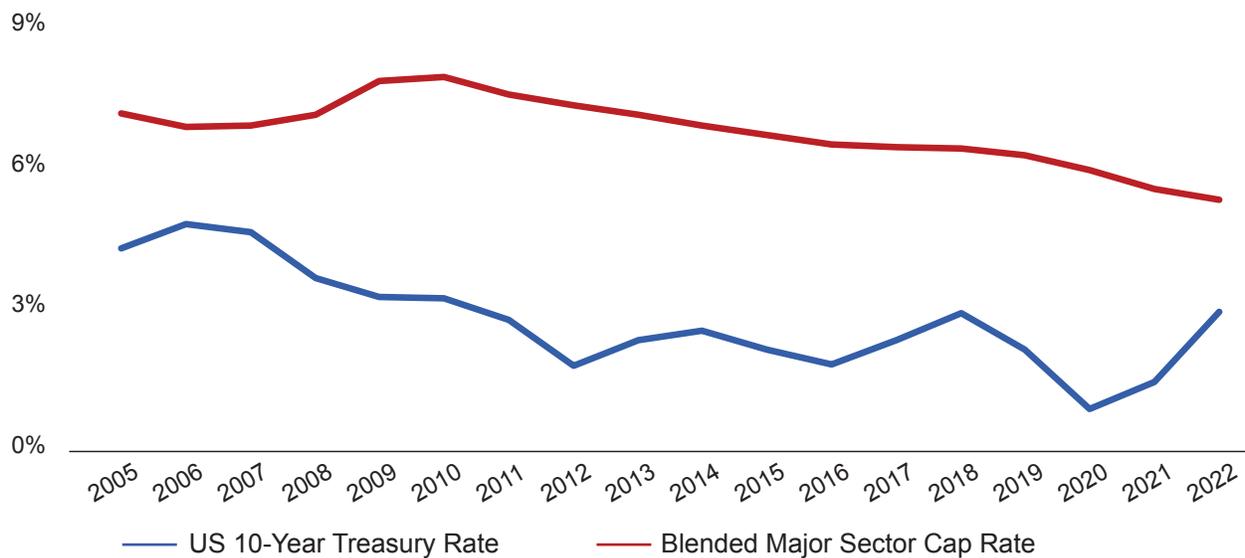
Following the math, and logic, above, one would generally expect that rising interest rates will lead to rising cap rates. However, the data has often told a different story.¹

Historical Cap Rate and Interest Rate Data

The following charts summarize data associated with cap rates and interest rates. Exhibit 1 charts the 10yr UST to Blended Major Real Estate Sector Cap Rates.² The first, most obvious, observation is that the 10yr UST is substantially more volatile than cap rates.

Exhibit 1

US 10-Year Treasury Rate vs Blended Major Sector Cap Rate



Source: MSCI/Real Capital Analytics. www.msci.com

And, as Exhibit 2 shows, over time the spread between the 10yr UST and cap rates has varied substantially, from as high as 550 basis points in 2012, to as low as 205 basis points in 2006.

Emphasizing the non-correlation between cap rates and interest rates, in Exhibit 3, we see that from 2005 to 2022, cap rates moved in the opposite direction of the 10yr UST approximately 40% of the time.³

Again, while it may seem intuitive that cap rates would have to rise as interest rates rise, it appears difficult to prove using historical data. But, analyzing such data, especially cap rates, has severe limitations. As Lee Collins, a Managing Director at ABR Capital Partners responsible for all property dispositions at the firm, points out, “Depending on who is providing the data, the cap rate could be based on trailing NOI, forward NOI, or in-place NOI. Also, a firm might report cap rates based on an adjusted NOI that reflects the next owner’s

projected tax liability, instead of the property’s current tax liability, while other firms might report the cap rate without this adjustment.” Mr. Collins also observes that the asset may or may not be stabilized, and the NOI may or may not have accounted for free rent or concessions. Because the cap rate is derived from the purchase price and selected NOI, these and other variables can result in a different cap rate for the same asset sale and this inconsistency challenges the reliance on cap rate data for any historical analysis. For purposes of the above analysis, we use cap rate data that has been reported by MSCI/Real Capital Analytics, a leading real estate data and analytics firm.⁴

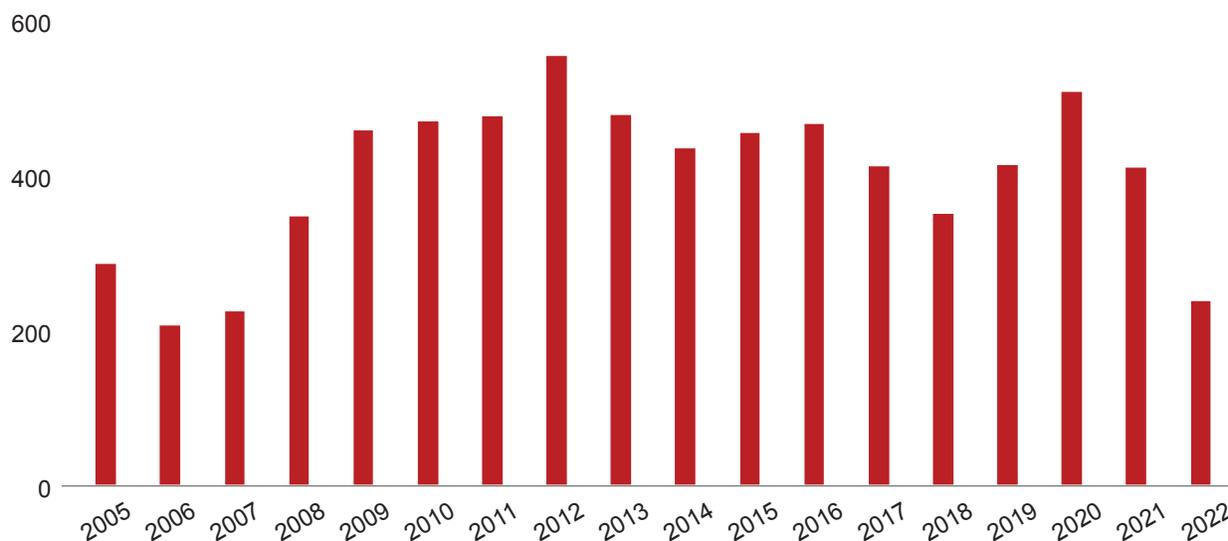
It should also be noted that the degree of changes in the 10yr UST is important for analysis purposes. For example, from 2005 to 2021, the largest fourth quarter YOY increase in the 10yr UST was 162 bps. This occurred from 4Q08 to 4Q09. However, from 4Q21 to 4Q22, the 10yr UST increased by 215 bps, more than 50 bps greater than the next largest increase during the analysis period. The lack of a similarly sized increase in previous years (i.e., at least 200 bps) must also be considered when analyzing the historical relationship between interest rates and cap rates and applying the analysis to contemporary data.

Depending on who is providing the data, the cap rate could be based on trailing NOI, forward NOI, or in-place NOI.

— Lee Collins

Exhibit 2

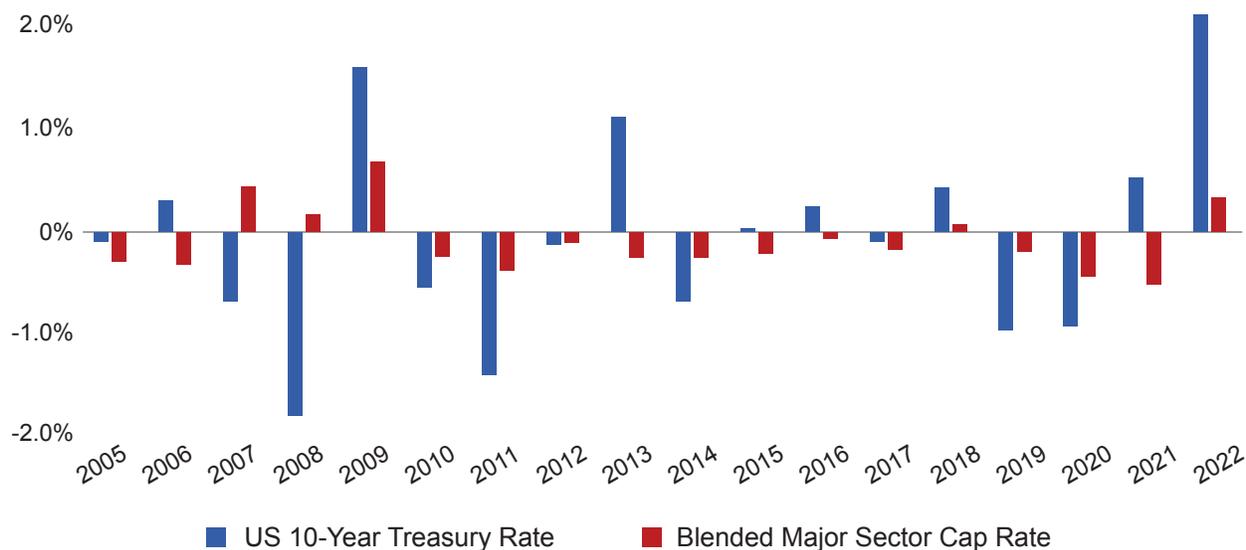
US 10-Year Treasury Rate Spread to Blended Major Sector Cap Rate



Source: MSCI/Real Capital Analytics. www.msci.com

Exhibit 3

Year-Over-Year Change: US 10-Year Treasury Rate vs Blended Major Sector Cap Rate



Source: MSCI/Real Capital Analytics. www.msci.com⁵

Alternative Points of View

As noted above, proving a direct correlation between interest rates and cap rates is challenging. This lack of correlation has led to different views on the effect rising interest rates have on cap rates. One alternative view is that while rising interest rates might influence cap rates, changes in cap rates are driven less by changes in interest rates, and more by supply and demand dynamics for a given property type. Supporters of this view contend that if there is excess demand for a property type, cap rates for these properties will fall and valuations will rise, even in a rising interest rate environment. They believe that while interest rates can influence demand,

stronger determinants of demand are the property sector's growth prospects, the strength and appeal of alternative investments outside of real estate and on an individual basis, the location of the subject property and its ability to generate positive cash flows on a current basis, irrespective of macroeconomic conditions.

The influence supply and demand factors have on cap rates has been expressed by John Chang, the Senior Vice President and Director of Research Services at Marcus & Millichap. In response to a question on the view that cap rates move with interest rates, Mr. Chang replied that "Historically, that's not true. Yes, over decades both have trended together but when you look at year to year movement, the spread narrows and expands. I encourage every investor to set aside the idea that interest rates and cap rates will move together. Focus instead on the outlook for each asset.⁶ What's on the horizon for demand drivers and supply risks? That combination can put the long-term context of an asset into a much better perspective."⁷

Mr. Chang's comments highlight the fact that cap rates are more often the statistical result of an investor's decision based on the investor's overall return requirements and assumptions regarding potential asset income over the hold period.





An investor who reasonably anticipates higher income growth over the hold period can, all things equal, justify a lower going-in yield, i.e., a purchase price at a lower cap rate. And, investors trying to forecast exit yields at the end of a hold period can similarly justify a lower yield/lower cap rate, if they can reasonably expect the next owner to experience higher than average levels of income growth in future periods.

A second alternative view on the effect rising interest rates have on cap rates is held by economist and former Wharton School of Business professor Dr. Peter Linneman. Dr. Linneman asserts that the flow of commercial mortgage funds has the greatest impact on cap rates and that only sizable movements in Treasury rates can offset this impact.⁸ Dr. Linneman's Real Estate Index (LREI) measures the supply of real estate capital and determines if commercial real estate debt is growing faster or slower than the economy. His findings are detailed in an article he co-authored with the real estate investment management firm, Federal Capital Partners (FCP).⁹ FCP tested Dr. Linneman's theory

using a model they created based on his research and came to the same conclusion as Dr. Linneman. Specifically, that the key determinant of cap rate movements in the near-term is fund flows as proxied by the growth rate of commercial real estate mortgage debt relative to GDP.¹⁰ Using their model and data from 2005-2020 for multifamily and office properties, FCP found that when mortgage debt grows at a rate of 100 bps faster than GDP, cap rates fall by 22 bps for multifamily properties and by 65 bps for office properties. This led the firm to conclude that "an increase in mortgage debt as a percent of GDP drives down cap rates..."¹¹ FCP notes that although their study focused on multifamily and office properties, they believe the analysis extends to other sectors. FCP also remarks that the relationship between mortgage debt growth and cap rates can be diminished by unexpected inflation and widespread lender forbearance because these factors can limit price discovery, resulting in atypical pricing and cap rates for affected trades.

Moving forward into 2023, opinions vary regarding what will happen with interest rates and cap rates during the year. While the dominant view may be that cap rates will rise because of recent increases in interest rates, there are those, like Mr. Chang and Dr. Linneman, who believe that a corresponding increase in cap rates as interest rates rise is not a certainty and that investors should look to supply and demand dynamics for each asset class, and to how quickly CRE mortgage debt is growing relative to GDP, to get a better feel for where cap rates are headed.

I encourage every investor to set aside the idea that interest rates and cap rates will move together. Focus instead on the outlook for each asset.

— Dr. John Chang

Endnotes

- 1 Note that while different periods may have commonalities (e.g., similar interest rate environments, transaction volume activity, etc.) because different variables related to asset pricing and yield are at play at any given time, history generally does not provide examples where all things are completely equal when comparing data from different periods.
- 2 The blended cap rate is a weighted average and was calculated using transaction activity and individual cap rates for the office, industrial, retail, hotel and multifamily sectors.
- 3 On a quarterly basis, from 2005 to 2022, the 10yr UST and blended cap rate moved in opposite directions approximately 40% of the time. To account for any time lag in changes between the 10yr UST and blended cap rate due to the way that real estate transacts, an annual analysis was also done (see Exhibit 3). This analysis revealed that between 2005 and 2022, the blended cap rate and 10yr UST also moved in opposite directions approximately 40% of the time.
- 4 MSCI/Real Capital Analytics retrieves cap rate data from a variety of public and private sources. Additional information regarding MSCI/Real Capital Analytics sources can be found at <https://www.msci.com/our-solutions/real-assets/real-capital-analytics>.
- 5 The YOY period for 2006-2022 is from Q4 of the prior year to Q4 of the following year. Note that the data required to calculate 4Q04's blended cap rate was not available. Therefore, the YOY period for 2005 is from 1Q05-4Q05.
- 6 Mr. Chang's suggestion to "Focus on the outlook for each asset" is a reminder that cap rate movements can differ by asset class and that this should be considered when attempting to determine the trajectory of cap rates.
- 7 Amaya, Holly. "Net Lease May Wobble But It Always Remains Steady." September 16, 2022. www.globest.com.
- 8 Regarding Dr. Linneman's findings that sizable movements in Treasury rates can offset the impact of commercial mortgage fund flows, note that the 215 bps increase in the 10yr UST from 4Q21 to 4Q22 is the largest increase that occurred during the 2005 to 2022 period highlighted in Exhibits 1-3, and during the 2005 to 2020 period used in FCP's analysis.
- 9 Linneman, P and Larriva, M. If Interest Rates Determine Cap Rates, Where is the Evidence? The Linneman Letter. Fall 2020.
- 10 Linneman, P and Larriva, M. If Interest Rates Determine Cap Rates, Where is the Evidence? The Linneman Letter. Fall 2020.
- 11 Linneman, P and Larriva, M. If Interest Rates Determine Cap Rates, Where is the Evidence? The Linneman Letter. Fall 2020.

Disclosures

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