

FALL  
2025

# An Unwelcome Recovery IN OFFICE VALUES

The data suggest that for the past several decades, the price has been too high, and if office values fully recover, it will be again.



**Adam Ruggiero**  
PREA Publications  
Committee

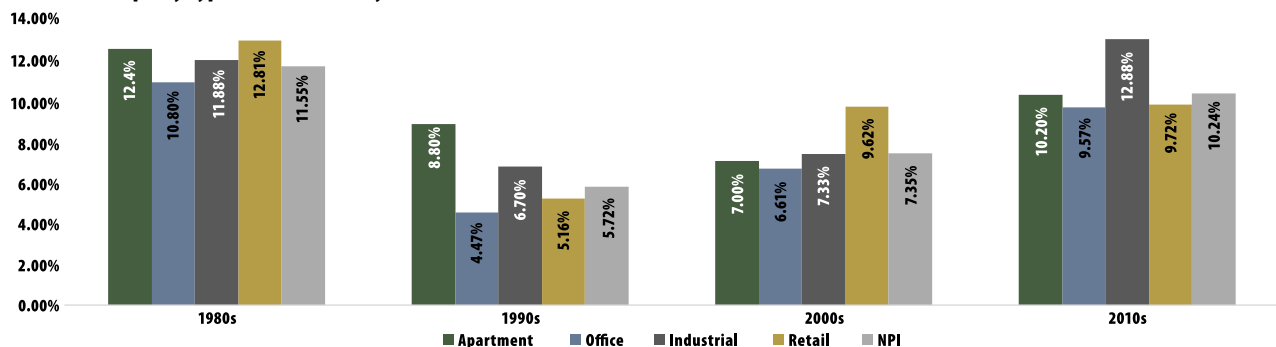
The past several years have been a rough ride for the US office sector. The COVID-19 pandemic dealt a huge blow to occupancies, a rapid rise in rates hammered returns, and tightening of lending standards reinforced a wave of distress. The result has been a decline in office values on par with the global financial crisis. Many investors are now asking if the office sector can still play a positive role in institutional real estate portfolios. I believe the answer is yes—but not without qualification. The office sector can lend itself well to value-added strategies, its wide distribution offers geographic flexibility, and its capital base is deep and diverse, but these benefits should be judged relative to the price paid to access them. The data suggest that for the past several decades, the price has been too high, and if office values fully recover, it will be again.

### A Perennial Underperformer

Discussions of the office sector’s future should begin with its past, which shows a consistent pattern of underperformance relative to the other major property types. This pattern is revealed by total return data from NCREIF. Annual office total returns have trailed the NCREIF Property Index (NPI), the primary benchmark of stabilized real estate performance, by an average of 209 basis points (bps) over the past 40 years.

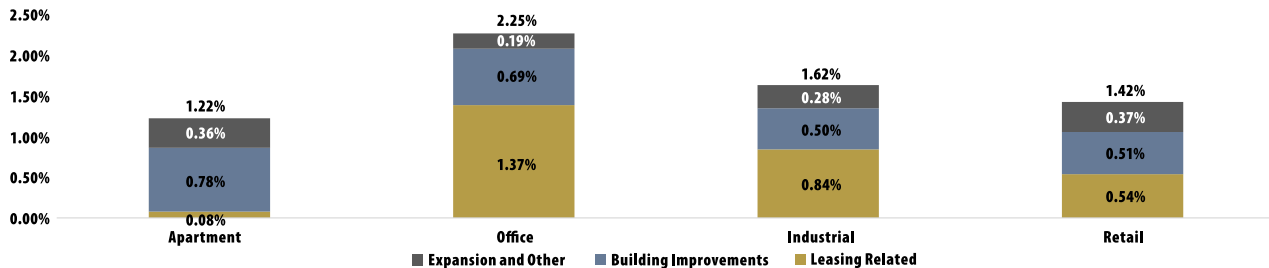
While that figure is statistically accurate, I believe it is also somewhat misleading. The COVID pandemic was a seismic event that produced a structural break in office demand trends and temporarily added high levels of volatility to demand for other property sectors. Because demand is only one component of performance, a temporary demand shock, even an extremely large one, should not be allowed to overwhelm the entire performance history. I believe a more accurate comparison of historical performance should end just prior to the onset of the pandemic in 2019. This approach still provides 40 years of historical data but without the skew from an extraordinary event. What it does not provide is a directionally different result (Exhibit 1).

**Exhibit 1: Property Type Total Returns by Decade (1980–2019)**



Sources: NCREIF and PREA

**Exhibit 2: Annual Capital Expenditures by Property Type (% of Market Value, 1980–2019)**



**Sources:** NCREIF and PREA

**Note:** Capex as shown is net of additional acquisition costs.

Even when the analysis ends in 2019, office remains a consistent underperformer, trailing the other sectors in all four decades. This includes even retail in the 2010s, which was largely viewed as a lost decade for that sector. There is, however, some nuance when breaking down the performance of the office sector between central business district (CBD) and Suburban. Suburban office had its best relative showing in the 1990s, just slightly edging out retail to pull into third place. By contrast, CBD office had a more interesting history, posting the best performance of the 1980s, the second-best of the 2000s, and the third-best performance in the 1990s and 2010s, beating retail. Although not sharing the exact same performance history, CBD and Suburban office do share the same set of operational headwinds.

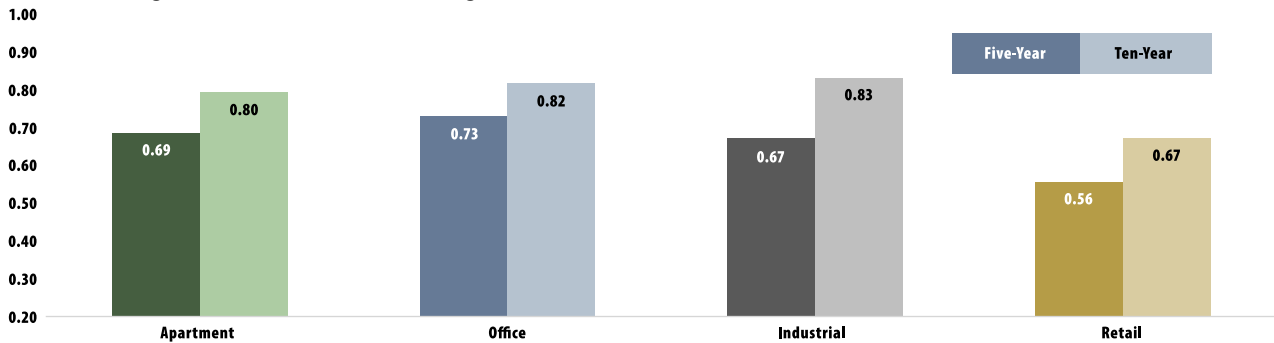
### Expensive Occupancy and Questionable Cap Rates

The primary driver of the office sector’s underperformance is its relatively high cost to maintain occupancy. As is also true for industrial and retail, office owners typically retain leasing brokers to attract potential tenants. They also ultimately fund significant tenant improvements to secure those tenants. Unlike industrial, though, most office assets are multitenant, requiring greater time and effort to lease and resulting in higher leasing commissions. The retail sector is also multitenant, but lease duration tends to be substantially longer, at 20 or more years versus five to ten years for office. This results in a lower need for retail owners to frequently fund tenant improvements and leasing commissions and in lower leasing-related capital expenditure (capex) overall.

Historical capex data clearly show the office sector’s higher leasing costs. NCREIF’s capex data begin in 2000, providing 20 years of history up to the 2019 cutoff of this analysis. As shown in Exhibit 2, the office sector recorded significantly higher capex as a percentage of market value than the other major property types. The cause was clearly higher lease-related capex, comprising tenant improvements and leasing commissions. As a percentage of market value, average leasing-related capex for office was 54 bps higher than for industrial, 84 bps higher than for retail, and 129 bps higher than for apartment. It should be acknowledged, though, that the spread with apartment is slightly exaggerated because apartment leasing costs are not capitalized. NCREIF’s expense data suggest that the apartment sector’s true leasing costs equal 18 bps of market value, resulting in a more accurate spread with office of 119 bps. CBD and Suburban exhibited similar leasing-related capex spreads, with CBD 10 bps tighter and Suburban 10 bps wider.

A secondary driver of the sector’s underperformance was its lower starting cap rates, which resulted in lower initial yields and higher interest rate sensitivity. Individual transaction cap rates are of limited use without additional detail on the properties being compared and the cap rates being quoted. Cap rates in the NCREIF database, however, are sourced from quarterly appraisals, providing a standardized, frequently updated measure across a persistent pool of stabilized, institutional-quality assets. This eliminates most of the factors that make individual transaction cap rates so difficult to compare.

**Exhibit 3: Average Cross-Sector Correlation (Rolling Excess Total Returns, 1980–2019)**



Sources: NCREIF and PREA

According to the NCREIF data, the office sector as a whole registered either the lowest or second-lowest cap rates in each decade from the 1980s to the 2010s. Office cap rates were an average of 10 bps lower than those of the NPI during the 40-year period from 1980 to 2019, while CBD was an average of 35 bps lower. These lower cap rates left the office sector in a position of requiring higher net operating income (NOI) growth to catch up with returns offered by other property types. They also made office more sensitive to interest rate movements because mortgage spreads are relatively consistent across property types (with the exception of apartment because of the role of agency lenders).

Taken together, the office sector’s higher capex burden, its lower initial yield, and its higher interest rate sensitivity left it with ground to make up from the very start. These factors suggest that the office sector needed to achieve at least an additional 100 bps to 125 bps of annual NOI growth to keep pace with the other property types on a total-return basis. That said, total returns are only one consideration in property-type allocation.

### Diversification, Liquidity, and Volatility

Understanding what drives the office sector’s total returns is important, but it is also important to remember that absolute return is not the only factor that governs allocation. Investors focused on risk-adjusted returns also heavily weight diversification, liquidity, and volatility. Here too, though, the office sector mostly disappointed.

Office was historically the most volatile property type and offered the weakest portfolio diversification benefits. The office sector as a whole registered the highest standard deviation of total returns over the 40-year period ending in 2019 and in every decade within that period. The same was true for CBD, while Suburban volatility was lower only in the 2010s largely because of consistently weak appreciation. Volatility is overwhelmingly attributable to appreciation across property types, but office has also exhibited relatively high income volatility as well. Office NOI growth recorded the highest relative volatility in the 1990s, 2000s, and 2010s, and was the second highest following apartment in the 1980s.

The office sector also proved to be a relatively poor diversifier. Its ability to diversify a real estate portfolio can be measured by comparing the correlation of its excess returns over the risk-free rate with those of other property types. Using five-year rolling correlations, the office sector recorded the highest average correlation, suggesting the lowest diversification benefit. The result was the same when splitting office into CBD and Suburban. Over ten-year correlations, though, the apartment and industrial sectors performed little better than office, with only retail exhibiting a consistently strong diversifying effect across both rolling time periods (Exhibit 3).

Where office has shined is liquidity. Office assets have historically benefited from a deep capital base that extends across strategies, investor types, and borders. Office assets have long been mainstays of core portfolios,

but they often have been better suited to value-added and opportunistic strategies, where the return erosion of maintaining occupancy is reduced by shorter hold periods. Insurance companies have long favored them for their tax advantages with regard to accelerating depreciation, which can also create a more favorable basis within risk-based capital frameworks. Non-US investors have viewed them as an effective way to deploy large sums of capital in fewer transactions and to gain broad exposure to the US economy through the property market. As a result, office assets, particularly those of the highest quality in major market CBDs, have exhibited high relative liquidity throughout multiple market cycles.

### Measuring Misvaluation

Taken as a whole, this analysis suggests that the office sector was likely overvalued relative to the other major property types for most of the 40 years ending in 2019. To estimate by how much, we need to apply adjustments to a commonly shared valuation metric. Because the discounted cash flow method is the preferred method of valuation, the preferred metric is discount rates. Unfortunately, NCREIF's database cannot provide historical discount rates, nor can any other this author is aware of. I would argue, though, that the NPI's appraisal cap rates can be equally effective. Recognizing how requires both a practical and a theoretical understanding of both metrics, the formulas for which are below:

#### Valuation Metric Formulas

Discount Rate = Cap Rate + NOI Growth – Capex as a % of Market Value

Cap Rate = NOI / Value

Seeing those formulas side by side reveals a problem. Both require an asset's value to calculate a result, but both results are needed to calculate that asset's value. The cap rate is an input into the discount rate, but if we accept that a discount rate determines the value in the denominator of a cap rate, then a cap rate must also reflect a discount rate. The two metrics have a circular relationship with each other.

Discount rates are preferred because although cap rates reflect underwritten NOI growth and capex, we cannot know to what degree, even if we can make some

reasonable assumptions. In this case, though, we can know. We don't need to make any assumptions about NOI growth and capex because we have the historical data. As a result, NCREIF's appraisal cap rates are just as effective a metric for comparison as discount rates.

... this analysis suggests that the office sector was likely overvalued relative to the other major property types for most of the 40 years ending in 2019.

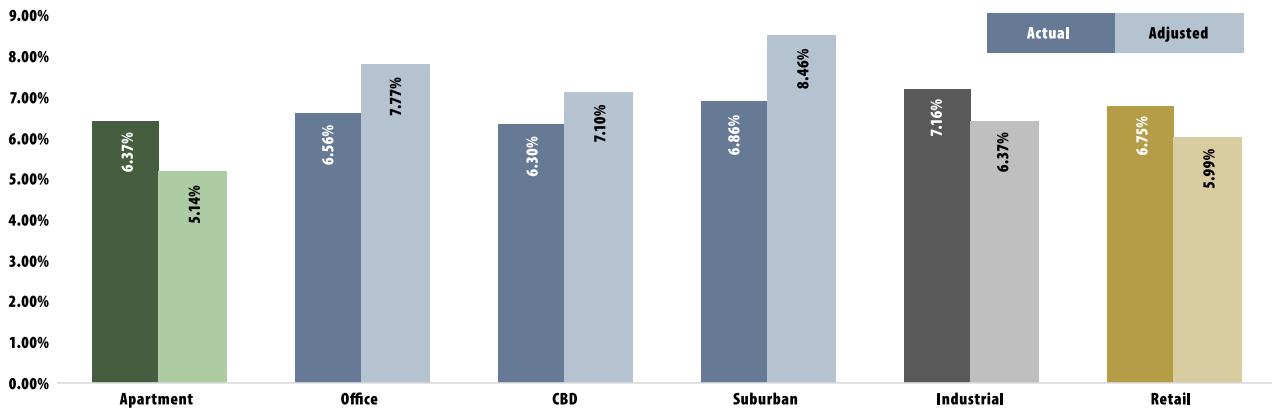
The last concept to address is the real estate risk premium, the spread over the risk-free rate reflected in both discount and cap rates and how to adjust for it. We have already touched on its components: diversification, liquidity, and volatility. Portfolio diversification serves as a reducer to volatility, but as described earlier, office fares poorly in that comparison. For the sake of conservatism, then, and because we are not assuming any portfolio weightings, we can leave that part of the analysis to the side and focus on volatility. To adjust for relative volatility, we can apply the Modigliani-Modigliani ( $M^2$ ) method to each property sector's returns. This method combines Sharpe

ratios with benchmark volatility to derive volatility-adjusted returns. Having adjusted for volatility, we can utilize a method I refer to as Ruggiero Yield Normalization (RYN) to adjust

historical cap rates to what they should have been based on the  $M^2$  returns. In the interest of brevity, I will focus on the results of RYN rather than the methodology. The formula is included on the next page for reference, and its results are shown in Exhibit 4.

These results suggest that office cap rates during the 40 years ending 2019 were 194 bps too low relative to an average of the other major property types. This spread was also consistent across rolling ten-year periods ending 1990 to 2019. The results for CBD and Suburban,

**Exhibit 4: Average Cap Rates by Property Type (Actual and Adjusted, 1980–2019)**



Sources: NCREIF and PREA

**Ruggiero Yield Normalization**

$$Y_N = Y_i + (R_{\text{bench}} - M_i^2)$$

Where:  $Y_N$  = normalized yield (or cap rate)

$Y_i$  = sector yield (or cap rate)

$R_{\text{bench}}$  = benchmark return

$M_i^2$  = Modigliani-Modigliani sector return

however, diverged significantly. Over the same period, the spread widened to 262 bps for Suburban and narrowed to 126 bps for CBD. Cap rates for both subtypes were consistently too low across decades as well. Between the two, CBD shows better results because of achieving higher excess returns despite exhibiting slightly higher volatility. CBD cap rates were indeed too low, but Suburban cap rates were that much more so.

These results are compelling and consistent with the findings of the analyses discussed earlier in this article, but there are limitations to this method of adjusting cap rates. Although RYN normalizes cap rates by absolute returns and volatility, it does not reforecast volatility. Because shifting office returns toward income would decrease the role of appreciation and reduce interest rate sensitivity, it should reduce volatility as well. RYN also does not contemplate the impact of difficult-to-quantify measures such as liquidity and portfolio diversification, although they might cancel each other out in the case of office. If all these factors could be

incorporated, though, I believe they would likely reduce the spreads in aggregate. This suggests that a more accurate estimate may be that CBD cap rates were actually 75 bps to 100 bps too low relative to other property types rather than 126 bps.

**Windows of Opportunity and an Unwelcome Recovery**

Although this analysis seems to paint a negative picture of office, I believe its results are neither negative nor positive. Instead, they suggest a guideline for relative pricing. If cap rates for US CBD office are less than 75 bps above those of the other major property types, the sector may be expensive, but if they are 100 bps or more above, it may be cheap. Deal- and market-specific factors as well as near-term fundamentals naturally weigh heavily on this range, but it nonetheless provides a basis from which to start. Based on current demand trends, the office sector is still likely to have a long road to recovery in most markets, particularly if economic growth slows. When fundamentals do show signs of a full recovery, though, close attention should be paid to the recovery in values. This analysis suggests that if values fully recover, office is once again likely to underperform. For that reason, as much as investors may look forward to the day when office demand fully recovers, they may be better served if office values do not. ■

*Adam Ruggiero is the Chair of PREA’s Publications Committee.*