Investing at Inflections

Real estate equity in a changing rate environment

This document explores the resilience of real estate investments amid rising interest rates and shifting macroeconomic conditions. By examining the impact on valuations, particularly within the multifamily sector, it highlights the historical correlation between cap rates and U.S. Treasury yields. The analysis suggests that while current cap rates have only partially adjusted to recent rate increases, future opportunities may emerge as the market stabilizes and real estate fundamentals begin to normalize.

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HUMPHREYS

For 30 years, the median private fund investing in North American real estate has delivered reliably positive returns. This proved true even as the real estate sector experienced periods of volatility across multiple credit cycles, evolving demographic trends, and structural changes to the American economy. In light of this track record, it is worth considering why real estate funds have been so resilient and what we should expect in this current cycle.

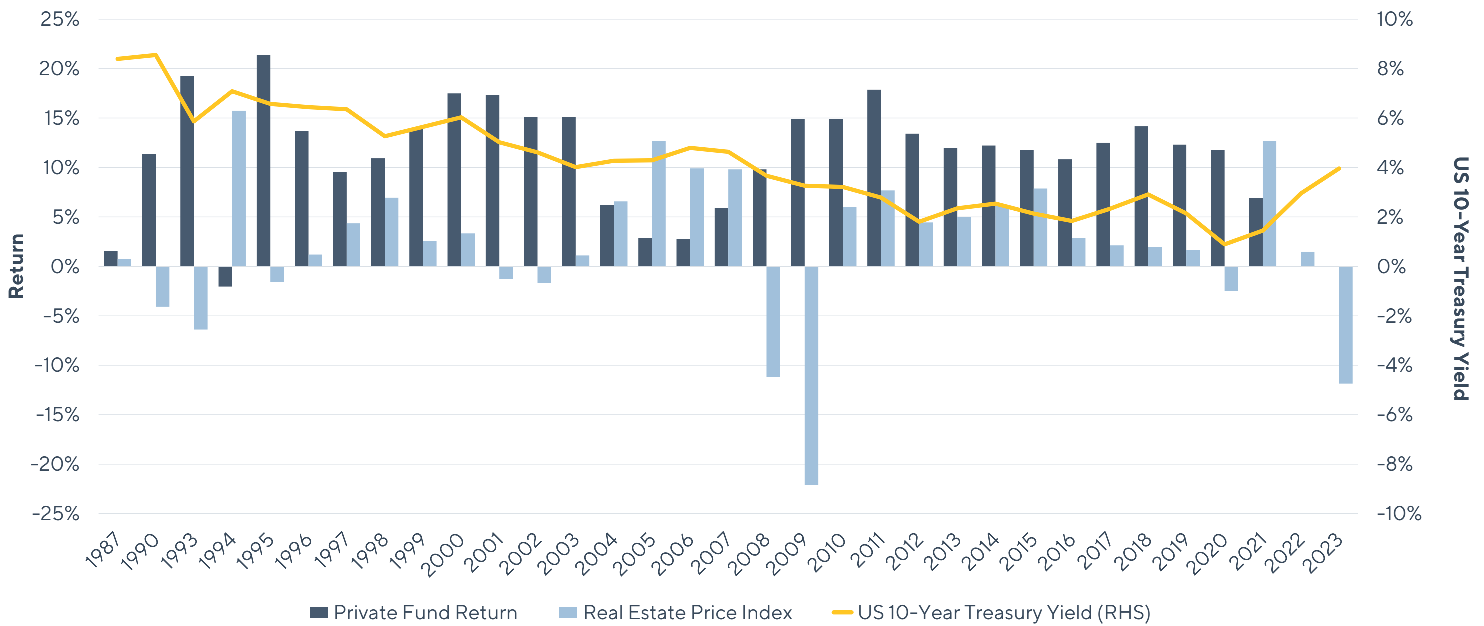

Figure 1. Median North American real estate fund IRRs and property appreciation vs long term yields. "Real Estate Price Index" refers to the NCREIF PPI for funds of a specific vintage. Source(s): FRED, NCREIF, Preqin, Hines Research

To begin, let us note that the positive returns from each vintage were achieved amidst a four-decade backdrop of declining long-term interest rates.[1] Although this period includes multiple recessions, including the Great Financial Crisis (GFC), a prevailing tailwind benefited investors who could wait out periods of underperformance. Then, something changed in 2021: long-term rates rose materially and have remained elevated, breaking from the trend we observed since the late 1980s. They began to rise following an upward spike in inflation measures,[2] which continued when the Federal Reserve responded by hiking the target overnight rate for eleven consecutive meetings.[3] Today, current real estate holders are looking for relief from rates that are much higher than they projected, while yield-hungry buyers are waiting for more discounted properties to come to the market.

Valuation and opinions on the future

Before considering the implications of this new rate environment for the current crop of private real estate funds, we should explore some fundamentals of the asset class. Real estate is notably cyclical, heavily influenced by the long-term credit cycle and the macroeconomic outlook. The former informs the availability and attractiveness of debt, while the latter informs expectations for future operating income. In the simplest terms, a property is worth the present value of its expected future cash flows, which are directly impacted by the availability and cost of leverage as well as the probability and magnitude of future income growth.

1 FRED. The 10-year Treasury yield peaked in September 1981, followed by a nearly 40-year gradual decline, reaching near zero by July 2020.

2 FRED. CPI and PCE inflation rates rose significantly starting in 2021, continuing through mid-2022, with the 10-year Treasury yield also rising notably in 2022.

3 Federal Reserve. The FOMC increased its target federal funds rate range by 500bps over 11 meetings from March 17, 2022 to July 27, 2023.

By contrast, the prices of fungible commodities tend to cluster in a transparent and liquid market — imagine traders at an open outcry exchange, where large groups yell out bid and ask prices for a particular commodity. A deal is struck when the bid-ask prices overlap, and the transaction is immediately posted for everyone to see. This process of price discovery can be near-instantaneous, while price discovery in fragmented markets may take years to materialize.

The U.S. commercial real estate market is generally liquid and somewhat commoditized by an active institutional investor base. However, no two properties are perfectly alike, so they can never be perfectly fungible. A substantive valuation must consider comparable transactions alongside a property's unique attributes: location, entitlement, vintage, tenants, maintenance, and renovation plans. These idiosyncrasies slow real estate's price discovery and transaction velocity compared to fungible commodities. Without a transparent and timely market, any conclusion about value necessitates taking an informed position on future income growth as well as the future environment for market capitalization rates (cap rates).

While it is generally accepted that deterministic forecasts are a fool's errand, investment decisions are always predicated on some probabilistic view of the future. A resilient investment could be defined as one that performs in a wide variety of possible scenarios, while a gamble might achieve great returns upon the manifestation of a specific realized outcome. A savvy investor looks beyond this expected value and identifies asymmetric opportunities based on this probabilistic view, specifically those that limit the breadth and magnitude of downside risk while preserving upside potential.

Running the numbers

To inform our thinking, we examined the history of macroeconomic rates and their historical implications for real estate valuation. Our team began this investigation by building a decades-long dataset of multifamily cap rates and modeling those observations alongside a multitude of market and demographic parameters. A list of the variables we considered includes short- and long-term yields, U.S. gross domestic product, inflation, and employment. It is a widely held view that the most relevant proxy of the risk-free rate for the purposes of domestic property valuation is the 10-year treasury note. The note is backed by the full faith and credit of the federal government, and its maturity is consistent with underwriting norms for real estate investments. This makes the note highly relevant to market cap rates and a natural place to focus our attention. However, due to the slower pace of commercial real estate transactions, we hypothesized that the effect of this note would require a time lag before it could reverberate to the asset class.

Through this inquiry, our research found that cap rates have, in fact, correlated strongly with U.S. 10-year treasury yields. By introducing a degree of lag, we also found that the fit could be improved until the correlation was maximized at an 8-quarter lag.

To gain confidence in any model, its boundaries must be tested to determine where the established correlation becomes less reliable. As a result, we identified two distinct cap rate regimes within the U.S. multifamily sector over the past 40 years: a period of high inflation from the 1980s to the mid-1990s, followed by a period of moderate inflation from the mid-1990s to the early 2020s.

From 1982 to the mid-1990s — a decade marked by high inflation, the savings and loan crisis, and book-ended by recessions — we observed generally stable cap rates despite a backdrop of volatility in long-term yields. When yields increased, cap rates stayed flat, compressing the normal spread until it eventually inverted and became negative. During this period, real estate's inflation hedge was on display. We suspect that buyers accepted lower in-place cap rates in exchange for responsiveness to unanticipated inflation through corresponding rent growth, a feature not found in fixed income notes.

The mid-1990's brought a shift in these conditions, after which cap rates became predictably correlated to long-term treasury yields. We identified a spread of approximately 200-400 basis points (bps) over the lagged 10-year yield, independent of the coupon rate. During this period, real estate valuations strengthened their relationship to long-term yields after accounting for the time required for pricing sentiment to take hold.

Two observable cap rate regimes within the past four decades

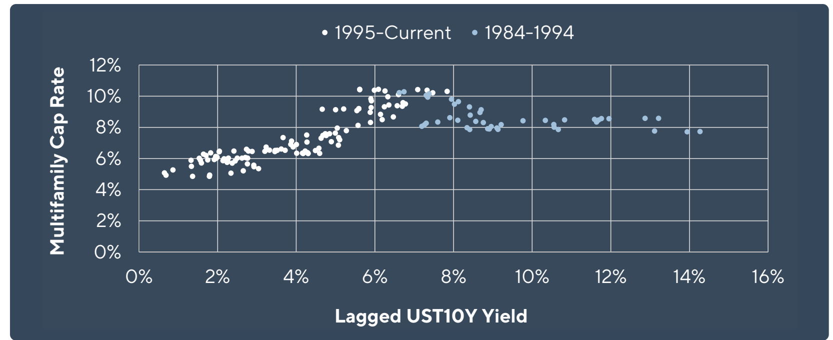

Figure 2. Dots represent one quarter of activity.
Source(s): Costar, FRED

Examining the past

In light of this shift, an overarching theme to consider is the apparent attraction institutional investors have for low-volatility alternative investments that offer upside potential at an efficient risk premium. Commercial real estate has benefited from a multi-decade trend in allocations from this cohort of investors, resulting in the financialization of the asset class.[4] Well-capitalized market participants compete to arbitrage mispriced assets over extended periods, and this heightened interest from attentive investors might naturally result in mean-reverting tendencies.

This was not always the norm. Before the 1960s, large pension funds primarily targeted reliable fixed income investments in government-sponsored bonds and public infrastructure.[5] However, with the onset of pension liberalization under the "prudent man rule," many institutional investors began slowly diversifying into public equities and eventually other alternatives like real estate.[6] This development slowed during The Great Inflation of the 1970s, as pension managers could once again achieve high long-term yields in fixed income products. But by the late 1980s, the trend was back on track and has been picking up steam to the present day without material interruption. Since then, increasing institutional allocation to alternative investments has coincided with the aforementioned secular decline in long-term yields.[7]

As T-note yields decline, pensions have increased allocation to alternatives.

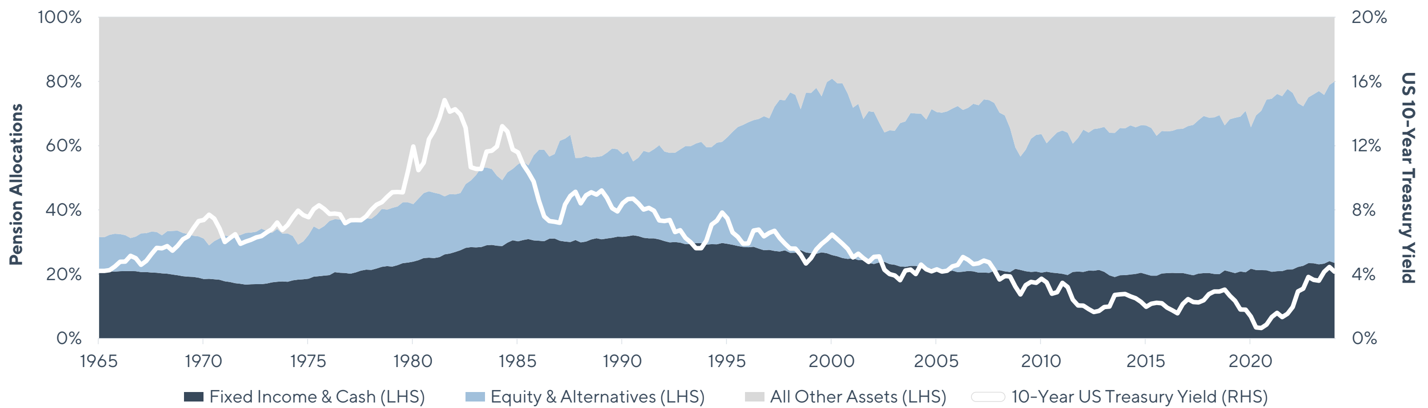

Figure 3. Pension allocations to alternatives vs 10-year US Treasury yields. 'All Other Assets' primarily consist of claims of pension funds on their sponsors.
Source(s): FRED

4 We view the increase in pension allocations to alternatives and strengthening correlations between multifamily cap rates and lagged 10-year Treasury yields from the 1980s onwards as markers of increasing financialization and institutional activity within the sector.

5 The Pew Charitable Trusts. 2014. "State Public Pension Investments Shift Over Past 30 Years." https://www.pewtrusts.org/~/media/assets/2014/06/state_public_pension_investments_shift_over_past_30_years.pdf.

6 Louargand, Marc. 1991. "The Evolution of Pension Fund Investment in Real Estate." 1991. https://dspace.mit.edu/handle/1721.1/64864.

7 See figure 3. From their peak in the early 1980s to their trough in 2020, 10-year U.S. Treasury yields have declined alongside a rapid increase in pension allocations to Equity and Alternatives.

Within this period, we mark the mid-1990s as the beginning of the strong correlation between commercial real estate cap rates and 10-year treasury yields. At this time, the commercial real estate market was exiting the Savings and Loan Crisis, a result of the previous inflationary period.

Savings and loan institutions (S&Ls) functioned like banks, taking on short-term deposits to make long-term loans in the form of mortgages. As long-term rates increased in the 1970s and '80s, depositors began to withdraw for higher-yielding opportunities. These increases caused S&Ls to take heavy losses on mortgages that had been fixed at previously lower rates.[8] As their solvency eroded, the government responded by reducing regulatory capital requirements and allowing S&Ls to expand investments into commercial real estate loans. These offered higher interest rates to compensate for the increased risk of default compared to residential mortgages.[9] Eventually, these commercial loans and the S&Ls that held them began to fail — peaking in 1988, which led to more direct government intervention through the creation of the Resolution Trust Corporation (RTC) in 1989.[10] For six years, the RTC provided a federal backstop to the liquidation of collateral, with the government-mandated goal of protecting real estate markets from the effects of asset dumping. The RTC's actions effectively put a floor under real estate valuations until its mandate expired in the mid-1990s, when this direct government intervention came to an end. At this point in time, the data begins to display strong, mean-reverting trends between long-term treasury yields and cap rates in the predominant commercial real estate sectors.

From the mid-1990s to today, we see strong correlations of cap rates to lagged US 10-Year Treasury Yields across sectors.

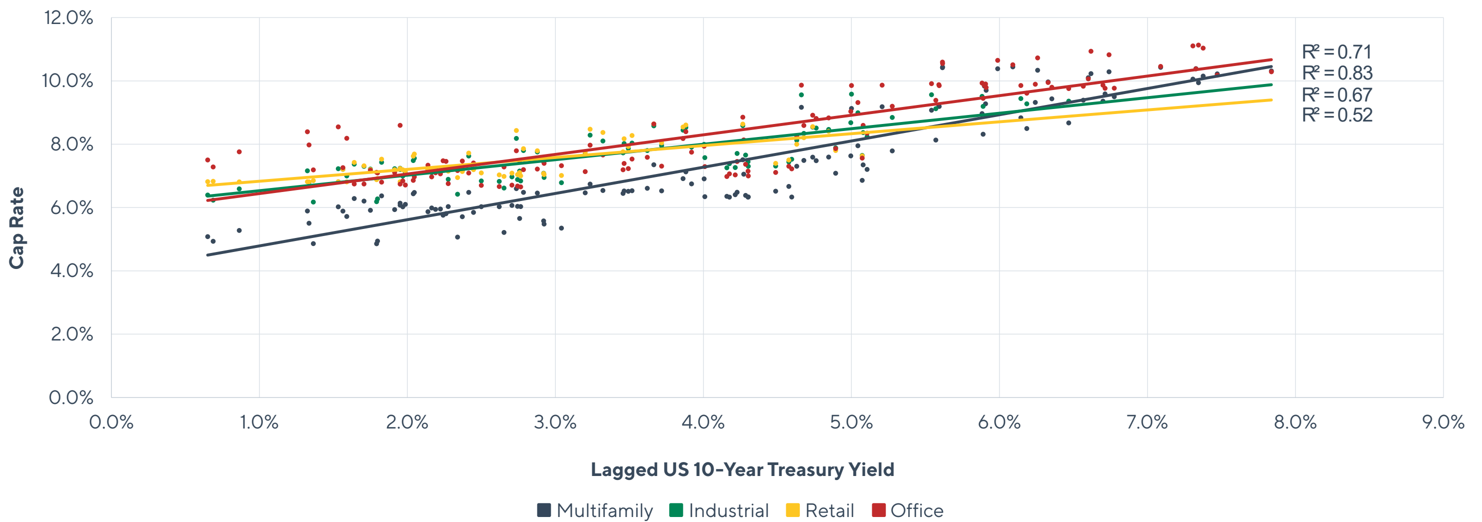

Figure 4. Regime 1 (Mid-1990s to current)
Source(s): Costar, FRED

Evaluating the present

Today, the U.S. economy finds itself in a historically moderate inflation regime, with limited government interventionism (the notable exception being the Bank Term Funding Program in response to failures at Silicon Valley Bank and Signature Bank). In such an environment, we would expect real estate cap rates to continue the trend of reverting to a nominal spread over the risk-free rate.

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8 Robinson, Kenneth. n.d. "Savings and Loan Crisis." Federal Reserve History. https://www.federalreservehistory.org/essays/savings-and-loan-crisis.

9 "Garn-St Germain Depository Institutions Act of 1982." n.d. Federal Reserve History. https://www.federalreservehistory.org/essays/garn-st-germain-act.

10 "Agencies - Resolution Trust Corporation." n.d. Federal Register. https://www.federalregister.gov/agencies/resolution-trust-corporation.

If this statistically significant relationship holds, then we can assess that current cap rates have only partially priced-in the magnitude of rise we have observed in the 10-year risk-free rate over the past three years. Unless we see a material decrease in the yield from treasury notes, the trended spread of 200-400 bps will continue to exert pressure on valuations as buyers demand more income relative to price. This would be an unwelcome outcome for those industry participants who have already called the bottom of this cycle. However, we suspect that the most attractive entry points for purchasing institutional quality real estate may still be on the horizon.

On the other hand, it is possible to revert to our trended spread from the other direction through long-awaited interest rate cuts. Since the "Fed pivot" in December of 2023, the market has been anticipating a series of reductions to the target overnight rate.[11] However, the Federal Reserve has proven patient, and we expect it will remain tentative as long as economic data remains strong. A recession would catalyze a more dramatic response. However, rate cuts in response to previous recessions have not resulted in the timely compression of cap rates.[12] The market becomes cautious during periods of uncertainty, and transactions tend to stall until depressed valuations entice buyers. In hindsight, the post-GFC period turned out to be one of the best investment vintages for real estate funds deploying capital.[13]

Expectations for the future

Referring to his Prohibition-era enterprises, Al Capone is said to have protested, "All I ever did was supply a demand that was pretty popular." While we can look to more principled (and lawful) characters for inspiration, Capone knew how to identify a good investment: popular demand constrained by supply. After all, rates are only one factor in the valuation equation. The other element is an investment's ability to generate and grow cash flow over time.

Particularly in multifamily real estate, rental income is driven by the relationship between the growing population and new housing deliveries within a local submarket. Robust population growth in the U.S. has historically been a steady tailwind for domestic real estate values, driving apartment demand and providing ample opportunity for new, ground-up development.[14] In the 1990s, the U.S. experienced annual population growth of 1.2% — double the

Population growth from migration varies by market

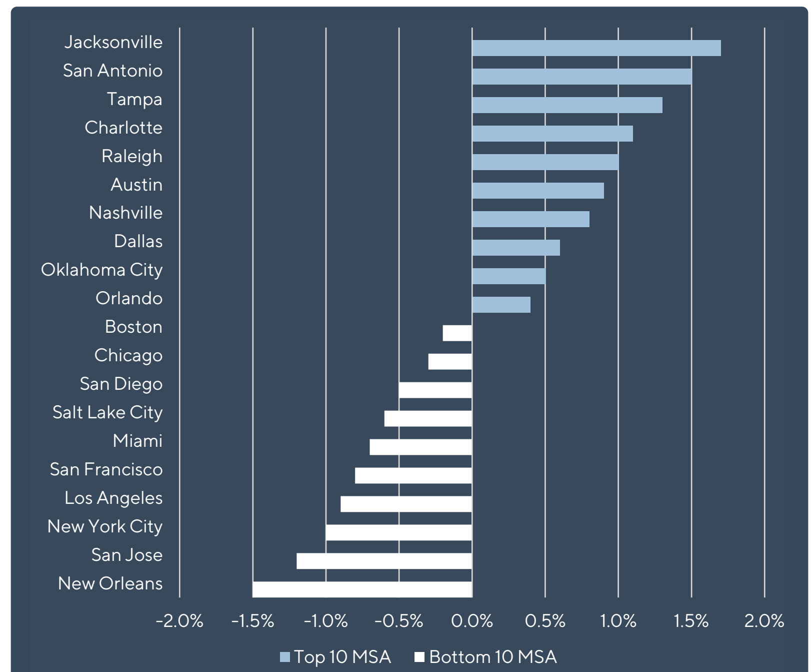

Figure 5. 2023 net domestic migration totals for selected MSAs. Top ten and bottom ten MSAs (%). Source(s): Capital Economics, Census Bureau

11 In the Dec 2023 FOMC meeting, the near-term median Fed Funds rate projection of 5.4% fell within the Fed Funds rate range 5.25-5.50%, communicating the Fed's expectation for no further rate hikes. This was a departure from the Sep 2023 meeting where the median near term projection was 5.6%, implying another rate hike. The longer-term median projections of the Fed Funds rate were lower than the range of 5.25-5.5%, implying expectations for future rate cuts. https://www.federalreserve.gov/monetarypolicy/fomcprojtabl20231213.htm

12 We analyzed the correlation between cap rates and the Effective Federal Funds Rate (EFFR), but we found the 10-Year Treasury was a better predictor. This cap rate vs lagged EFFR R^2 is smaller than the cap rate vs lagged 10 Year Treasury R2, meaning that long-term rates are a better predictor of cap rates overall.

13 See figure 4. The GFC occurred from 2007 to 2008.

14 FRED, Total Households. The number of households in the United States has increased in each year (except 2020) since that time series began to be compiled in 1948.

0.6% global average for high-income countries. However, over the last 25 years, that outperformance has declined dramatically. In 2023, for the first time since the 1970s, the U.S. did not surpass the average population growth of high-income countries, instead matching the average at 0.5%.[15] However, this growth is not distributed evenly across the country. Low-growth and post-growth demographics are concentrated in a select group of markets, while others are experiencing strong inflows.[16]

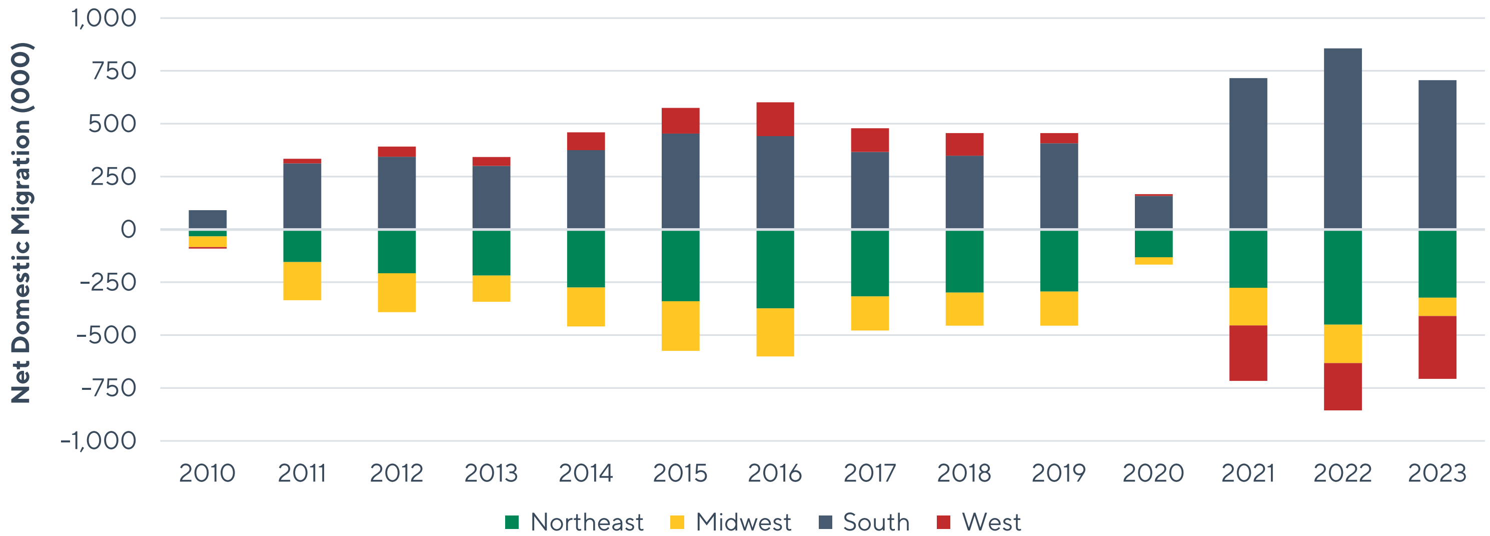

Figure 6. 2010-2023 net domestic migration for all Census Bureau-defined regions of the U.S. (000s).
Source(s): U.S. Census Bureau

The southern U.S. has historically outperformed its regional counterparts in terms of domestic in-migration — that is, the number of people within the U.S. moving from one region to another.[17] This differentiation accelerated during the pandemic due to remote work[18] and business-friendly governance.[19] From 2010 to 2020, the South attracted an average of around 325 thousand new residents per year at the expense of other regions. Since 2021, that number has grown to a staggering 750 thousand residents annually.[20] Other economic indicators likewise favor southern states, as they have outperformed the national average for GDP growth and jobs created over 5-, 10-, and 25-year time frames.[21]

While some markets have seen existing construction projects exceed immediate needs, the number of new project starts has been declining since late 2022.[22] In the second quarter of 2024, multifamily starts were at their lowest point

15 World Bank per FRED. The World Bank classifies economics into four income groups: low, lower-middle, upper-middle, and high income. For this purpose, it uses gross national income (GNI) per capita data in U.S. dollars.

16 See Figure 5. In 2023, all of the top ten markets for domestic migration (percentage terms) were located within the South. Specifically, just five southern states: FL (3), TX (3), NC (2), TN, OK.

17 See Figure 6.

18 New York Times. "The Places Most Affected by Remote Workers' Moves Around the Country." June 17, 2023.

19 Typical "Sun Belt" states (TX, TN, NC, SC, AZ, FL, GA) all rank in the bottom half of states nationally in terms of combined state and local tax burden.

20 U.S. Census Bureau. 2021. "State Population Totals and Components of Change: 2010-2019."

21 Bureau of Economic Analysis.

22 CoStar. 2024.

since 2012, while industrial starts were at their lowest since 2015.[23] If the U.S. avoids a recession, population and job growth should help absorb the current supply wave within the next few years. This would create a favorable leasing environment for existing properties, given the aforementioned lack of projects initiated in 2023 and 2024. However, if a recession occurs, revenues may decline in the short term, which could lead to lower valuations and present additional buying opportunities for well-capitalized investors.

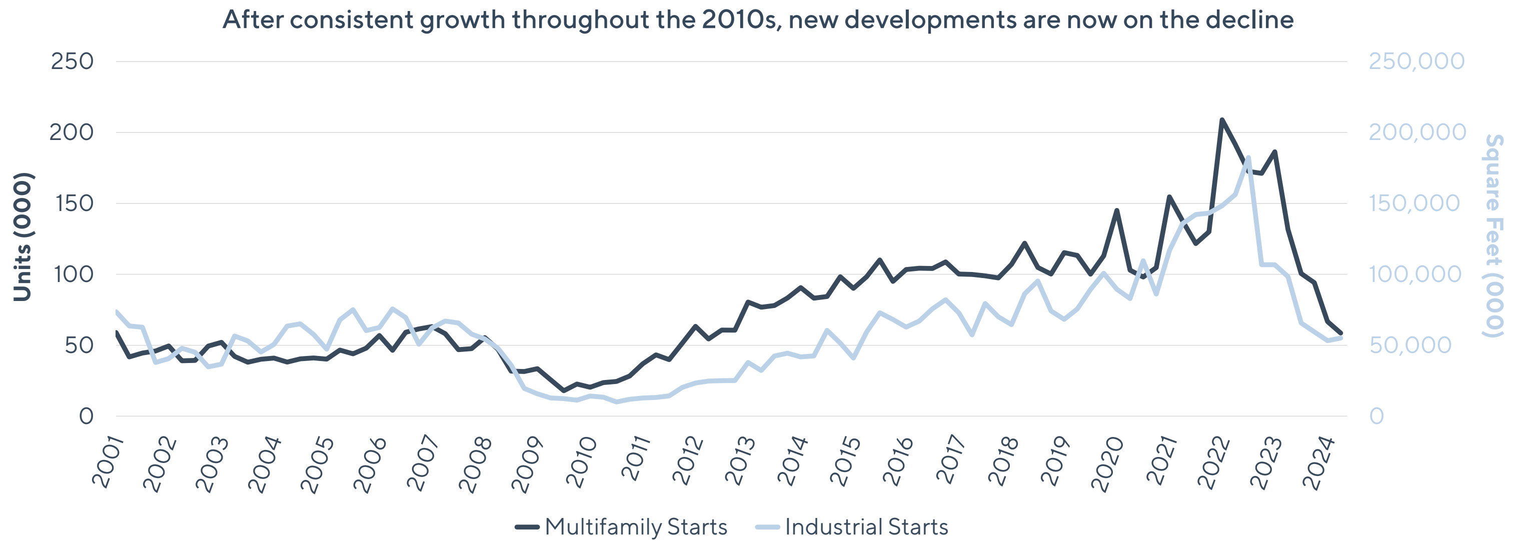

Figure 7. 2021-2024 total multifamily and industrial starts.
Source(s): CoStar

The multi-decade growth trend in these markets has generated a level of institutional credibility that was historically associated with the nation's gateway markets.[24] Foreign investors, in particular, have begun to venture outside the confines of the traditional coastal metros into faster-growing alternatives.[25] However, during each of the last two downturns for commercial real estate, the liquidity gap between traditional gateway markets and secondary alternatives has widened.[26] This observation suggests that during times of stress, buyers favor the perceived safety of larger markets. Any recession-driven dislocation that temporarily moves counter to long-term trends may present opportunities for timely investors.

Prudence before performance

Regardless of when and how rates unwind from their currently inverted relationship, we return to the observation that market contractions over the last 40 years were departures from a long-run trend. In this environment, investors ultimately benefited from rates that settled lower than where they started in each cycle. When this occurs, it can be difficult to distinguish the skilled from the merely adequate. Hopeful sentiments such as "extend and pretend" or "survive to '25" rely on the premise that rate declines will once again offer relief to exposed investors.

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23 CoStar. 2024.

24 Real Capital Analytics per National Association of Realtors Research Group, "2023 Commercial Real Estate International Business Trends. November 9, 2023.

25 Id.

26 CoStar. 2024. Analysis is based on the spread between average cap rates in major coastal markets (Boston, Los Angeles, Miami, New York, San Diego, San Francisco, Seattle) compared to average cap rates in major Sun Belt markets (Atlanta, Austin, Charlotte, Dallas-Fort Worth, Jacksonville, Orlando, Phoenix, Raleigh-Durham, Tampa). During the GFC, the spread between those two categories increased from 75 bps to 117 bps. Since the start of the current pricing downturn in 2022, the spread has increased from 37 bps to 51 bps.

Warren Buffett famously quipped, "It's only when the tide goes out that you learn who's been swimming naked." Even in our own portfolios, some investments have proven more exposed than we expected. Fortunately, our value creation strategies may still deliver performance in these assets despite the current dynamics in our sector. In this new environment, we believe investors with differentiated ability to both evaluate opportunities and execute value-creation strategies will continue to perform. Those with less discernment and more operational drag will experience newfound struggles.

At Humphreys, our investment thesis is based on the following expectations: valuation multiples will have a bias to decline over the current window for capital deployment, while real estate fundamentals, including supply-demand and demographic trends, are likely to reinforce performance over the longer term. These trends will occur across the U.S., but they play out uniquely in each submarket. While economic cycles have their moment, over time, real estate has always been driven by the fundamentals of the property and the people on the ground. We believe this cycle has made us more prudent investors, and our partners and pipeline have never looked more promising.

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