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Unlisted Infrastructure: Defensive Equity with an Inflation Hedge

By Daniel McCormack



INVESTMENTS & WEALTH INSTITUTE®

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DEFENSIVE EQUITY WITH AN INFLATION HEDGE

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From a global investor perspective, infrastructure is a relatively nascent asset class. It is said to have been born during the early 1990s in Australia, the child of sweeping pension reforms and privatization. It is only in more recent times that it has entered the radar of mainstream international investors.

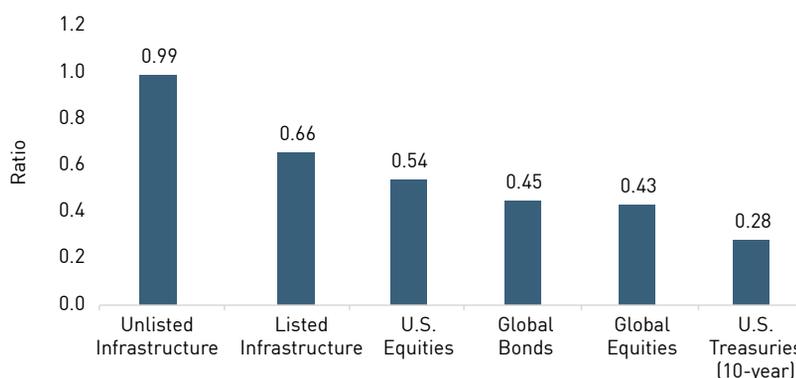
One consequence of its relatively new status is that the data available for analyzing its long-run performance and return drivers is limited compared with traditional asset classes such as listed equities and bonds. Serviceable and improving benchmarks are available though. For private-market infrastructure, our preferred benchmark is the Cambridge Associates Infrastructure Index (CAII). There are other benchmarks but due to sample size and valuation methodology issues they are less useful. The CAII index began in 2004 and has now experienced two full economic cycles.

LONG-RUN RETURNS COMPARED WITH OTHER ASSET CLASSES

Overall returns for infrastructure have been healthy relative to other asset classes. Since inception in 2004 the CAII has delivered a compound annualized return of 9.6 percent,¹ compared with 7.2 percent on global equities, 3.7 percent on global bonds, and 4.1 percent on U.S. Treasuries (10-year).² As recorded, volatility has been low relative to other equity but above bonds (both risk-free and investment grade).³ This combination of healthy returns and relatively low volatility means that unlisted infrastructure's

Figure 1

SHARPE RATIOS OF SELECTED ASSET CLASSES



Source: Macquarie analysis based on data sourced from Cambridge Associates, Bloomberg Finance LP, and Macrobond as of March 2020.

historic returns compare favorably on most risk-adjusted return metrics. Figure 1 shows the Sharpe ratios for the period 2004 to 2019.

Qualitatively though, how does infrastructure perform? What drives the returns of this asset class, which some consider defensive equity and others see as something more akin to a fixed income substitute? In simple terms, we would describe private-market infrastructure as defensive equity with an inflation hedge component.

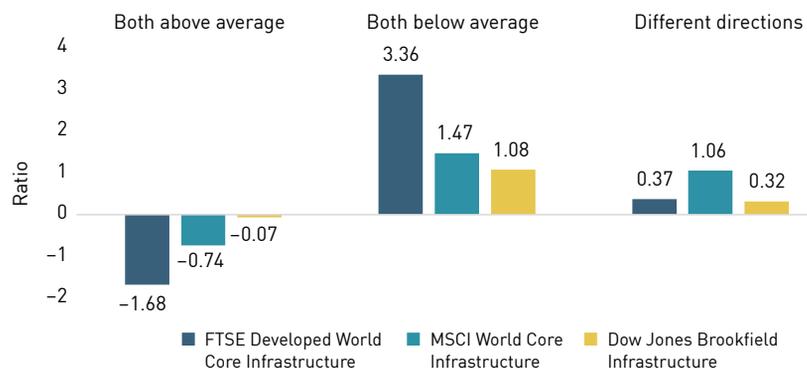
Intuitively, infrastructure should be low beta. By definition, infrastructure assets usually provide an essential service and operate in an environment where competition is constrained and barriers to entry include, among other things, high capital expenditure requirements. Empirically, it is low beta—statistically listed and unlisted infrastructure benchmarks have a beta of less than one relative to broad equity indexes.⁴ There is,

however, growing evidence that infrastructure's return behavior is not just a straight-up beta effect. Specifically, infrastructure appears to offer enhanced protection when macroeconomic and market stresses are acute. The evidence for this comes from both listed and unlisted markets.

For listed infrastructure, we tend to find that across the main benchmarks there is a consistent skew in relative performance: The better performance in weak market conditions is quantitatively more pronounced than the poorer performance in strong market conditions. This can be seen in figure 2, which breaks out the relative returns of three listed infrastructure benchmarks into three different groupings.⁵ The first is when both the broader equity market (MSCI World) and the infrastructure benchmark in question perform strongly (i.e., both rise by more than their respective long-run averages); the second is when both perform weakly (i.e., fall or rise by less

Figure
2

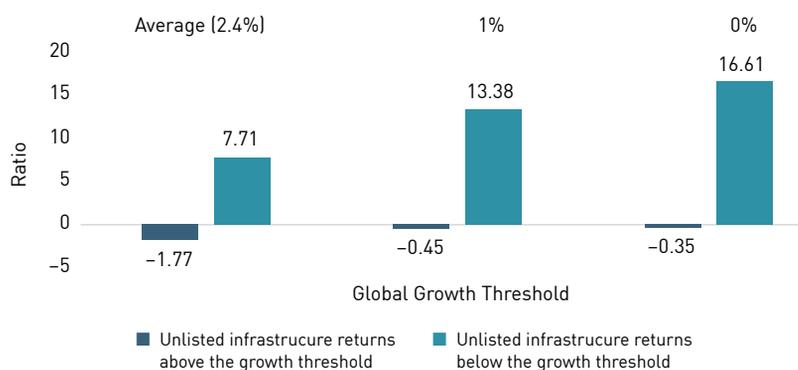
RELATIVE PERFORMANCE OF LISTED INFRASTRUCTURE BENCHMARKS



Source: Bloomberg Finance LP as of March 2020.

Figure
3

UNLISTED INFRASTRUCTURE RELATIVE RETURNS AND GDP GROWTH



Source: Macquarie analysis based on data sourced from Cambridge Associates, Bloomberg Finance LP, Macrobond, and International Monetary Fund (IMF) as of March 2020.

than their respective long-run averages); and the third is when the performance of the respective indexes is mixed (i.e., one performs stronger than its long-run average and the other performs more weakly).

For the FTSE Developed World Core Infrastructure Index and the MSCI World Core Infrastructure Index, the better performance in weak market conditions is roughly twice the magnitude of the weaker performance in good times; and the difference is even starker for the Dow Jones Brookfield Infrastructure Index. It is also the case that when the performance has been mixed—i.e., one benchmark performed better than its long-run average and the other performed worse—infrastructure

has delivered stronger returns than the broader market.

Unlisted infrastructure has behaved in a similar way. Figure 3 shows unlisted infrastructure's performance relative to MSCI World when global gross domestic product (GDP) growth is above and below different thresholds.⁶ When growth is above average, unlisted infrastructure delivers slightly lower returns than global equities (1.8 ppts), but when growth is below average it delivers significantly better returns (7.7 ppts). The point is that, as the global growth threshold is lowered to 1 percent, and then to 0 percent, the extent of the better performance when growth is below the threshold increases markedly; and the weaker performance when

growth is above the threshold fades to negligible levels.

This suggests that when growth is weak, infrastructure historically has performed very well compared to other equity. In addition, and similar to listed infrastructure, unlisted infrastructure has a skew in terms of its sensitivity to external conditions, performing almost as well as global equities when GDP growth is healthy but materially better when growth is weak.

One general criticism of private-market benchmarks is the methodologies used for valuation. They can give a smoothed picture of true asset prices so that measured volatility is lower than true volatility. Indeed, a long line of academic literature provides strong support for the notion that sophisticated investors deploying their own capital can provide as good an unbiased estimate of the future as you can find. Interestingly though, the analysis of the CAII and listed benchmarks shows the following:

- The highest correlation between the two series' quarterly returns is for the current period. Lagging either series reduces the correlation coefficient.
- There is no evidence of mean reversion in the relative performance of the unlisted versus listed benchmarks. That is, if one performs more strongly for a while, there is no evidence that leads to the other subsequently catching up.
- Based on both univariate regressions, the lagged returns of one benchmark have no explanatory power for the returns of the other benchmark.

From a statistical perspective many of these findings overlap, but the point is the same—there is no obvious statistical evidence that private-market benchmarks are mispricing assets to a significant degree. Practically speaking, it still may be prudent not to take the volatility of private-market benchmarks at face value. However, there may be something to the notion that private markets

have an ability to avoid the liquidity stresses and short-term reporting pressures of listed markets, allowing a focus on medium- to longer-term value drivers, even during difficult times.

INFLATION AS A RETURN DRIVER

The other remarkable aspect of infrastructure’s performance is its link to inflation. The straight-up correlation between unlisted infrastructure’s returns and inflation is around 0.75 to 0.80; for listed equities generally, it is 0.30 to 0.40. The correlations for listed infrastructure benchmarks tend to sit between these two. For bonds the relationship is weaker and can be negative.

This high correlation for infrastructure returns makes intuitive sense—some infrastructure assets offer a real (i.e., inflation-adjusted) return courtesy of regulation; for others revenue has a direct, legal link to inflation; and for others there is a more indirect but still consequential link in that they often have pricing power when inflationary pressures are elevated.

The evidence is not just limited to correlations. Infrastructure generally performs better when inflation is high versus low and when it is rising versus falling.⁷ More interesting from an inflation hedge perspective is relative performance. Figure 4 shows unlisted infrastructure’s return relative to global equities, global bonds, and U.S. Treasuries when inflation is above certain threshold levels (along the x-axis).

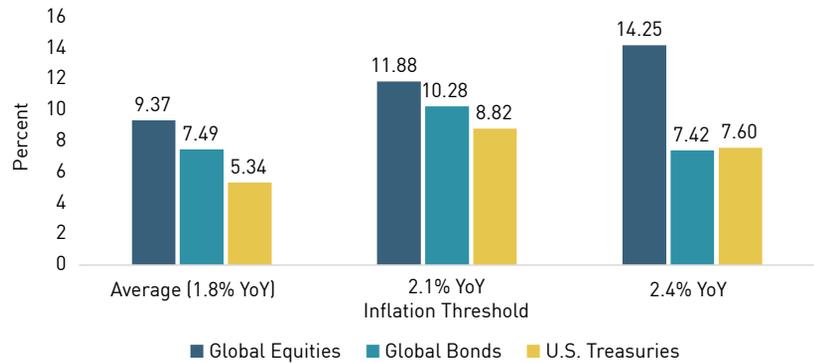
Two points are notable:

- Unlisted infrastructure performs better than all three mainstream asset classes in all three scenarios examined.
- The magnitude of the better performance tends to increase as the inflation threshold for testing is lifted.

One way to extend this analysis is to consider how infrastructure performs during periods when inflation surprises on the upside. Asset prices are a

Figure 4

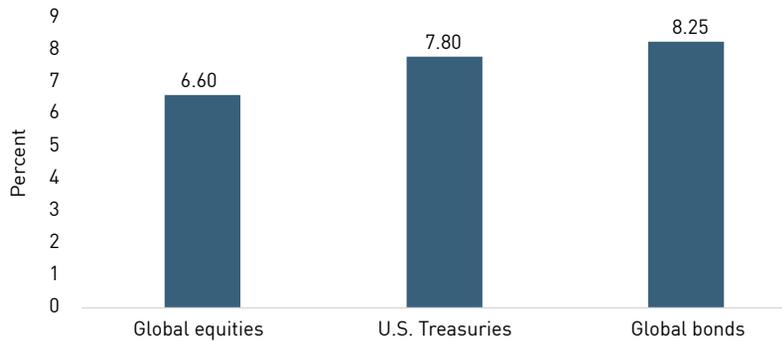
UNLISTED INFRASTRUCTURE RELATIVE PERFORMANCE WHEN INFLATION IS ABOVE CERTAIN THRESHOLDS



Source: Macquarie analysis based on data sourced from Cambridge Associates, Bloomberg Finance LP, Macrobond, and IMF as of March 2020.

Figure 5

UNLISTED INFRASTRUCTURE RELATIVE PERFORMANCE IN POSITIVE INFLATION SURPRISE ENVIRONMENTS



Source: Macquarie analysis based on data sourced from Cambridge Associates, Bloomberg Finance LP, Macrobond, IMF as of March 2020

forward-looking variable and they have certain inflation expectations baked into them. Following this line of reasoning, the level of inflation is irrelevant; what’s important is the level of inflation relative to what it was expected to be. To test this, we take the Bloomberg consensus expectation for inflation for the world’s major economies and compare it with the reported number to create an inflation surprise series for each economy. We then weight these by GDP to create a quarterly global inflation surprise index.

Figure 5 shows unlisted infrastructure’s performance relative to global equities, U.S. Treasuries, and global bonds when inflation surprises on the upside. In such an environment, unlisted infrastructure

has performed materially better than all three other asset classes, with the margin greater for bonds than it is for equities.

In short, whether you look at absolute performance or relative performance, whether you measure performance against inflation outcomes in either level or change terms, and whether you use inflation actuals or outcomes relative to expectations, infrastructure offers a relatively strong and reliable real return compared with equities and bonds.

PORTFOLIO BENEFITS OF UNLISTED INFRASTRUCTURE

The analysis shows that infrastructure has delivered strong risk-adjusted returns over two cycles and has other

performance attributes that historically have been useful as a hedge against certain risks. Its defensiveness historically has provided return support in challenging economic times and reduced the risk of liquidity strains, forced asset sales, and the nonlinear outcomes that sometimes manifest themselves in periods of macroeconomic stress. The relatively tight nexus between revenue and inflation for many infrastructure assets means that inflation outcomes may be a more important driver of absolute and relative returns than for other asset classes. This could be particularly relevant given recent shifts in the political economy dynamic (accelerated by the coronavirus pandemic) and the upside risks to inflation this may be generating. These qualitative return traits, and the opportunity they have historically provided to hedge against certain macroeconomic risks, can be just as valuable as the robustness of infrastructure's risk-adjusted return delivery.

FINAL THOUGHTS

A growing range of investment options is becoming available to accredited investors that make private-market investment holdings possible for the first time. For high-net-worth individual

investors or multi-family offices considering initial allocations to private markets, the primary attributes of infrastructure may hold the appeal of a newly accessible investment category. Whether it's the ability to invest in projects that benefit a community, the appeal of further diversification, or the potential inflation hedge, infrastructure is likely to be territory that readily encourages some investors to revisit goals-based portfolio planning.

The potential to capture some or all of these attributes begets a range of considerations for advisor and client, making it imperative for advisors and consultants to become versed in the asset class and many of the issues outlined above.

What are the implications of adding infrastructure investment to a portfolio for the first time? What is the intended role in the asset mix? What are the additional considerations when the allocation is a first foray into private markets? These and many other questions are worth visiting; they are a jumping off point that can lead to rich advisor-client and consultant-client discussions. ●

Daniel McCormack is an economist and director at Macquarie Asset Management, based in Frankfurt, Germany. His analysis and consultation help senior Macquarie investors and their clients plan for the deployment of alternative-asset solutions. He earned a bachelor's degree with honors in economics from The University of Queensland and a bachelor of laws in contract law from Queensland University of Technology. Contact him at mirafunds@macquarie.com.

ENDNOTES

1. These returns are net of fees, expenses, and carried interest.
2. For global equities we use the MSCI World index as our benchmark and for global bonds the Barclays Global Composite Index.
3. The standard deviation of yearly returns over the same period has been 9.7 for the CAII versus 17.5 for global equities and 4.5 for global bonds.
4. The MSCI World Core Infrastructure Index, the S&P Infrastructure Index, the Dow Jones Brookfield Infrastructure Index, and the CAII all have a beta to the MSCI World Index of between 0.76 and 0.91 during 2004–2020.
5. Relative to global equities (MSCI World).
6. For global growth we use a GDP weighted series of growth for the United States, China, the eurozone, the United Kingdom, and Japan.
7. The CAII has delivered an average annualized return of 10.7 percent when inflation is above average and 9.5 percent when below average. When inflation has been rising CAII has delivered an average annualized return of 11.9 percent and 7.6 percent when it is falling.

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