Principal Asset Management[SM]

LISTED INFRASTRUCTURE:
A timely complement to unlisted infrastructure

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At a glance

- Many investors have achieved infrastructure exposure exclusively through the private markets, yet the asset class can also be accessed through listed infrastructure equity strategies.
- In today's market environment, the liquidity, diversification, and valuation transparency of listed infrastructure makes it an increasingly relevant complement to unlisted infrastructure exposure.
- As attractive income opportunities become more plentiful across the broader investment landscape, the growth emphasis of listed infrastructure may also prove to be a positive differentiator.
- Listed infrastructure can be utilized by institutional investors to enhance a public equity allocation by lowering its expected market beta and providing greater resilience amidst persistent inflation.

Since its emergence as an asset class in the 1990s, infrastructure has increasingly featured as a distinct allocation within institutional investment portfolios. Traditional infrastructure assets typically share specific attributes that support the delivery of steady investment returns throughout an economic cycle. These businesses tend to provide services that are essential to our society and operate under regulated or contracted frameworks that provide investors with a higher degree of revenue and cash flow visibility.

Historically, many investors have achieved infrastructure exposure through the private markets, either by investing in private equity fund structures or into assets directly. This approach closely aligns with the role other private markets asset classes, such as private equity and private real estate, play in a portfolio. However, it is also possible to access the infrastructure asset class through listed equity strategies and doing so may prove to be advantageous in certain market environments.

EXHIBIT 1: Typical investment characteristics of listed and unlisted infrastructure

Investment Characteristic	Listed Infrastructure	Unlisted Infrastructure
Liquidity	Very High	Low
Diversification	Very High	Low
Valuation transparency	Very High	Low
Cost of implementation	Low	High
Typical return composition	Growth emphasis	Income emphasis
Minimum investment size	Low	High
Fundamental volatility	Low	Low
Return volatility	Moderate to high	Low
Tactical opportunity	High	Low
Operational influence	Very low	Low to very high
Strategic influence	Moderate	Low to very high

Relative appeal of listed strategies may be amplified today

Given the broader macroeconomic challenges seen at present, we believe the liquidity, diversification, and valuation transparency of listed infrastructure make it an increasingly important alternative to unlisted infrastructure exposure. In addition, the investment returns of listed infrastructure have historically skewed more towards growth compared to unlisted returns. This suggests listed infrastructure has lower risk of substitution as other income-oriented investments regain prominence. Further, we contend that the recent underperformance of listed infrastructure may signal an attractive relative valuation opportunity.

Liquidity

The listed infrastructure universe comprises US$4 trillion in market capitalization, and average daily traded volume exceeds US$14.1 billion.[1] Even the largest of institutional investors may have greater confidence in how quickly exposure to the infrastructure asset class can be added or reduced when investing via public equity markets. In contrast, investing in unlisted infrastructure, whether directly or through fund vehicles, generally requires lead times of up to three years for a commitment to be completely called, and usually necessitates the lock up of capital for years.

Splitting an infrastructure allocation across both listed and unlisted investments can help institutional investors strike the right balance between asset class exposure and liquidity without sacrificing total exposure to infrastructure. This approach can also prove advantageous through periods when an investor is looking to increase overall liquidity and remain nimble amidst heightened volatility. If an overall infrastructure allocation outperforms other plan assets, it is relatively straightforward to divest from listed infrastructure to bring the overall allocation back in line with a strategic target. There are typically restrictions on redemptions in private vehicles, or it may simply take time to find a buyer for an individual asset.

In addition, the differentiated liquidity offered by listed infrastructure allows investors an opportunity to tactically position portfolios in response to today's challenging macroeconomic backdrop. For example, our listed infrastructure portfolios currently reflect a bias towards companies with balance sheet positions that we expect to have greater earnings resilience in a recession.

Diversification

Listed infrastructure portfolios typically offer greater diversification than unlisted infrastructure portfolios. A single listed infrastructure company may manage dozens of assets, and a listed infrastructure portfolio may contain exposure to 30-60 companies with representation across a wide range of geographies, sectors, subsectors, regulatory regimes, and stages of development. Entire unlisted infrastructure portfolios typically comprise only 10-15 assets. In periods characterized by easy monetary policy and steadily rising asset prices across the board as we have experienced for much of the past decade, diversification may matter less. However, with financial conditions having tightened as significantly as they have over the past 12 months, we remain aware of the possibility for 'unknown unknowns' to impact our portfolio holdings. Simply put, we believe a more diversified portfolio is more likely to withstand unanticipated shocks.

Composition of returns

Income is commonly understood as a key appeal of the infrastructure asset class. Compared to listed infrastructure investments, the return profile of unlisted infrastructure has historically emphasized income to a much greater degree. This difference reflects an underlying bias in the private infrastructure investment universe towards mature assets that require limited incremental investment. It is further evidenced by differences in subsector exposure between the two marketplaces. Over 50% of the listed infrastructure universe comprises regulated utilities, which are investing between 5-10% of their existing asset bases every year while yielding in the low- to mid-single digits depending on the market.[2] In contrast, operating renewables assets feature

[1] As of March 31, 2023. FactSet, Principal Real Estate

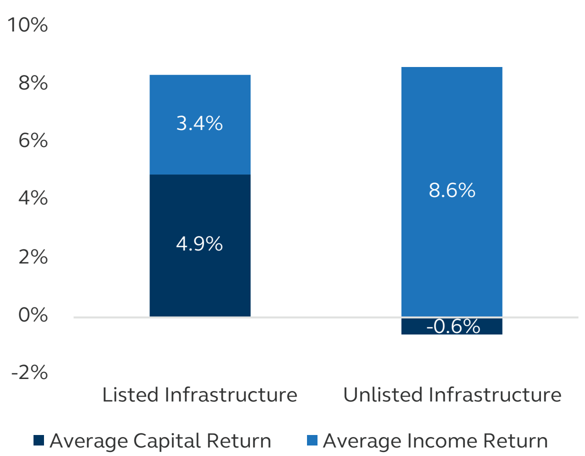
[2] Utilities makes up of over 50% of the FTSE Global Core Infra 50/50 index. Source: Principal Real Estate, March 2023.

more heavily in private infrastructure portfolios, and these assets generally require no incremental growth investment each year.

Whereas listed infrastructure companies typically pay dividends in the range of 50-80% of earnings, and even lower as a percentage of cash flows, unlisted assets have historically paid out the bulk of operating cash flows as dividends*. We believe the prominence of income for the unlisted infrastructure investment case risks becoming a disadvantage in the current market environment. Other income-producing assets can more readily compete with the income generated from mature, unlisted infrastructure today. We would also note that the focus on new asset development by listed infrastructure companies is a key reason why we are excited about the potential of such investments to drive sustainable impact.

EXHIBIT 2: Listed infrastructure has historically delivered greater capital growth, while total returns have been comparable

Annualized trailing five year returns, 2017-2022



As of 31 December 2022. Average returns shown are those delivered over the period 2017-2022. Listed infrastructure is represented by the FTSE Global Core Infrastructure 50/50 Index. Unlisted infrastructure is represented by EDHEC infra300® (quarterly), EW LCU. Please refer to Important Information section for additional disclosures.

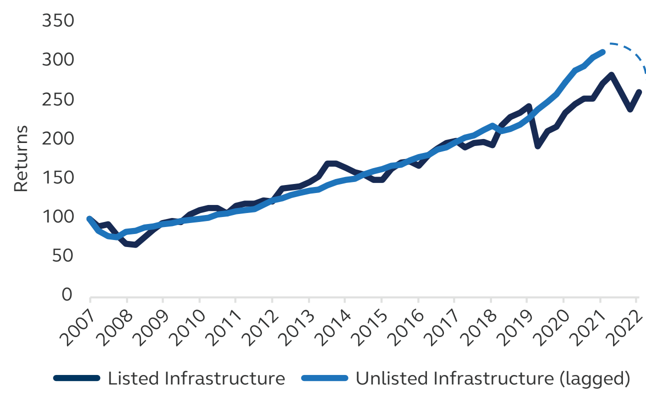
Valuation transparency

There are meaningful differences in both the valuation frequency and methodologies utilized in listed and unlisted infrastructure markets. Specifically, the valuations of listed infrastructure companies reflect the prices at which transactions occur daily. Valuations for unlisted infrastructure funds and individual assets are typically published only quarterly or semi-annually and are established using appraisal-based methodologies, which are broadly understood to drive meaningful lag and smoothing effects. Unlisted infrastructure valuations are also more susceptible to influence from individual actors, many of which have a commercial incentive to limit write-downs or fluctuations in capital values over time.

At present, our view is that listed infrastructure valuations likely reflect the current macroeconomic backdrop to a greater extent than unlisted infrastructure valuations. Recent relative performance supports this hypothesis. The long-term return drivers of listed infrastructure closely mirror those of unlisted infrastructure strategies, and as such, long-term investment returns have been comparable. However, we have seen listed infrastructure returns trail since early 2020. See in Exhibit 3 below.

EXHIBIT 3: Historically, listed and unlisted infrastructure have offered comparable returns—though returns have diverged more recently

Cumulative returns (index base = 100), 2007-2022



Source: FactSet, Preqin, Principal Real Estate Investors, 31 December 2022. Listed infrastructure is represented by a 50/50 blend of MSCI ACWI Utilities Index and the Alerian MLP Index through March 2015, and the FTSE Global Core Infrastructure 50/50 Index thereafter. Please refer to Important Information section for additional disclosures. Unlisted infrastructure is represented by the Preqin private infrastructure index with performance lagged by one year.

We attribute the recent underperformance of listed infrastructure to a confluence of events, the first of which was the public equity market's reaction to weak transportation infrastructure fundamentals during the depths of the coronavirus pandemic. The resulting decline in cash flow generation, while stark, was never likely to last for as long as was implied in valuations in March 2020. The energy infrastructure sector also

*Dividends are not guaranteed and the amount paid, may change over time. Source: Principal Real Estate, 31 March 2023.

experienced a significant downdraft during this time, reflecting a sharp repricing in commodity markets—even though energy infrastructure fundamentals remained resilient. Then, as equity markets rallied from their pandemic lows in late 2020 and 2021, listed infrastructure lagged. Investors expressed a preference for cyclical businesses and avoided sectors historically seen as more rate sensitive. Finally, in 2022, while listed infrastructure held up well relative to broader global equities, it still delivered negative total returns and therefore underperformed unlisted infrastructure.

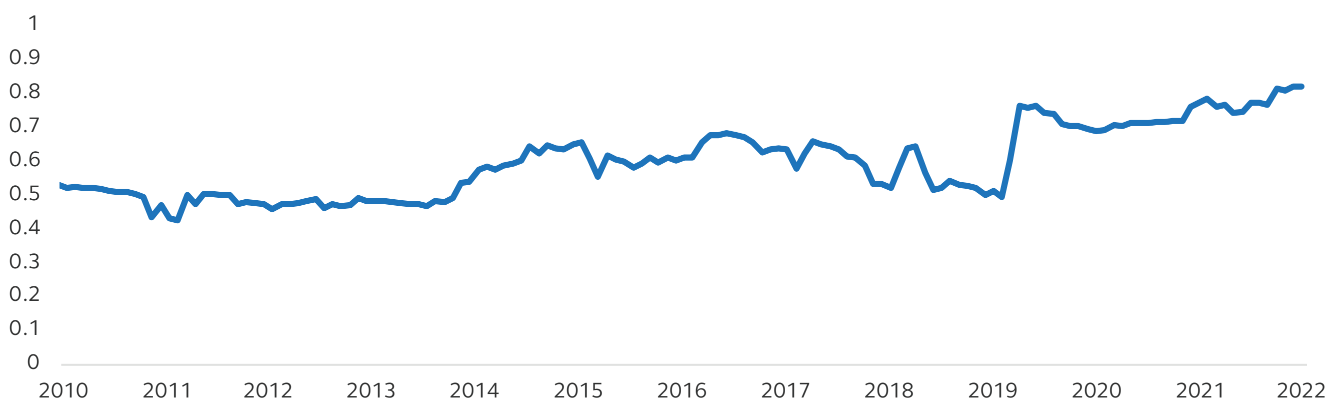
We ultimately take the view that the recent underperformance of listed infrastructure relative to unlisted strategies has little to do with a divergence in fundamentals, and instead see a temporary dislocation caused by key differences in how the respective markets operate. Regardless of whether one expects unlisted valuations to catch up with what is reflected in public markets, or for listed infrastructure to recover substantially from here, we believe there is now a case for listed infrastructure to outperform over the medium-term.

A defensive substitute for global equity exposure

Beyond its ability to add value to a broader infrastructure allocation, listed infrastructure also has the potential to deliver differentiated outcomes within a global public equity allocation. We believe listed infrastructure continues to be well positioned relative to global equities in the current environment, largely because of the expected defensiveness of infrastructure business models through a variety of macroeconomic scenarios. See Exhibit 4.

EXHIBIT 4: Listed infrastructure has historically exhibited a lower beta relative to global equities

Beta of listed infrastructure relative to global equities (rolling 3-year average)

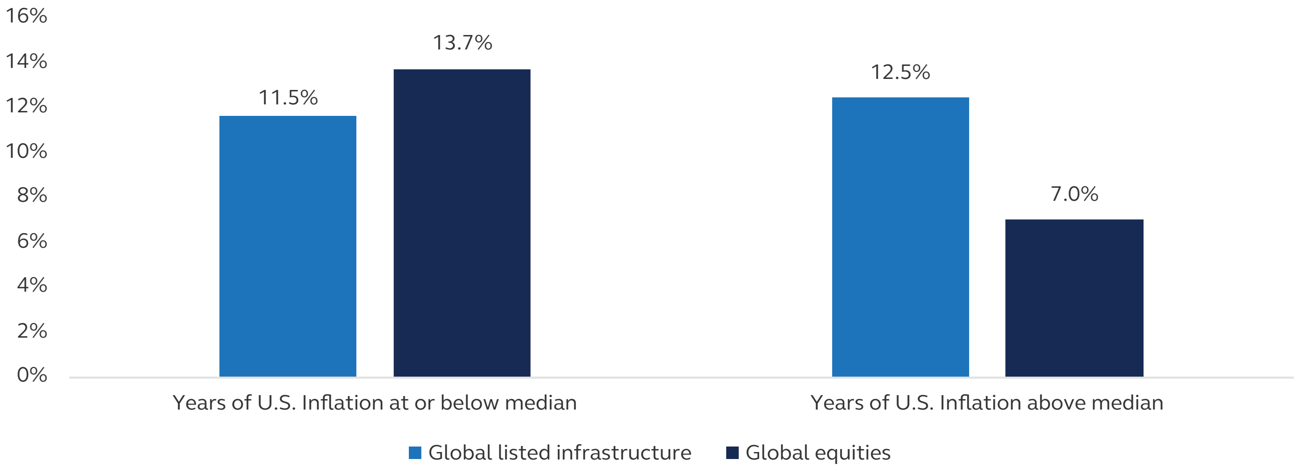


As of 31 December 2022. Source: FactSet. Listed infrastructure is represented by a 50/50 blend of MSCI ACWI Utilities Index and the Alerian MLP Index through March 2015, and the FTSE Global Core Infrastructure 50/50 Index thereafter. The FTSE index launched in March 2015. Please refer to Important Information section for additional disclosures. Global equities represented by MSCI All Country World Index. Past performance is not indicative of future performance and should not be relied upon to base an investment decision.

Further, as regulated monopolies or monopoly-like businesses delivering essential services, most listed infrastructure companies have a differentiated ability to preserve margins during periods of rising inflation. Listed infrastructure has historically outperformed global equities during periods of above-average inflation, suggesting that the structural advantages these businesses enjoy have the potential to flow through to relative share price performance. See Exhibit 5.

EXHIBIT 5: Listed infrastructure offers the potential to perform well in periods of higher inflation

Average annualized returns over the last 20 years



As of 31 December 2022. Source: FactSet. Listed infrastructure is represented by a 50/50 blend of MSCI ACWI Utilities Index and the Alerian MLP Index through March 2015, and the FTSE Global Core Infrastructure 50/50 Index thereafter. The FTSE index launched in March 2015. Please refer to Important Information section for additional disclosures. Global equities represented by MSCI All Country World Index. Past performance is not indicative of future performance and should not be relied upon to base an investment decision.

FINAL THOUGHTS:

Infrastructure has increasingly been featured as a distinct allocation within institutional investment portfolios, though to date, many investors have achieved infrastructure exposure exclusively through the private markets. In our view, the liquidity, diversification, and valuation transparency of listed infrastructure make it an important complement to unlisted infrastructure exposure in today's market environment. In addition, because listed infrastructure has lagged unlisted investments materially in recent years, we now see a case for listed infrastructure to outperform over the medium-term. Alternatively, listed infrastructure can be utilized in a manner that seeks to enhance a public equity allocation. Regardless of how exposure is achieved, we believe listed infrastructure has the potential to deliver attractive risk-adjusted returns through a range of macroeconomic scenarios.

Risk Considerations

Investing involves risk, including possible loss of Principal. Past Performance does not guarantee future return. Asset allocation and diversification do not ensure a profit or protect against a loss. All financial investments involve an element of risk. Therefore, the value of the investment and the income from it will vary and the initial investment amount cannot be guaranteed. 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. International and global investing involves greater risks such as currency fluctuations, political/social instability and differing accounting standards. Risk is magnified in emerging markets, which may lack established legal, political, business, or social structures to support securities markets and/or may be subject to trading suspensions, government interventions, or other interference.

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Index descriptions: FTSE Global Core Infrastructure 50/50 Index is a market-capitalization-weighted index of worldwide infrastructure and infrastructure-related securities and is net of dividend withholding taxes. Constituent weights are adjusted semi-annually according to three broad industry sectors: 50% utilities, 30% transportation, and a 20% mix of other sectors, including pipelines, satellites, and telecommunication towers. MSCI World Core Infrastructure Index captures large and mid-cap securities across the 23 Developed Markets countries. The Index is designed to represent the performance of listed companies within the developed markets that are engaged in core industrial infrastructure activities. MSCI AC World Infrastructure Index captures the global opportunity set of companies that are owners or operators of infrastructure assets. Constituents are selected from the equity universe of MSCI World, the parent index, which covers mid and large cap securities across the 23 Developed Markets (DM) countries. MSCI All Country World Index is a stock index designed to provide a broad measure of global equity market performance. The MSCI ACWI Utilities Index captures large and mid cap representation across 23 Developed Markets and 24 Emerging Markets countries. All securities in the index are classified in the Utilities sector as per the Global Industry Classification Standard. Alerian MLP Infrastructure Index was launched June 1, 2006 and is a composite of energy infrastructure Master Limited Partnerships (MLPs). The capped, float-adjusted, capitalization-weighted index constituents earn the majority of their cash flow from midstream activities involving energy commodities. The MSCI World Core Infrastructure Index was launched on Jan 16, 2015.

Preqin private infrastructure index start date: 12/31/2007. The unlisted infrastructure benchmark is part of Preqin's Private Capital Quarterly Index series that captures the return earned by investors on average in their private capital portfolios, based on the actual amount of money invested in private capital partnerships.

The MSCI ACWI Infrastructure Index was launched on Jan 22, 2008.

FTSE Global Core Infrastructure 50/50 Index launched in March 2015.

The infra300® index was launched on March 31, 2000 and is an equally weighted index designed to match the TICCS® allocations of the global unlisted infrastructure equity investment universe. It is designed to track the structure of global infrastructure market by business model, industrial activity and corporate structure.

Index performance information reflects no deduction for fees, expenses, or taxes. Indices are unmanaged and individuals cannot invest directly in an index.

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