

Core private real estate fortifies defined contribution multi-asset portfolios



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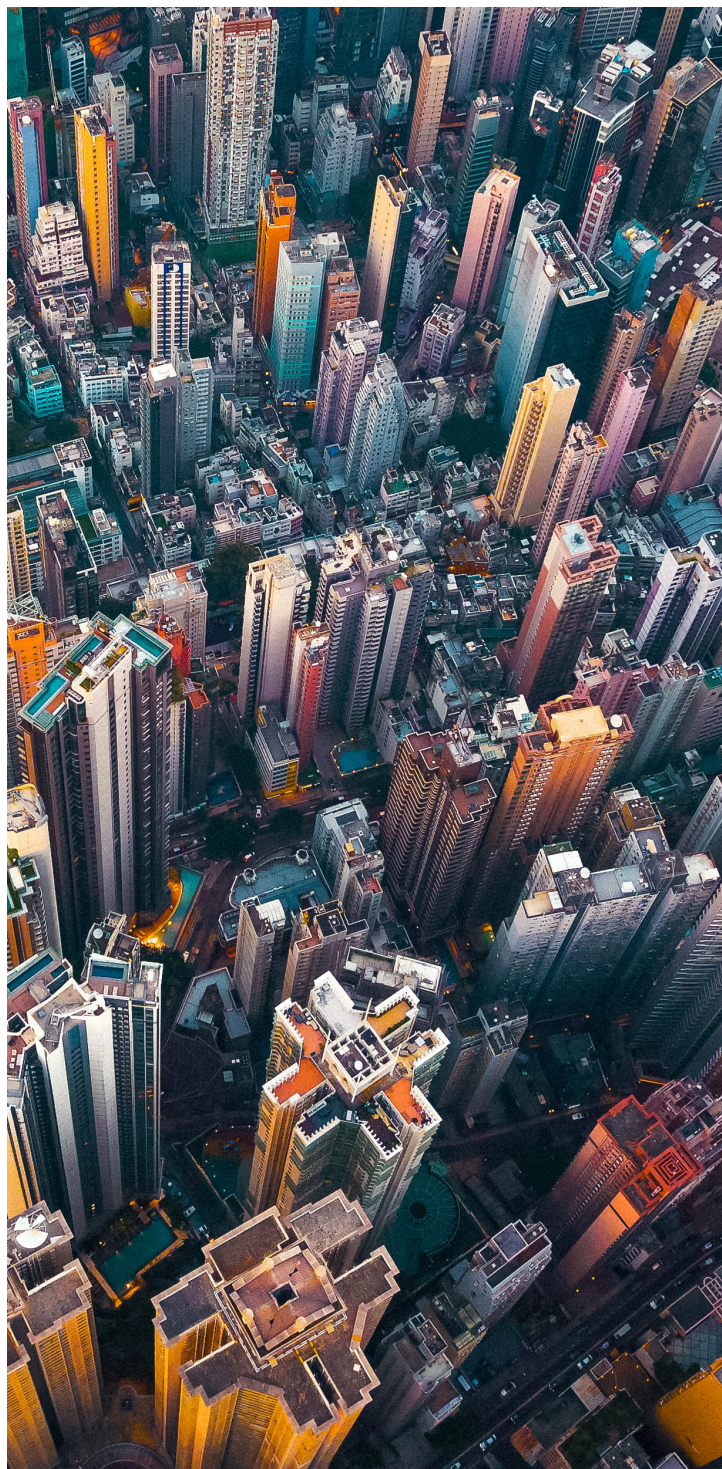
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Defined benefit plans, endowments, and foundations have long enjoyed the benefits of investing in private real estate, namely diversification, lower volatility of returns, a hedge against inflation, and the potential for improving risk-adjusted investment performance. This paper considers the current inflationary environment, and the impact core private real estate can have, not only in defined contribution (DC) target date portfolios, but also in multi-asset inflation-sensitive options for participants.

Historically high inflation and market volatility hamper economic recovery

Inflation hit 8.6% in May, its highest level in 40 years. High energy prices exacerbated by the Russian invasion of Ukraine, disrupted supply chains, labor shortages, and pandemic-related fiscal stimulus are the primary culprits. The Fed responded by shifting away from its ultra-accommodative monetary policy early in 2022 and has raised the Fed Funds rate three times year-to-date, bringing it to a range between 1.5% and 1.75%. The Fed's new dot plot implies a policy rate of 3.4% at the end of 2022 and 3.8% at the end of 2023.

While March and April each suggested a modest easing, CPI inflation accelerated again in May. The Fed will continue



to hike rates until inflation breaks. Markets have responded: the S&P 500 is in bear market territory having declined more than 20% since the beginning of the year and high yield yields have surpassed their 2018 highs.

Given this backdrop, we believe investors need to review their portfolio allocations with an eye towards hedging against inflation. While stocks (especially value stocks

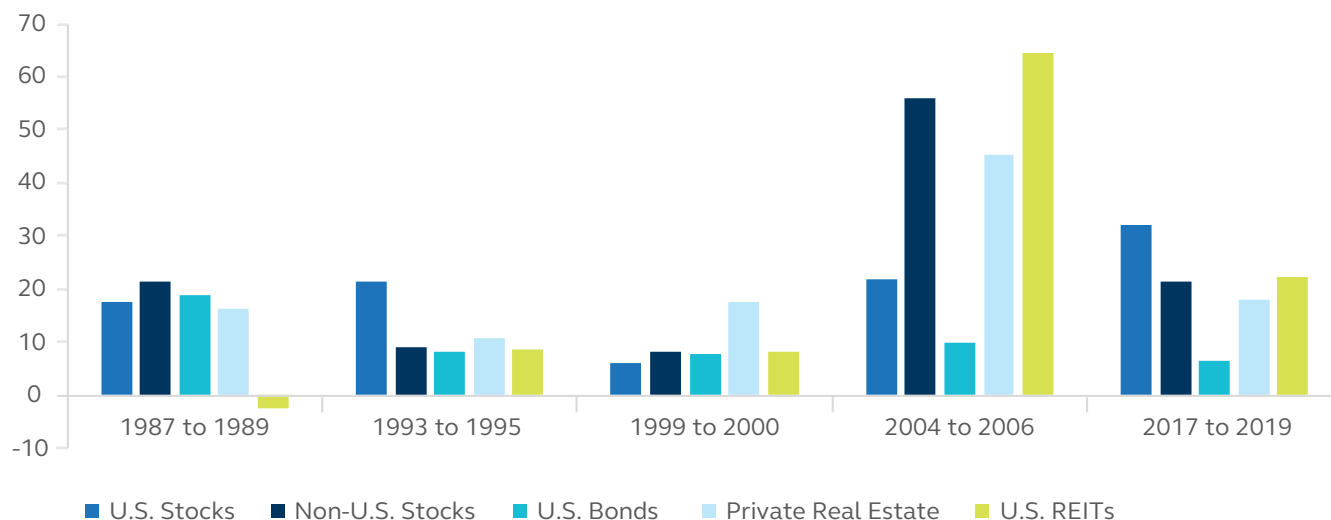
with strong cashflow) may do well during below average inflationary times by benefiting from a company's ability to raise prices, equity valuations are generally pressured during periods of above average inflation. Rising rates erode the value of bonds as prices and yields move in the opposite direction. U.S. REITs, which are often utilized as a real estate proxy by defined contribution plans, tend to respond similarly to U.S. equities.

Private real estate has historically outperformed when the Fed is hawkish

Consider core private real estate performance during previous periods of Fed tightening. In each of the past five such periods, private real estate produced positive returns, often outpacing some or all other asset classes (stocks and bonds) typically included in target date funds.

Exhibit 1: Cumulative returns during Fed tightening cycles

Cumulative return %



Source: Bloomberg, Barclays, Moody's Analytics, NCREIF, Principal Real Estate Investors, 4Q 2021. Please see disclosures page for details of indices used.

Inflation and high interest rates impact retirement portfolios

Higher interest rates can reduce near-term returns on stocks and result in losses for bonds as higher yields reduce bond prices. Defined contribution plan participants, especially those who are nearing- or in-retirement, are focused not only on preserving their accumulated wealth, but also on generating income. Private real estate may serve as a stabilizer

in target date funds given a low correlation to equities and negative correlation to bonds, the primary asset classes in target date funds. Private core real estate also has a low correlation to TIPS, REITs and commodities, making it a potential diversification play in inflation-sensitive DC plan options as well.

Exhibit 2: Correlation of private real estate to other asset classes

	Common Target Date Asset Classes			Common Inflation Sensitive Asset Classes		
	U.S. Stocks	Non-U.S. Stocks	U.S. Bonds	REITs	TIPS	Commodities
Private Real Estate	0.08	0.41	-0.12	0.12	0.08	0.37

Note: TIPS data starts in 1997 and non-U.S. stocks starts in 1988

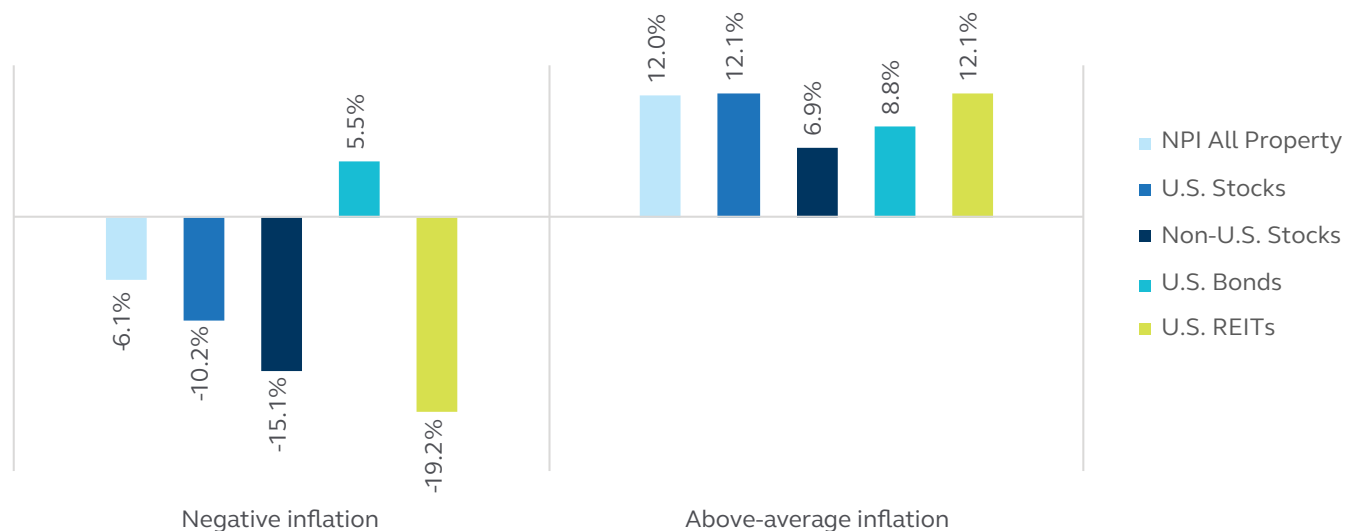
Source: Barclays, Bloomberg, NCREIF, April 2022. Please see disclosures page for details of indices used.

Core private real estate has historically fared well during both negative and positive inflationary environments

Since 1980, private real estate has held its value better than equities during deflationary environments and produced positive returns across inflationary environments, outpacing both non-U.S. stocks and U.S. bonds in periods of above average inflation.

Exhibit 3: Performance during various inflationary environments

Quarterly annualized 1980-2021

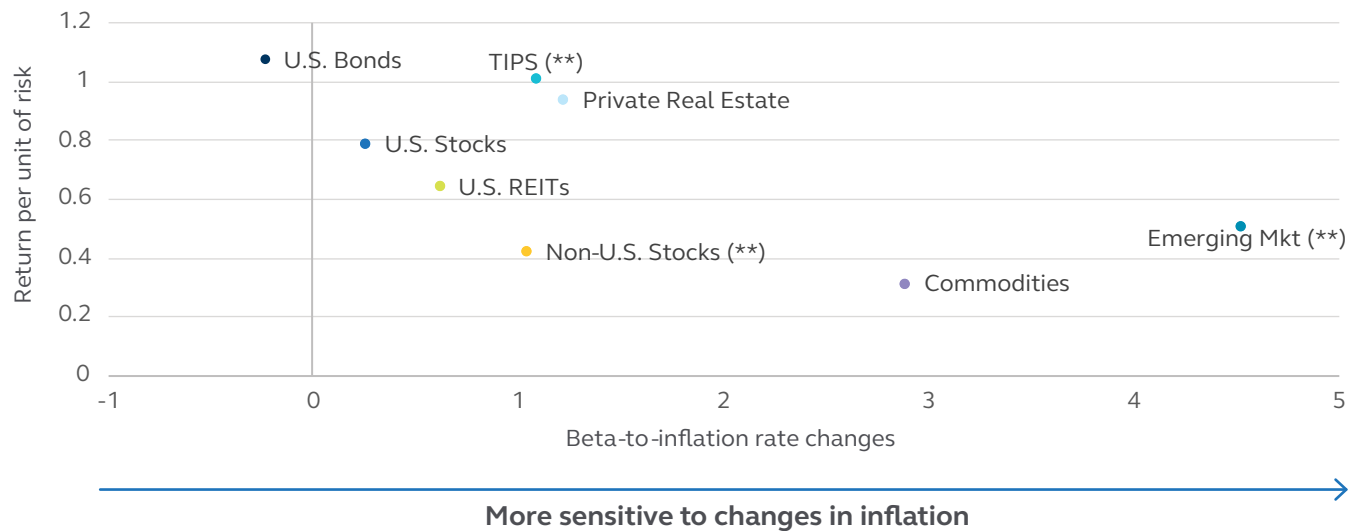


Source: Bloomberg, Barclays, Moody's Analytics, NCREIF, Principal Real Estate Investors, 4Q 2021. Please see disclosures page for details of indices used.

Risk-adjusted returns relative to inflation rate change sensitivity reflect the strength of private real estate not only to equities, but also to other inflation-sensitive asset classes such as TIPS, REITs and commodities. As a result, core private real estate may benefit both target date funds and real asset/inflation sensitive DC plan options.

Exhibit 4: Returns per unit of risk relative to sensitivity to inflation rate changes

1980-2021



** Full history data dates 4Q 1987 for non-U.S. stocks and emerging markets, and 3Q 2002 for TIPS

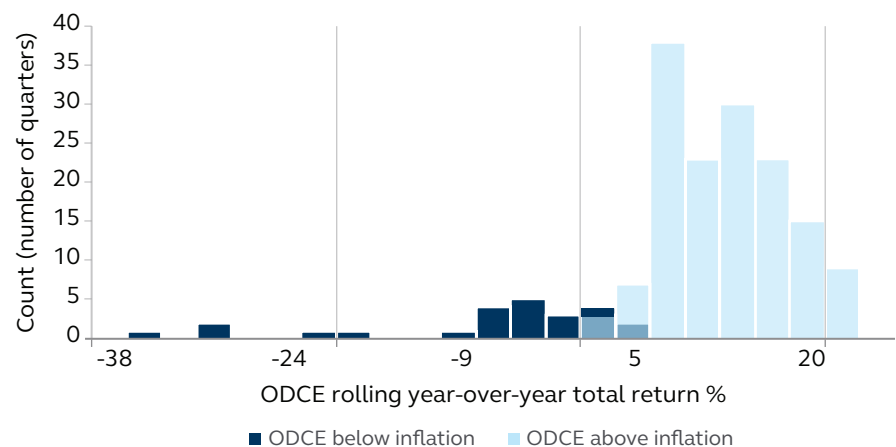
Source: Bloomberg, Barclays, Moody's Analytics, NCREIF, Principal Real Estate Investors, 4Q 2021. Please see disclosures page for details of indices used.

Private real estate pricing power may provide inflation hedging

Unique to real estate is the ability of commercial real estate owners to pass on increasing costs in the form of higher rents, potentially making it a healthy addition to a real asset/inflation sensitive core investment option.

Private real estate has consistently performed well as an inflation hedge, with approximately 85%-win rate (total return outpacing inflation) during the period since 1980.

Exhibit 5: ODCE Win/Loss relative to inflation (1979-2021)



Source: Moody's Analytics, NCREIF, Principal Real Estate Investors 4Q 2021

The degree to which rental income adjusts to higher costs (inflation) differs by property type—those with shorter-term leases (such as hotels and multifamily housing) reflect price increases more rapidly than those with longer-term leases (office, industrial, and retail). However, many of these longer-term leases include CPI-escalators to keep income current with inflation.

While income returns and inflation hedging efficacy vary among major property types (multifamily, industrial, office, and retail), the all-property average one-year income return of 6.96% since 1980 compares favorably with inflation that has averaged 3.22% over the same period. All-property average annual net operating income during this period ranged from a low of 4.14% to a high of 9.14%.

Exhibit 6: Average annual income return
1980-2021

	All Properties	Apartments	Industrials	Office	Retail	Inflation
Avg Return	6.96%	6.68%	7.45%	6.89%	6.97%	3.22%
Min	4.14%	3.66%	4.12%	4.39%	3.93%	-1.62%
Max	9.14%	9.30%	10.10%	9.73%	8.90%	14.51%

Source: NCREIF Property Index (NPI), U.S. Bureau of Labor Statistics (BLS), Moody's Analytics, 4Q 2021

Compelling investment opportunity for investors

Institutional investors have long benefited from the inclusion of core private real estate in their portfolios due to its volatility dampening and inflation hedging attributes. Allocations to real estate within institutional portfolios are projected to total \$100 billion in 2022, an increase of 138% since 2008.¹ Currently 21% of delegated defined contribution investment managers include private real estate in their multi-asset portfolios, with an additional 8% planning to do so in the near term. The availability of daily valued, daily liquid private real estate products in the marketplace enables defined contribution plans to access private real estate's benefits not only in several off-the-shelf target date fund suites and OCIO programs, but also by building it into their own custom target date and real asset/inflation-sensitive investment options.

Today's environment has been very challenging for bond and stock returns. Year-to-date, the Bloomberg U.S. Aggregate Index that tracks bond performance has declined over 9% and the S&P 500 has dropped more than 15%. Private real estate has yet to show any loss in value and could be a good diversifier to these traditional portfolio staples. We believe there is no time like the present to add private real estate as a portfolio building block in multi-asset portfolios, especially if inflation remains elevated for longer. The attractive yields offered by the asset class as well as its low correlation to traditional asset classes may enhance portfolio risk-adjusted returns.

¹ Source: IREI 2022 Sponsor briefing - Annual Investor Survey

Risk Considerations

Past performance does not guarantee future results. Investing involves risk, including possible loss of principal. Potential investors should be aware of the risks inherent to owning and investing in real estate, including: value fluctuations, capital market pricing volatility, liquidity risks, leverage, credit risk, occupancy risk and legal risk. All these risks can lead to a decline in the value of the real estate, a decline in the income produced by the real estate and declines in the value or total loss in value of securities derived from investments in real estate. Inflation and other economic cycles and conditions are difficult to predict and there is no guarantee that any inflation mitigation/protection or hedging strategy will be successful. Asset allocation and diversification do not ensure a profit or protect against a loss.

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Indices used for chart comparisons: U.S. Stocks - S&P 500 TR Index; Non-U.S. stocks - MSCI EAFE Index; Bonds - Bloomberg Barclays Aggregate Bond Index (TR); Private Real Estate - NFI-ODCE TR; REITs - FTSE NAREIT Equity REIT Index; TIPs - Bloomberg US Treasury Inflation-Linked Bonds Index (Exhibit 2); TIPs - US Treasury TIPS 0-5 Year TR Index (Exhibit 4); Emerging Markets - MSCI EM USD Gross TR Index; Commodities - Bloomberg Commodities Index.

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