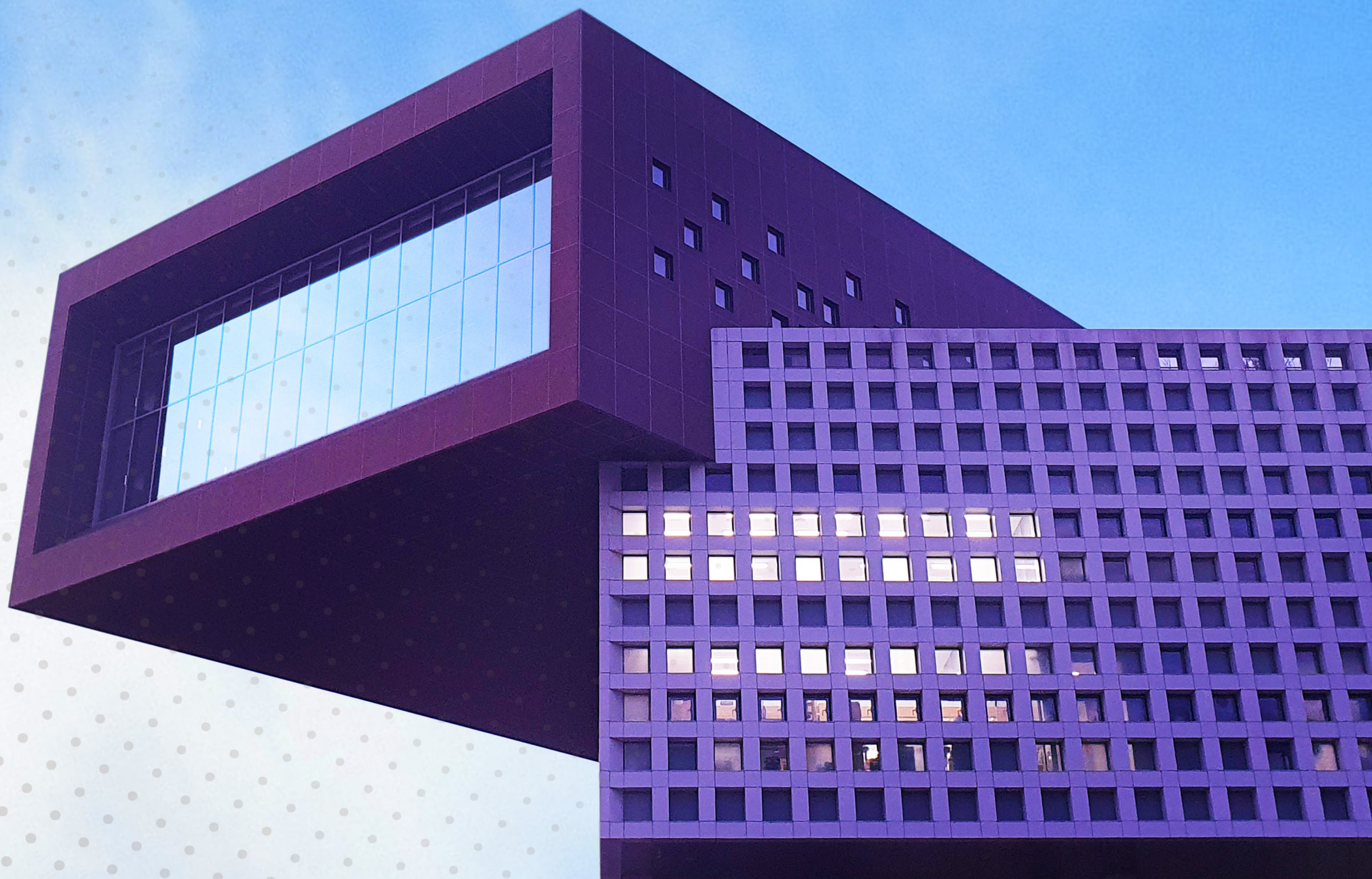
The Alts Institute

Harnessing Inflation with Real Estate and Infrastructure



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WEALTH SOLUTIONS

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Overview

Over the past 18 months or so, investors have navigated a shifting economic landscape marked by inflation and rising interest rates. U.S. inflation rose rapidly in 2021, peaking at 9.1% in June 2022,[1] representing the highest price increases in four decades. After a series of rapid rate hikes, the federal funds target rate, used to guide interest rates U.S. banks pay one another for overnight loans, has soared from near zero to an upper limit of 5.5%[2] and may yet edge higher still.

Although inflation moderated to a more reasonable 3.7% by the end of September 2023,[3] many investors fear it may take years before interest rate increases fully contain inflation back to the U.S. Federal Reserve's target of 2%. Now, some investors seeking downside protection, and investment outcomes that can keep up with inflation, are adding allocations to real estate and infrastructure to their portfolios.

These "real assets" have a history of strength amid inflation. It was widely assumed that inflation was low or contained for the past 20 years, however from 2003 to 2023 on average inflation was above the 2% target, and it was above 2.53% for 30 quarters.[4]

We believe the case for real assets is strong, aiming to offer a combination of income, capital appreciation and risk mitigation, with inflation protection. We believe these attractive potential outcomes, and the characteristics of real assets, warrant long-term strategic allocations in many investors' portfolios. Our research finds adding real estate and infrastructure to a traditional portfolio of 60% equities and 40% bonds would historically have improved returns and lowered volatility.[5]

This paper will:

- Examine how real estate and infrastructure have historically served as effective hedges against inflation.
- Analyze how a diversified portfolio of these real assets, both public and private, can impact long-term portfolio outcomes.
- Explore what makes these assets resilient, such as built-in inflation protection via regulations and contractual provisions.

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Outpacing Inflation

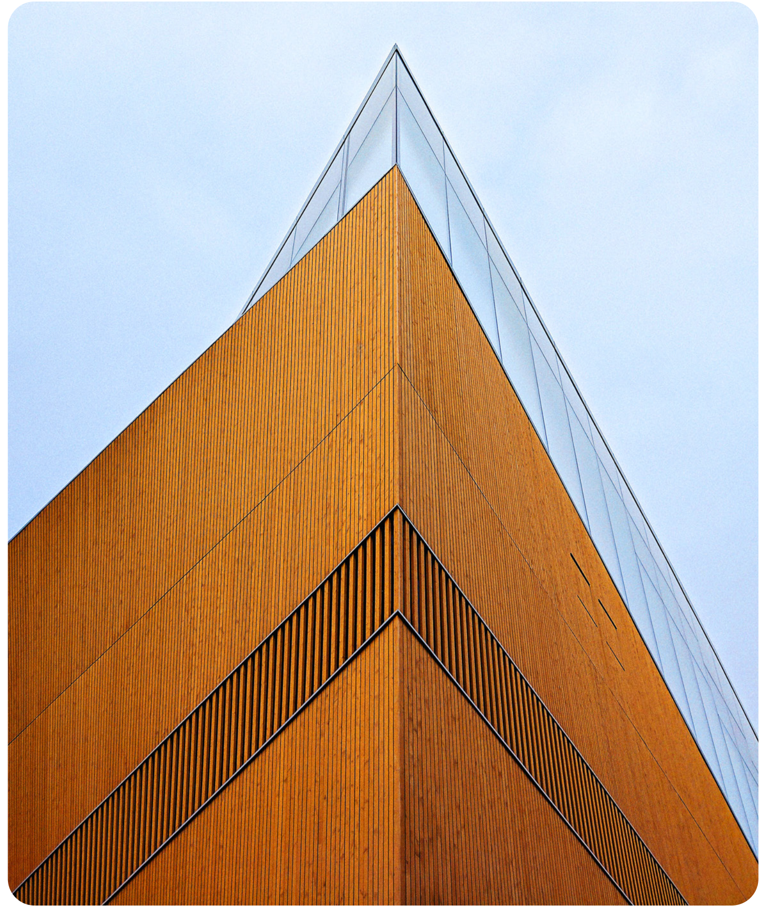
- Traditional investment portfolios mostly allocated to equities and bonds tend to be inadequately positioned for above-average inflation.
- During inflationary periods, real estate and infrastructure have historically outperformed traditional investments.

Over the past 18 months, as changes in consumer prices spiked and subsequently moderated nearer historic norms, traditional investment portfolios that were mostly allocated to equities and fixed income were typically not adequately positioned for high inflation.

While moderate inflation can help benefit equities by enabling some companies to raise prices, high inflation tends to squeeze profit margins and dampen business and consumer spending. At the same time, inflation typically has an adverse impact on bonds because higher prices diminish the purchasing power of fixed interest payments. It also pressures bond prices lower as interest rates rise.

As a result, in a climate of rising and potential higher long-term inflation, we believe the traditional 60/40 portfolio remains vulnerable to depressed bond returns and the possibility of recession negatively impacting stocks.

Now, however, with inflation somewhat more muted (albeit still above average), many investors are seeking ways to protect their portfolios from the erosive impact persistent inflation can have on long-term returns. We believe investors should consider adding exposure to real estate



Real estate and infrastructure have historically proven to be attractive inflation hedges.

and infrastructure because they possess inherent characteristics that have historically provided inflation protection.

Inflationary cycles often play out over years,[6] so while inflation is down from recent highs, history suggests that investors would be well served to remain wary of its potential resurgence.

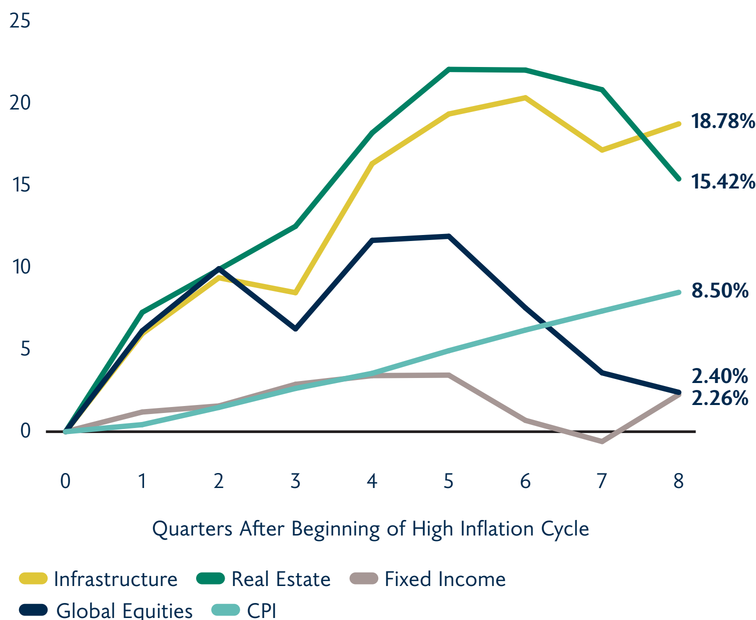
Since 2003, there have been four extended periods in which inflation remained above average for consecutive quarters. In these inflationary cycles, real estate and infrastructure on average significantly outperformed inflation, while broad global equities and fixed income[7] both lagged behind price increases **(Figure 1)**.

The difference in returns over two full years of above-average inflation was striking; real estate posted cumulative total returns of more than 15% while infrastructure returned almost 19%. By comparison, equities and bonds each returned a little above 2%, both underperforming inflation by more than 6 percentage points.

We believe our analysis supports the case for investors now allocating to real estate and infrastructure, if they are looking to construct a portfolio that could withstand various economic environments.

Figure 1: Real Estate and Infrastructure Outperformed During Higher Inflation Cycles

Average Cumulative Total Returns (%)



Inflation defined as seasonally adjusted CPI. Higher inflation cycles reflect two-year (eight quarter) periods during which inflation was above average for at least two consecutive quarters. During the time period analyzed (April 1, 2003 through March 31, 2023) there were four such periods. Specifics about indexes used are listed at the end of this document.

Past performance does not guarantee future results. Index performance is shown for illustrative purposes only. Indexes are unmanaged and cannot be purchased directly by investors.

Source: Bloomberg, Cambridge Associates, Brookfield, data as of March 31, 2023.

Infrastructure return over two full years of above-average inflation—beating inflation by more than 10 percentage points.

Real estate return over two full years of above-average inflation—beating inflation by almost 7 percentage points.

How Real Estate and Infrastructure May Profit From Inflation

- Adding real estate and/or infrastructure allocations has historically improved a portfolio's risk-adjusted return profile.
- Investors seeking to make their portfolios resilient to inflation should consider adding both real estate and infrastructure.
- Due to their underlying characteristics, we believe these investments warrant consideration in long-term, strategic portfolio allocations.

Real estate and infrastructure form the backbone of our global economy. These real assets—physical properties and essential systems—are tangible investments that have intrinsic value due to their substance and characteristics.

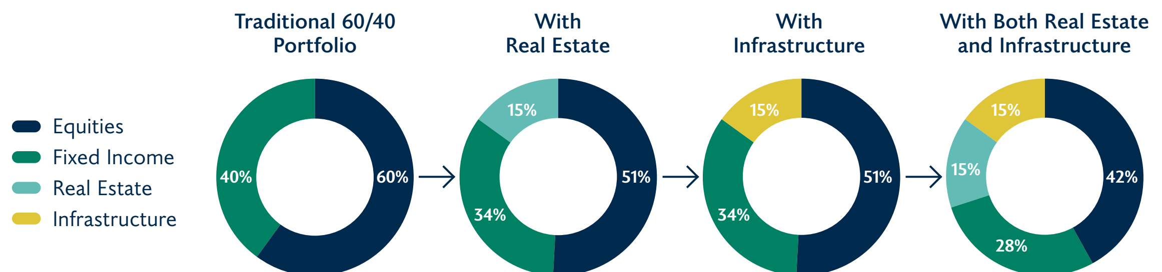
From towering skyscrapers and residential complexes to intricate transportation networks and complex utility systems, we believe these types of assets are the critical foundations upon which businesses operate, communities thrive and economies prosper.

We believe investors seeking inflation protection allocations in their portfolio should consider exposure to real estate *and* infrastructure.

Figure 2 shows adding real estate and infrastructure helped a portfolio during periods of higher inflation, increasing total return and lowering volatility. We compare a traditional 60/40 portfolio with a portfolio including 15% real estate, one with 15% infrastructure, and one with 30% split between both. All three scenarios improved outcomes.[8]

Figure 2: Adding Real Estate and Infrastructure Has Produced Better Outcomes

Impact of Adding Allocations to Real Estate and Infrastructure



	Traditional 60/40 Portfolio	With Real Estate	With Infrastructure	With Both Real Estate and Infrastructure
Performance During Above-Average Inflation	0.71%	0.97%	0.99%	1.24%
Return	7.06%	7.52%	7.69%	8.15%
Volatility	11.40%	11.30%	11.07%	11.02%
Sharpe Ratio	0.50	0.55	0.58	0.62

Inflation is defined as seasonally adjusted CPI. Data reflects the 20-year period April 1, 2003 through March 31, 2023. Performance During Above-Average Inflation defined as average quarterly returns during quarters during which CPI was above its historical average. (During period analyzed, average CPI was 2.53% and there were 30 such quarters.) Return reflects annualized total return. Volatility refers to annualized standard deviation. Sharpe Ratio is a measure of risk-adjusted return, calculated as the excess return of each asset class compared to the ICE BofA 3-Month U.S. Treasury Bill Index divided by its standard deviation. Specifics about indexes used are listed at the end of this document.

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Source: Bloomberg, Cambridge Associates, Brookfield, data as of March 31, 2023.

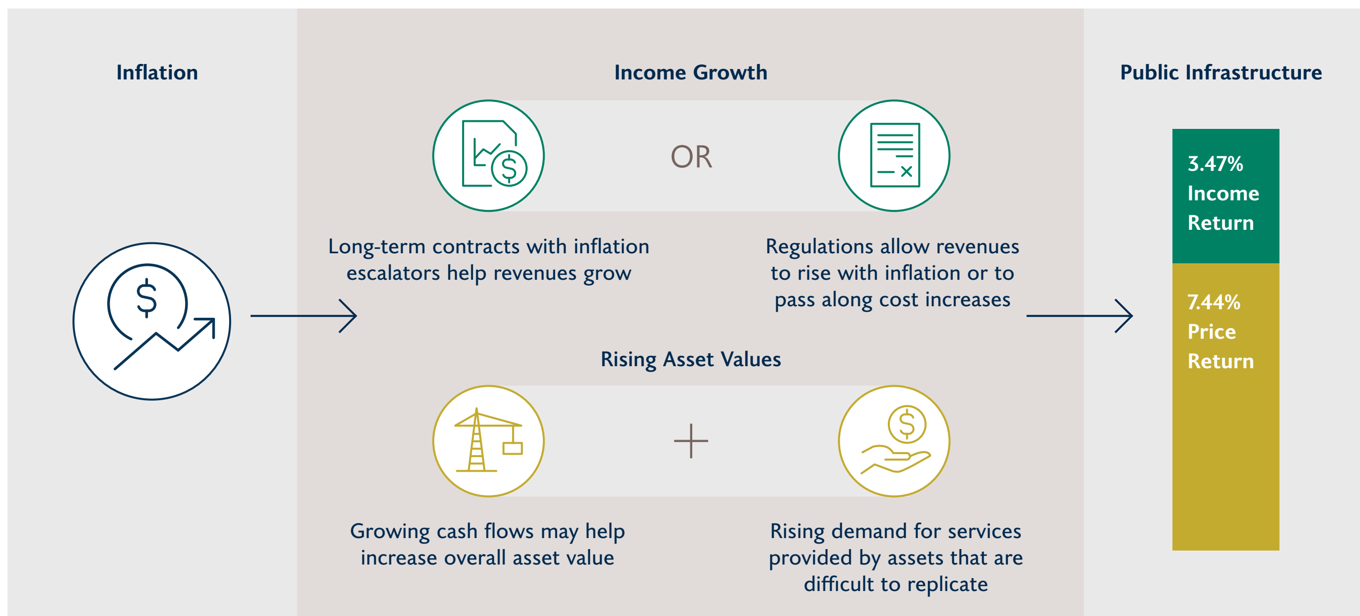
How Infrastructure Can Benefit in Practice

- Infrastructure benefits from certain characteristics, such as inflation-linked price escalators, pricing power and scarcity.
- Returns are driven by a combination of growing income and rising asset values.

As an asset class, infrastructure's historical ability to outperform during inflationary periods has been driven, in part, by the fact that many of these assets' revenue streams are linked to inflation, which means revenues and cash flow grow when prices rise, offsetting increased cost pressures.

There are two main ways **(Figure 3)** infrastructure returns are driven by inflation:

Figure 3: How Inflation Drives Infrastructure Returns



For the 20-year period April 1, 2003 through March 31, 2023. Income Return refers to the portion of total returns attributable to dividend or other income distributions; Price Return refers to the portion of total return attributable to changes in prices. Public Infrastructure refers to data after December 31, 2014 represented by the FTSE Global Core Infrastructure 50/50 Index. Data from July 30, 2008 through December 31, 2014 represented by the Dow Jones Brookfield Global Infrastructure Index. Prior to July 30, 2008, data represented by an equal blend of the Datastream World Gas, Water & Multi-Utilities Index and Datastream World Pipelines Index. See disclosures for full index definitions. **Past performance does not guarantee future results**. Index performance is shown for illustrative purposes only and does not predict or depict the performance of any actual investment. Indexes are unmanaged and cannot be purchased directly by investors.

Source: Bloomberg, Brookfield, data as of March 31, 2023.

Contracts or regulations linking prices to inflation

- Infrastructure assets, such as **utilities**, frequently have prices set by regulations that explicitly allow cash flows to increase with inflation.
- Many other infrastructure assets have prices set by long-term contracts, often with provisions that facilitate revenues rising with inflation. These are common in renewables, midstream/pipelines, transportation and communications/data infrastructure.
- We believe these inflation-linked cash flows or revenues can potentially lead to attractive long-term income growth.

Scarcity

- Infrastructure operators can typically pass on higher costs to customers due to the scarcity of alternative choices, e.g., first- and last-mile rail connections and key shipping ports.
- Building new/replacing existing assets takes significant capital outlays, restricting competition from new entrants. We believe this helps drive infrastructure asset values higher, which may lead to capital appreciation.
- Many of the services infrastructure assets provide is only set to increase, for example rising demand for electricity or data consumption.

How Real Estate May Benefit in Practice

- Real estate can benefit from lease escalators/ mark-to-market leases and supply constraints.
- Returns are driven by a combination of growing income and rising asset values.

There are two main ways **(Figure 4)** real estate returns are driven by inflation:

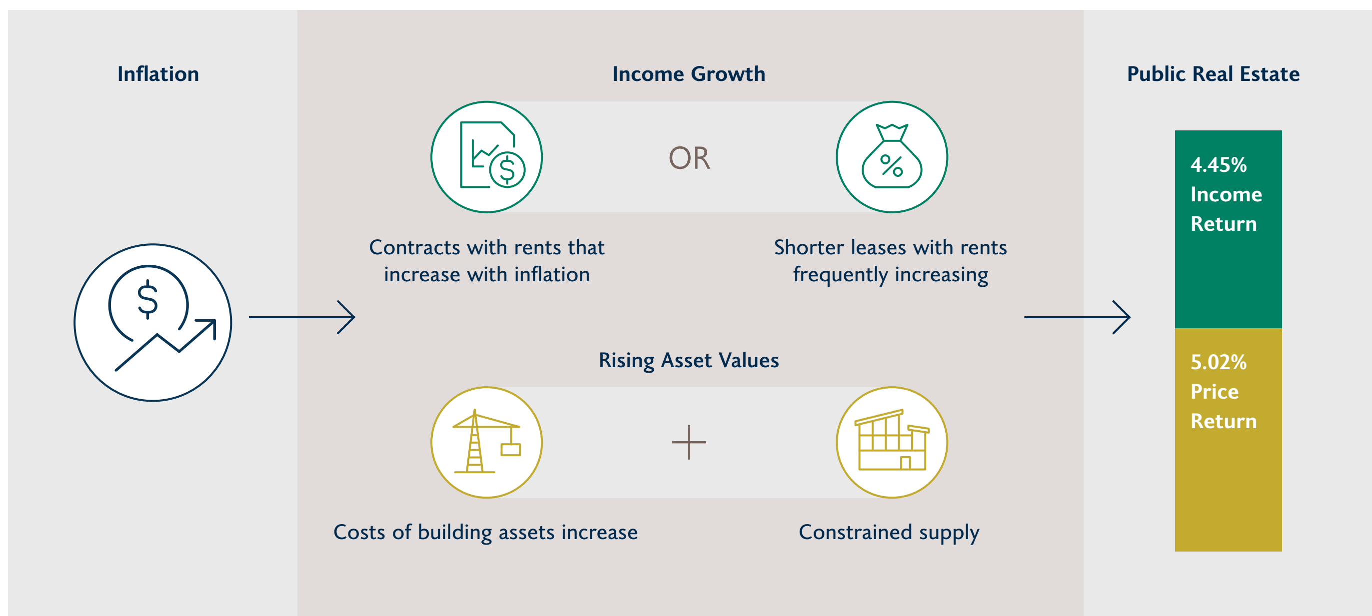
Lease escalators or mark-to-market leases

- Commercial leases for properties such as health care facilities, retail/shopping centers and logistics/industrial facilities link rent to inflation, via escalators that allow landlords to pass increased operating costs on to tenants.
- Properties with shorter leases, such as multifamily (apartments), self-storage and hotels/hospitality, can help mitigate inflation risk because as leases end, landlords raise rents in line with rising prices (mark-to-market). For apartments, that adjustment comes when each unit is vacated. For hotels, it can occur daily.
- We believe lease escalators and mark-to-market leases may potentially lead to attractive long-term income growth.

Supply constraints

- In inflationary periods, rising input costs constrain new development, supporting high rents and asset values for already-built properties.

Figure 4: How Inflation Helps Drive Real Estate Returns



For the 20-year period April 1, 2003 through March 31, 2023. Income Return refers to the portion of total returns attributable to dividend or other income distributions; Price Return refers to the portion of total return attributable to changes in prices. Public Real Estate refers to FTSE Nareit All Equity REITs Index.

See disclosures for full index definitions. **Past performance does not guarantee future results.** Index performance is shown for illustrative purposes only and does not predict or depict the performance of any actual investment. Indexes are unmanaged and cannot be purchased directly by investors.

Source: National Association of REITs (Nareit), Brookfield, data as of March 31, 2023.

Conclusion

While inflation may continue to threaten performance of traditional investment portfolios, diversifying into real estate and infrastructure assets has historically helped investors benefit from rising prices, thanks to characteristics such as regulations, contract provisions and lease escalators. These traits vary by subsector within each asset class; as a result, different types of real assets may provide varying levels of inflation sensitivity.

Investors looking to dampen volatility, generate long-term capital appreciation and diversify their portfolios should, we believe, consider adding real estate and infrastructure to their long-term strategic asset allocation. To unlock the full range of benefits that these investments can add to a portfolio, investors should talk to their financial advisers about which real assets mix and what amount of exposure to public and private markets might suit their circumstances. We believe these benefits are present through exposure from both public and private markets.

Endnotes

[1] Source: U.S. Bureau of Labor Statistics (BLS).

[2] See St. Louis Fed Economic Data (FRED) at https://fred.stlouisfed.org/series/DFEDTARU.

[3] Source: BLS.

[4] Source: Brookfield analysis of BLS data.

[5] Equities refers to the MSCI World Index; bonds to the Bloomberg Barclays Global Index.

[6] The post-war period has had six periods of inflation—measured by CPI—of 5% or above (1946–48, 1950–51, 1969–71, 1973–82 and 2008). See *Historical Parallels to Today's Inflationary Episode*, The White House, July 6, 2021.

[7] Global equities represented by MSCI World Index, fixed income by the Bloomberg Global Aggregate Index.

[8] Our hypothetical analysis uses a 50/50 blend of public and private real estate and infrastructure. Hypothetical performance have inherent limitations and should not be considered guarantee of future performance or a guarantee of achieving overall financial objectives.

The performance shown in this chart is simulated performance based on benchmark indices, not investment results from an actual portfolio or actual trading. There can be large differences between hypothetical and actual performance results achieved by a particular asset class. However, this should not be interpreted as a recommendation; each investor should discuss with their financial adviser what mix of public and private market exposure to these assets may be appropriate for their individual circumstances.

Figures 1 and 2: Global Equities refers to MSCI World Index; Fixed Income refers to Bloomberg Global Aggregate Index; Infrastructure refers to an equal weighted blend of Private Infrastructure, which is defined as the Cambridge Associates Infrastructure Index, and Public Infrastructure, which is defined as data after December 31, 2014 represented by the FTSE Global Core Infrastructure 50/50 Index. Data from July 30, 2008 through December 31, 2014 represented by the Dow Jones Brookfield Global Infrastructure Index. Prior to July 30, 2008, data represented by an equal blend of the Datastream World Gas, Water & Multi-Utilities Index and Datastream World Pipelines Index; Real Estate refers to an equal weighted blend of Private Real Estate, defined as the Cambridge Associates Real Estate Index, and Public Real Estate, defied as the FTSE Nareit All Equity REITs Index.

A Word About Risk

Investments in real estate-related instruments may be affected by economic, legal or environmental factors that affect property values, rents or occupancies of real estate. Infrastructure companies may be subject to a variety of factors that may adversely affect their business, including high interest costs, high leverage, regulation costs, economic slowdown, surplus capacity, increased competition, lack of fuel availability and energy conservation policies.

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Index Definitions

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Cambridge Associates Infrastructure Index represents a horizon calculation based on data compiled from infrastructure funds, including fully liquidated partnerships, formed beginning in 1993.

Cambridge Associates Real Estate Index is an end-to-end calculation based on data compiled from real estate funds, (including opportunistic and value-added real estate funds) including fully liquidated partnerships, formed beginning in 1986.

Datastream World Index Series of infrastructure-related sectors, including Gas, Water & Multi-Utilities, Materials and Oil & Gas Pipelines, is used as a proxy for infrastructure prior to the inception of the Dow Jones Brookfield Global Infrastructure Index in the exhibits of this report. These indexes are compiled by Thomson Reuters Datastream. The Datastream World Pipelines Index is an index of global energy pipeline companies, as compiled by Thomson Reuters Datastream.

Dow Jones Brookfield Global Infrastructure Index is calculated and maintained by S&P Dow Jones Indices and comprises infrastructure companies with at least 70% of their annual cash flows derived from owning and operating infrastructure assets, excluding Master Limited Partnerships. Brookfield has no direct role in the day-to-day management of any Brookfield-branded indexes.

FTSE Global Core Infrastructure 50/50 Index gives participants an industry-defined interpretation of infrastructure and adjusts the exposure to certain infrastructure subsectors. The constituent weights are adjusted as part of the semi-annual review according to three broad industry sectors: 50% Utilities, 30% Transportation including capping of 7.5% for railroads/railways and a 20% mix of other sectors including pipelines, satellites and telecommunication towers. Company weights within each group are adjusted in proportion to their investable market capitalization.

FTSE Nareit All Equity REITs Index is a free-float adjusted, market capitalization-weighted index of U.S. equity REITs. Constituents of the index include all tax-qualified REITs with more than 50% of total assets in qualifying real estate assets other than mortgages secured by real property.

ICE BofA 3-Month U.S. Treasury Bill Index is an unmanaged index representing monthly return equivalents of yield averages of the last 3-month Treasury Bill issues.

MSCI World Index is a free float-adjusted market-capitalization-weighted index that is designed to measure the equity market performance of developed markets.