



LISTED INFRASTRUCTURE SECTOR INVESTMENT CHARACTERISTICS

31 DECEMBER 2020

COMMERCIAL IN CONFIDENCE

TABLE OF CONTENTS

| | | |
|----------|---|-----------|
| 1 | Introduction | 3 |
| 2 | Investment Return Characteristics..... | 4 |
| | 2.1 Listed Infrastructure compared with general equities..... | 4 |
| 3 | Comparison of listed and unlisted | 7 |
| | 3.1 Listed vs. Unlisted Infrastructure Performance | 7 |
| | 3.2 Comparison of Available Assets..... | 8 |
| 4 | Risk Metrics..... | 10 |
| | 4.1 Volatility..... | 11 |
| | 4.2 Volatility of Earnings | 12 |
| 5 | Beta and Correlation..... | 14 |
| | 5.1 Beta | 14 |
| | 5.2 Correlation..... | 15 |
| 6 | Listed Infrastructure indices | 16 |

1 INTRODUCTION

Over the past five years, the weight of funds flowing into the infrastructure asset class has grown dramatically, with the great majority of these funds directed towards unlisted infrastructure. This demand for private infrastructure assets has not, however, been met by an equivalent increase in supply of suitable infrastructure opportunities. Thus, a dynamic of growing demand and constrained supply, combined with stimulatory monetary settings, has exerted significant downward pressure on available returns and, particularly for more disciplined Infrastructure investors, has seen capital deployment become increasingly challenging. As of 30 June 2020, unlisted infrastructure funds had US\$249bn¹ of “dry powder”, a 124% increase relative to the equivalent number in 2015. Even this increase does not include the unallocated part of infrastructure programs at pension and sovereign wealth funds; including these, the total value of allocated but undeployed capital may be over US\$250bn. When compared to a total investable universe of around US\$700bn (Refer section 2.2), this represents a very large proportion of the existing stock of assets held by unlisted infrastructure investors.

In practice, this undeployed capital is likely to rest in a combination of equities, cash and/or bonds. To the extent that the capital is sitting in equities, an investor is picking up additional equity market exposure; if it is in cash or bonds it could be a drag on returns. At a minimum, listed infrastructure can assist institutions in addressing this infrastructure deployment challenge by offering exposure to high quality infrastructure assets without significantly impacting total equity market exposure and, as we discuss below, it can also provide a range of other benefits that may warrant a more permanent place in the infrastructure portfolio.

In this paper we evaluate the risk/return characteristics of the listed infrastructure market to assess whether opportunities exist within that market which meet an infrastructure investor’s investment criteria, and which may therefore be useful as one element of an institutional infrastructure allocation.

Inclusion of an allocation to listed infrastructure within a broader infrastructure allocation provides investors with a range of advantages:

- Access to a range of high-quality assets with strong infrastructure characteristics;
- Opportunity to broaden the sector and geographic exposure of an existing infrastructure portfolio;
- Long term investment returns which are consistent with and correlated to unlisted infrastructure;
- Returns which have historically been more resilient than the broader listed equity markets;
- High levels of liquidity, enabling changes in portfolio composition and facilitating the cycling of capital between the listed and unlisted market depending on relative value; and
- Improved ease of tailoring a portfolio to the particular needs of an institution.

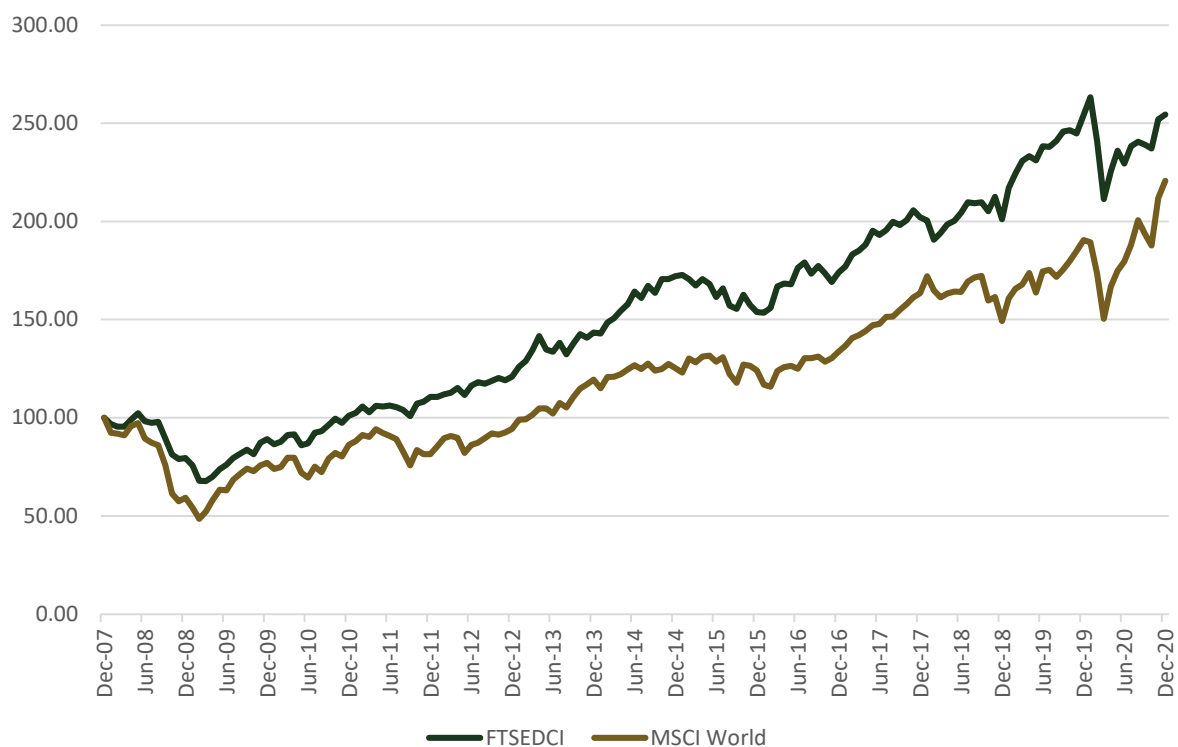
¹ Source: Preqin

2 INVESTMENT RETURN CHARACTERISTICS

2.1 Listed Infrastructure compared with general equities

The following chart plots the performance of the FTSE Developed Core Infrastructure Index against the MSCI over the past 14 years. The infrastructure indices have significantly outperformed the MSCI over the time frame below. Although the listed infrastructure indices have a level of short-term similarity in terms of market direction, we see that over time there is material divergence between those listed infrastructure indices and the broader equity market.

FTSE Developed Core Infrastructure Index vs MSCI World (US\$ unhedged)



Source: FactSet, ATLAS Calculations. Time period is 31 December 2007 to 31 December 2020

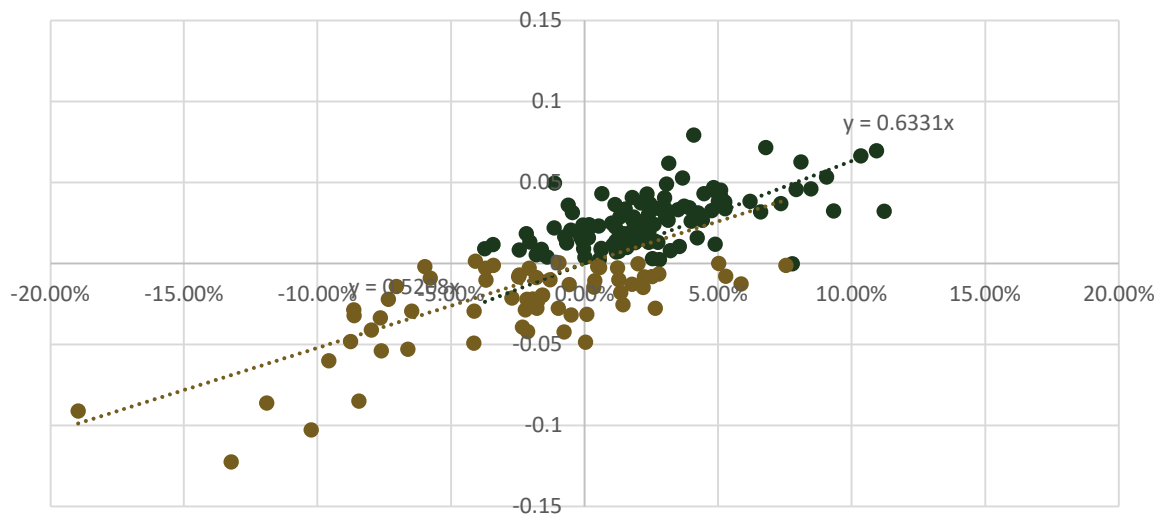
In recent years, the broader market has benefited from both strong economic growth and accommodative monetary policy. We would generally expect that listed infrastructure would underperform the broader equities market in a long bull market due to its defensive characteristics, however, listed infrastructure has in fact shown very strong relative returns “through the cycle” and has outperformed the general equities market over most time frames.

2.1.1 Up / Down Market Performance

Whilst the FTSEDC has outperformed the MSCI significantly over the last 10 years, it is useful to understand what has driven this out performance: has it been driven by increased risk, or has it come from better performance in specific market conditions? One means of addressing this question is to evaluate the up-market and down-market capture of the indices. Interestingly, listed infrastructure has higher up-market capture than the down-market sensitivity. In both cases (unsurprisingly) the sensitivity is below 100%.

The FTSEDC index has shown strong down-market resilience with a 56% down market sensitivity. It has also been relatively conservative in up-markets with a 0.58% up-market sensitivity.

FTSE Developed Core Infra Index – Up/Down Market Capture (vs. MSCI World TR)



Source: FactSet, ATLAS Calculations. Time period is 31 December 2007 to 31 December 2020

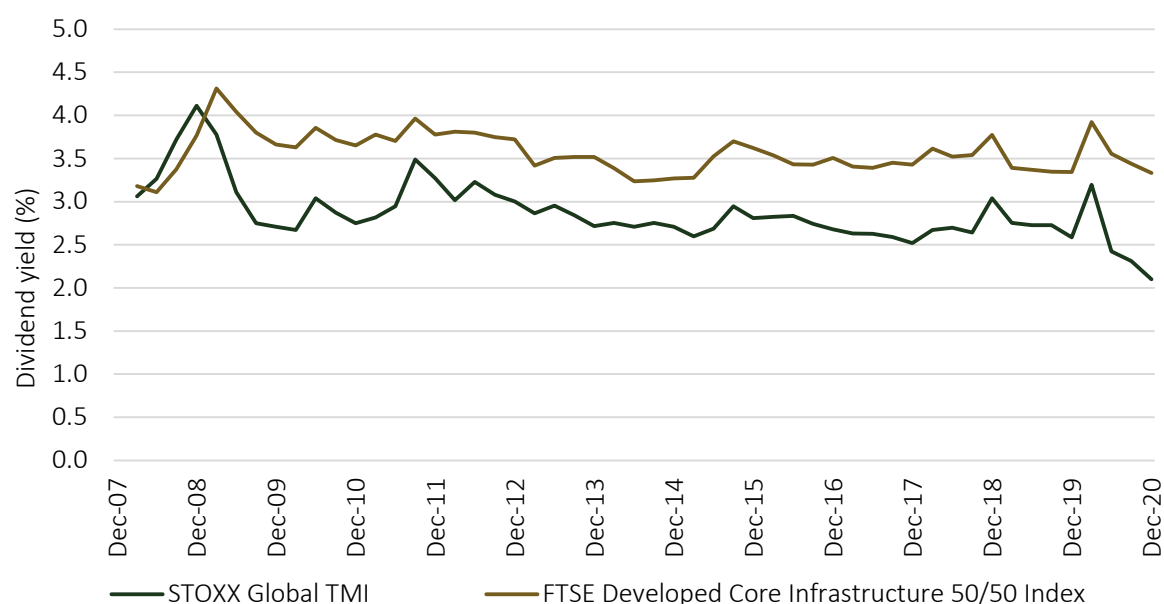
We have also looked at the performance of listed infrastructure in the worst 20 months of the equity market since 2006. In total, the MSCI lost 169% over these 20 months. The FTSE DC index lost a cumulative 99% during these same months, representing a loss of around 58% of the loss of the MSCI during these months – interestingly very similar to the down-market capture noted above. We also calculated the cumulative loss for the worst 20 months for the FTSE DC. The cumulative loss during these periods was 112%, representing around 66% of the loss of the MSCI.

This analysis confirms that in the most material down markets, the FTSE Developed Core index has fallen around half as much as the broader equities market.

2.1.2 Comparison of Dividend Yield

The following chart provides the running dividend yield for both the FTSE Developed Core 50/50 and the STOXX Global TMI, representing global equities. Listed infrastructure has historically provided a dividend yield of around 3.5% and this dividend yield has typically been between 50-100bps above the dividend yield in general equities.

Dividend Yield – Infrastructure vs General Equities December 2007 to December 2020



Source: FactSet, ATLAS calculations

2.1.3 Liquidity

Given the scale of the markets served by companies in the listed infrastructure sector and the size of the companies themselves, it is unsurprising that the liquidity of the sector is in the market is very good. As a result, we estimate that 80% of a £100m listed infrastructure portfolio, even a concentrated portfolio such as that managed by ATLAS, could be deployed, or liquidated within a single week without significant market impact. The characteristics of the market are such that, if required, it would also be possible to build a portfolio to meet specific liquidity requirements in excess of this.

3 COMPARISON OF LISTED AND UNLISTED

3.1 Listed vs. Unlisted Infrastructure Performance

Given that listed infrastructure funds are investing into a similar subset of assets as firms in the unlisted market, all else being equal, the investment returns on both products should in theory be broadly similar. However, there are two reasons that unlisted firms should be able to out-perform their listed counterparts:

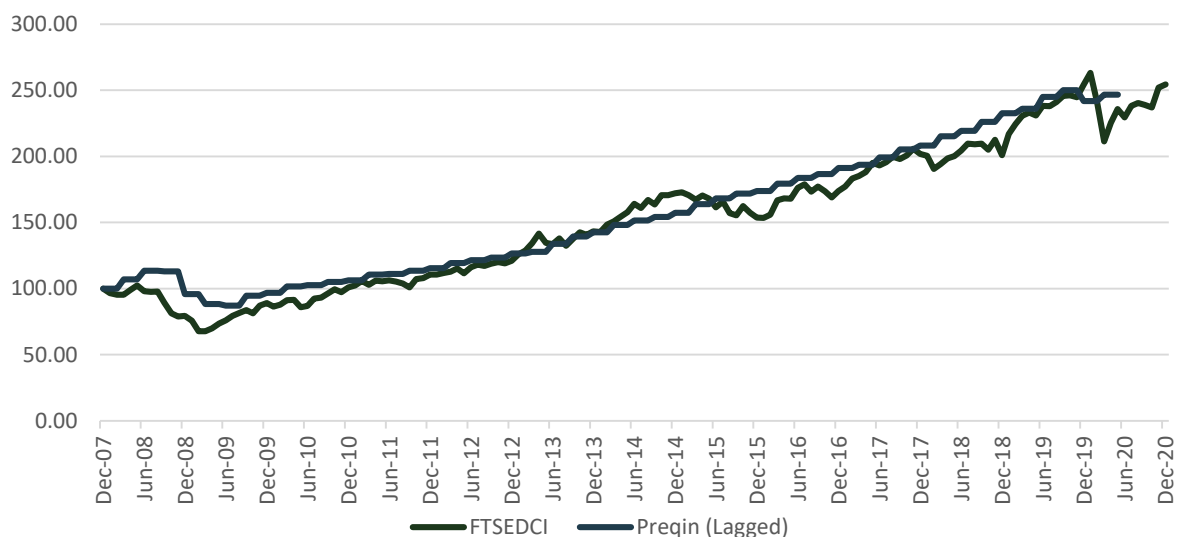
- Unlisted investments are susceptible to greater financial engineering than listed investments; and
- Unlisted managers may be able to add value through greater exercise of management control relative to the level of influence than is normally possible in the listed market.

In theory, the outperformance generated by these factors should create excess returns to justify the illiquidity asked of investors in the unlisted sector relative to the public market. However, this does not appear to be the case in practice. This may well be due to the fact that any excess returns are eaten away by the higher fees in the unlisted sector.

Below we have compared the performance of the FTSE Developed Core Index, against the Preqin index of returns from unlisted infrastructure managers over the past 10 years.

We have made one adjustment to the Preqin data in that we have shifted the return series back 6 months to accommodate a “valuation lag” that results from delay in private valuation reporting relative to the real-time valuation available in the equities market. Without this adjustment, peak valuation in unlisted infrastructure occurs around 6 months after the peak in the listed market, and the low point of unlisted infrastructure valuations occurs around 6 months after the markets had bottomed and commenced their recovery. Whilst not an exact science, it would appear that this is a useful adjustment to ensure that the data series are comparable.

Cumulative Investment Returns to 31 December 2007 to 31 December 2020



Source: FactSet, Preqin, ATLAS Calculations

From the analysis above we see that on average the listed and unlisted infrastructure sectors have achieved almost identical longer-term returns. We do not see any evidence of a material illiquidity premium being earned in the unlisted market.

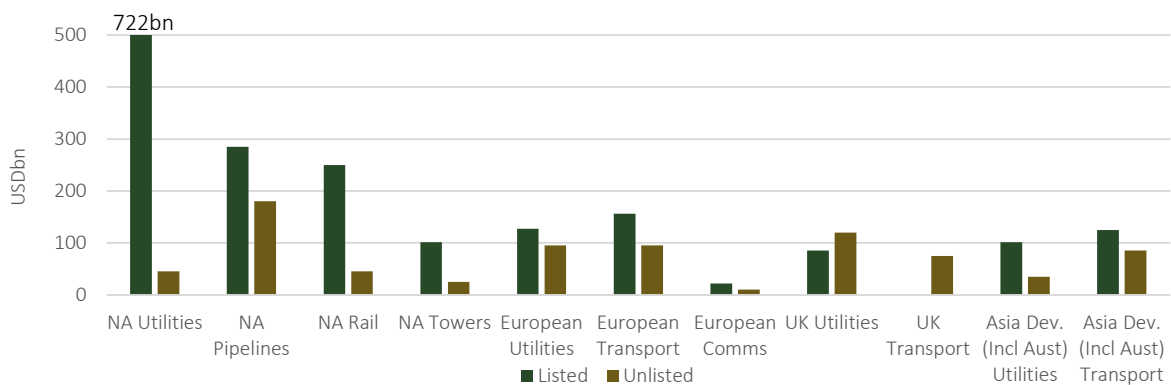
3.2 Comparison of Available Assets

The listed infrastructure market is comprised of a wide variety of high-quality infrastructure companies that own and control exactly the types of high-quality infrastructure assets that are likely to be of interest to investors in unlisted infrastructure. The investment universe spans a range of sectors that would typically be considered “core” infrastructure within a direct portfolio. Listed Infrastructure therefore offers investors a versatile and highly liquid complementarity with their direct or unlisted fund portfolios.

3.2.1 Sector Allocation

The following chart provides the breakdown of the listed and unlisted infrastructure markets by key sectors and geographies. This illustrates that there is material complementarity between the listed and unlisted sectors, whereby the listed market provides material opportunities in areas where unlisted has limited available assets and vice versa.

Listed and Unlisted Sector Breakdown

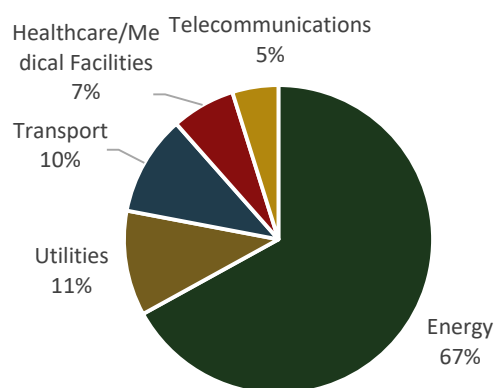


Source: FactSet, Preqin, ATLAS calculations and estimates. Unlisted is aggregate of all known deals in 10 yrs to 31/12/2019

3.2.2 Total Capital Comparison

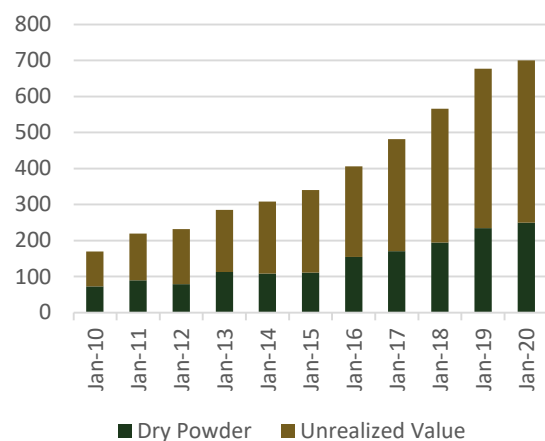
According to data from Preqin, AUM for the unlisted infrastructure asset class stands at \$700bn as of June 2020, however, this includes \$250m of dry powder. The vast majority of deals in the past two years have been in the energy sector and in particular in renewables development. The current opportunity set in unlisted infrastructure therefore appears to be heavily weighted towards these energy and renewables transactions.

Number of Unlisted Infra Deals by Sector



Source: Preqin. As at 31 December 2019

Growth in AUM of Unlisted Infrastructure Funds

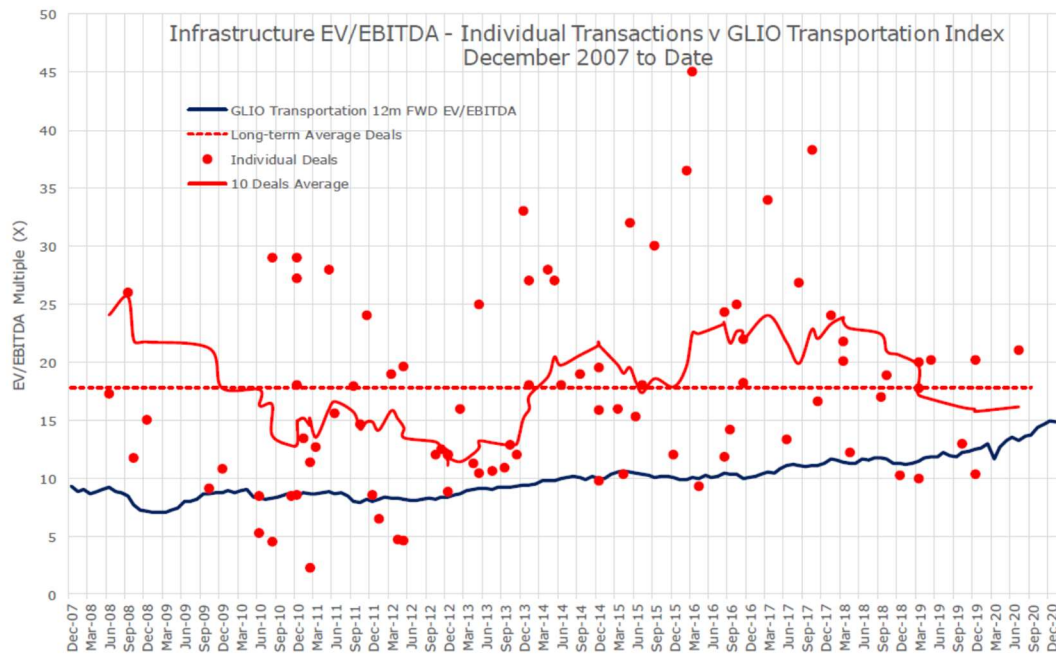


Source: Preqin As at 31 December 2020

3.2.3 Listed vs Unlisted Valuation Multiples

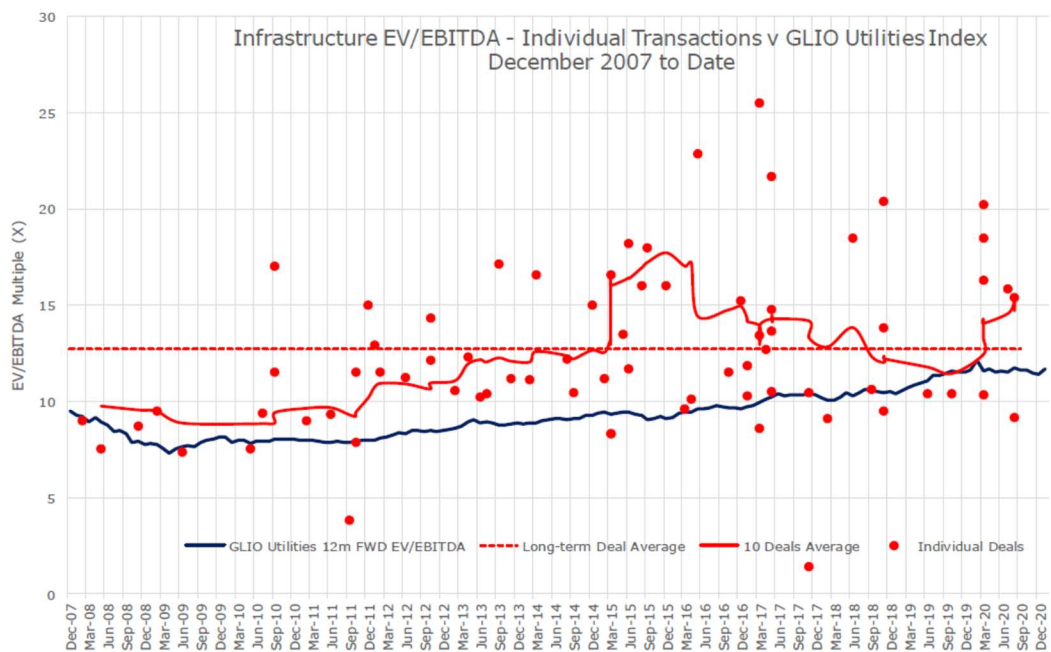
Listed infrastructure has historically traded at valuation multiples which are below the equivalent transactions in the unlisted market. The following two charts from GLIO provide useful insights into the relative valuations in both utilities and transportation assets and confirm that in both cases the transactions have occurred at materially higher valuations than their listed counterparts.

GLIO Transportation Index vs Transportation Asset Transactions (EV/EBITDA)



Source: GLIO Index Monthly Update January 2021

GLIO Utilities Index vs Utility Asset Transactions (EV/EBITDA)



Source: GLIO Index Monthly Update January 2021

4 RISK METRICS

Some infrastructure investors are wary of the listed infrastructure market due to the perception that the volatility of a company's share price is a proxy for the riskiness of that stock. By extrapolation, they assume that listed market fluctuations denote a higher level of value at risk than the privately held companies in their portfolios which are valued on a less frequent basis.

Our observation is that short term market volatility tends to "wash out" over the medium term and has little or no impact on longer term performance. On this basis, ATLAS supports an alternative approach to assessing risk to that often used by participants in the listed market: that risk is the potential for permanent and material impairment of capital.

The risk of a permanent and material impairment of capital rarely if ever arises from short term market movements and will usually be the result of one or more of the following:

- Fundamental risk: there are underlying problems with the asset such that anticipated cash flows are never realised or materially deferred such that a capital loss is incurred. This may be caused by asset level risks (e.g. material change to concession or regulation), agency risk (e.g. poor management decisions), or pricing risk (e.g. paying too much for the asset).
- Macro risk: there is a material change to the macro environment that leads to a reduction in long-term cashflows over the life of the asset (e.g., a sustained recession impacting volumes on a toll road).
- Financing risk: financial distress caused by leverage leads to equity write off or sub-optimal outcomes for equity holders.

None of the above risks differ materially between listed and unlisted infrastructure assets. There is therefore no reason to consider that listed infrastructure investments are fundamentally more risky than unlisted infrastructure assets when considered from a long-term investment perspective.

In the following sections we aim to assess the risks in listed infrastructure using four different metrics:

- Volatility – short term risk;
- Drawdowns – medium term risk;
- Peak to recovery; and
- Volatility of underlying company earnings.

4.1 Volatility

Listed infrastructure is subject to the same market forces that influence the daily price movements of the broader equities market.

Volatility may be an appropriate measure of risk for very short-term trading strategies but for investors with an investment horizon beyond a few months, it is at best only a secondary measure as it does not directly represent a risk of losing money. Over a three-year time horizon, month-to-month volatility becomes insignificant, and the underlying absolute return trend dominates. The key risk to long-term investment performance is therefore not market volatility, but the risk of acquiring assets at excessive valuations.

Despite our scepticism around the value of volatility as a risk metric, it is nonetheless used by investors due to its ease of calculation, its use in other metrics, such as the Sharpe Ratio, and also concerns that some investors have around the optics of volatility on short term performance reporting.

The chart below plots the rolling 12-month volatility for the Dow Jones Brookfield Infrastructure Index and the FTSE Infrastructure and Utilities index against the MSCI World.

Rolling 12-month volatility (US\$ unhedged)



Source: FactSet and ATLAS calculations

We can make the following observations from the above analysis:

- Volatility of listed infrastructure indices is below that of the broader equities market in almost all environments.
- Crucially, it has been materially below the broader equities index during times of economic and market disruption – namely the Global Financial Crisis in 2008/09, the European Crisis in 2011/12 and during the most recent market pull back in Q4 2018.

4.2 Volatility of Earnings

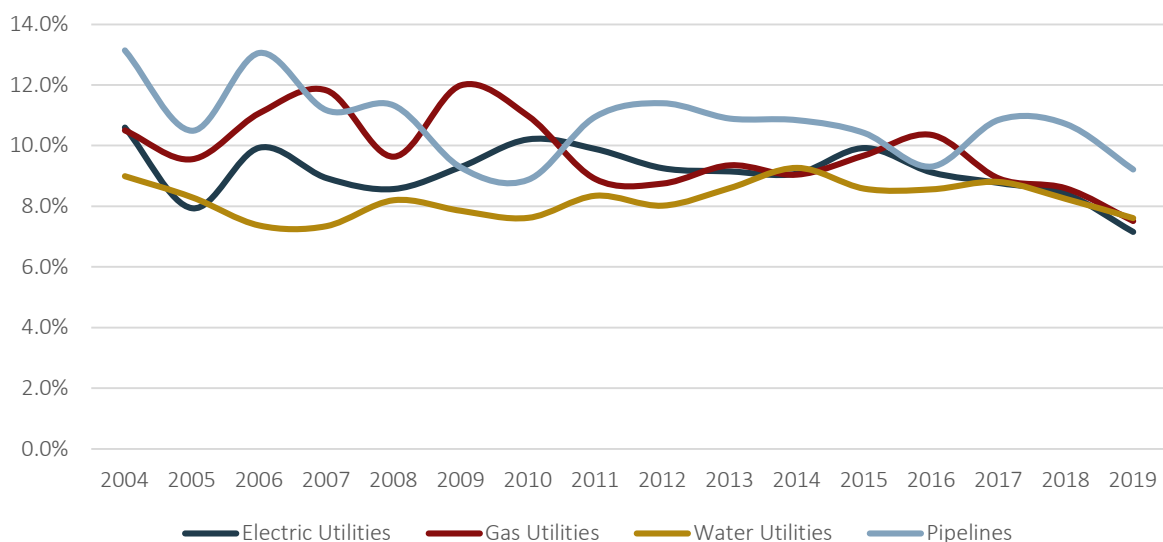
Given evidence that it is the asset earnings and cash flows which ultimately drive investor returns (and the impairment of equity cash flows which typically leads to loss of shareholder value), ATLAS believes that for long term infrastructure investors it is more useful to evaluate the volatility of earnings as a measure of risk, rather than the volatility of daily, weekly, or even monthly share price movements.

In order to evaluate the volatility of company earnings on a consistent basis, we have mapped EBITDA, as a proxy for operating pre-tax cash earnings, against book EV. We have used “Book EV” as the denominator, rather than market EV as it is significantly more stable through time and adjusts for both the income and capital effects of capex and asset acquisitions.

The following chart plots EBITDA to Book EV for utilities and pipelines companies within the ATLAS universe. The results from this analysis show that the earnings of companies in these sectors have been remarkably stable through time. Of particular note is that there is minimal change to cash earnings for these firms even through the financial crisis, supporting the hypothesis that these assets have a very low correlation to economic activity and a low risk of impairment during periods of economic disruption.

This difference between the correlation of the share price and the correlation of the underlying earnings to both the market and broader economic factors is very important. For investors who can weather short term volatility, shares in listed utilities can present very stable underlying investment characteristics.

EBITDA / Book EV - Utilities & Pipelines



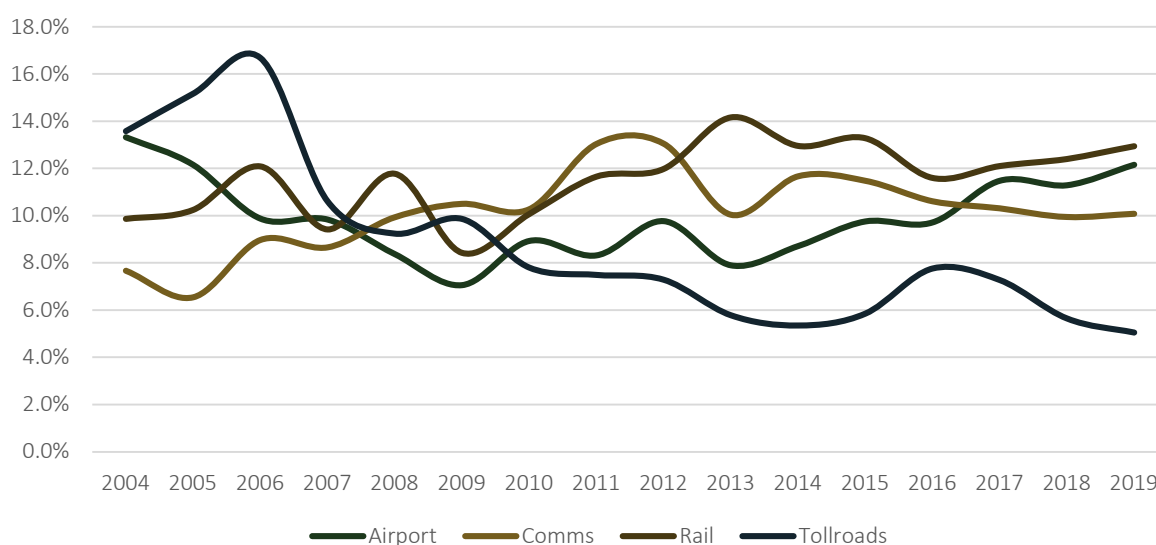
Source: FactSet and ATLAS calculations

The chart below provides the same metric but for airports, toll roads, rails and communications assets.

From this analysis we observe the following:

- As expected, economically linked assets have a greater volatility of earnings than utilities;
- Toll roads experience a significant decrease in earnings during the financial crisis and this fall persists for some time. This is largely due to the European toll road companies which suffered during the crisis; and
- None of the sectors show a negative return on assets even during the financial crisis. This is in contrast to many broader market sectors which recorded negative earnings during this period – particularly financial services companies and some fast-moving consumer goods companies that were impacted by the recession.

EBITDA / Book EV – Economic Assets



Source: FactSet and ATLAS calculations

5 BETA AND CORRELATION

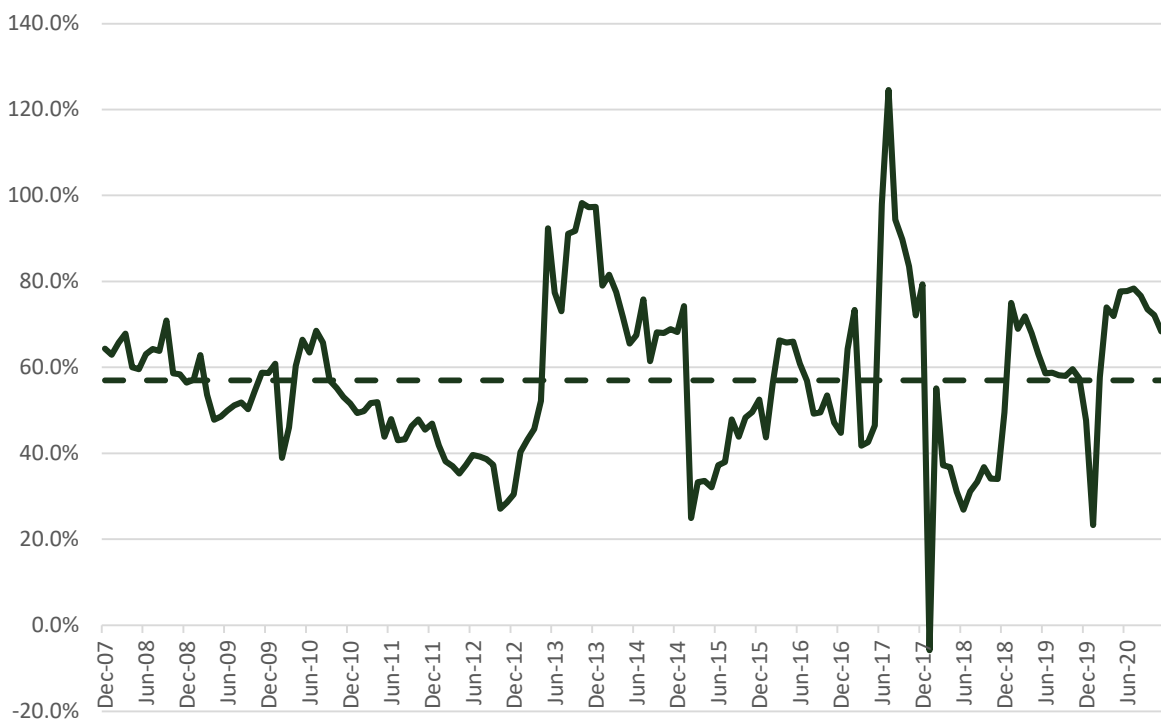
A common concern with listed infrastructure is that it is perceived as being correlated to listed equities. Whilst this may be true over very short time periods, we have demonstrated below that the listed infrastructure and the broader equities market have shown materially differentiated performance over time.

5.1 Beta

Below we have charted the rolling 12-month market betas for the listed infrastructure indices and Australian unlisted managers. Listed infrastructure has had an average beta to the MSCI of 0.57. This is broadly consistent with the previous analysis above Section 3.1.1 which showed the down-market vs up market relationships between the MSCI and the FTSE Developed Core Infrastructure Index.

One interesting point of note is that the FTSEDCI showed a ~0.6 beta even through the majority of the financial crisis and an even lower beta through the European Sovereign Crisis reflecting the defensiveness of this index.

Main infrastructure indices – Rolling 12-month Beta to the MSCI World TR



Source: FactSet, ATLAS Calculations. Time period: December 2007 to December 2020

Listed infrastructure can provide investors with an equity exposure which has a low beta to the market as well as low volatility and drawdown risk, but whilst still providing attractive long term investment returns.

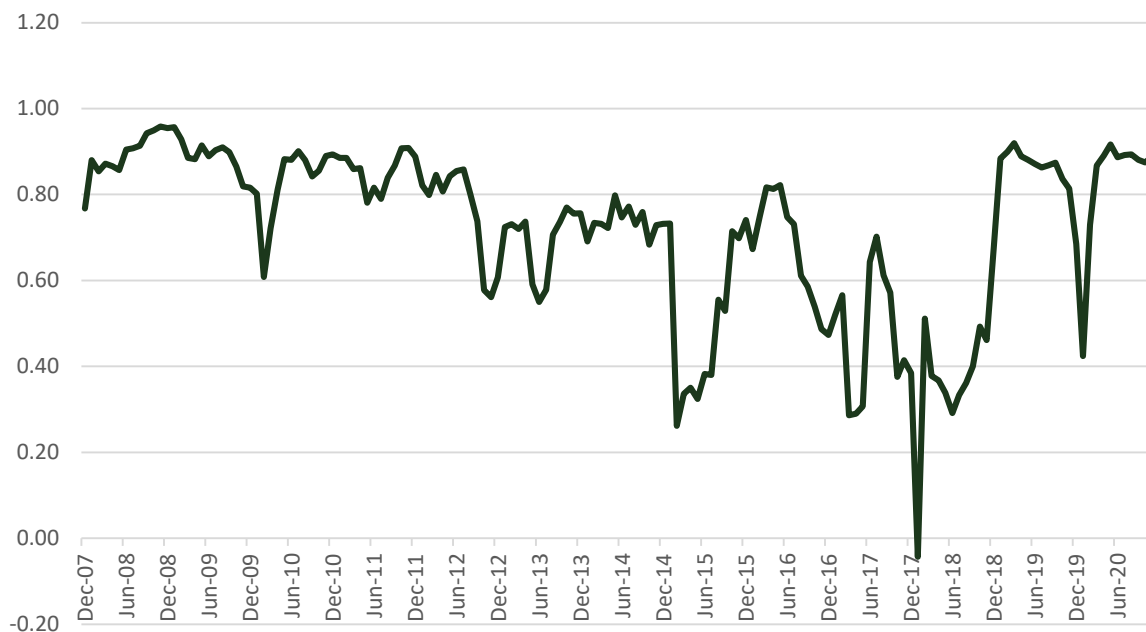
5.2 Correlation

There are two challenges with the use of short-term correlation metrics as a proxy for risk concentration. Firstly, the correlation is between share prices, rather than underlying valuations and secondly, that the correlation calculation is highly dependent on the timeframe of measurement. Unlisted infrastructure has been deemed to have a low measured correlation due to the infrequency and smoothing approach to valuations.

Although listed infrastructure is correlated to the broader equities market over time, this correlation has been generally falling over time. The following chart plots the rolling 12-month correlation of the FTSEDCI Index against the MSCI All World. The chart also includes the rolling 12 month return on the MSCI.

We note that the correlation to the equities market has increased in the past 6 months as the markets have become more volatile. This correlation is not unexpected, since market volatility tends to lead to increases in correlation of listed asset classes.

Correlations of Indices to MSCI World



Source: FactSet, ATLAS Calculations. Time period: December 2007 to December 2020

Correlation can be further reduced through the selection of a manager which takes an active rather than benchmark approach to investment.

6 LISTED INFRASTRUCTURE INDICES

We set out the dominant characteristics of the main listed infrastructure indices below:

FTSE Developed Core Infrastructure Index (FTSEDC Index). This index comprises over 200 companies and has been developed using the Industry Classification Benchmark criteria, including companies with 65% of revenues in specific ICB subsectors which FTSE considers to be core infrastructure. There is an uncapped version of the index and a capped version of the same index – the FTSE Developed Core Infrastructure 50:50. The capped index has the same constituents as the uncapped version, but with the weight of utilities restricted to 50%, transport to 30%, leaving other at 20%. We believe that the 50 50 index provides a more well-balanced index, however, it has a shorter history and so is less usable for the analysis in this paper.

Dow Jones Brookfield Global Infrastructure Index (DJBGI Index). This index comprises around 100 companies. The index was constructed based on Brookfield’s definition of infrastructure, which is typically characterised as long-life assets that generate stable and growing cash flows, with high barriers to entry and low maintenance capital requirements. The index is heavily weighted towards US energy assets such as pipelines and processing facilities. Whilst these companies do have reasonable infrastructure characteristics, the significant weighting of these assets in the index compromises its ability to reflect the performance characteristics of the broader listed infrastructure market.

MSCI World indices. MSCI produces two main infrastructure indices – the MSCI World Infrastructure Index and the MSCI World Core Infrastructure Index. The first of these two indices has a very broad definition of infrastructure and is of little use in analysis of the sector. For example, the top 10 constituents of the index include Verizon, AT&T, Softbank and Deutsche Telekom. For this reason, it is not referenced by any of the main listed infrastructure managers. The MSCI World Core Infrastructure Index comprises around 100 companies selected from specific Global Industry Classification Standard (GICS) sub-industries of developed markets. The index is divided into “infrastructure” companies with an aggregate weight capped at 40% and “utilities” with a maximum aggregate weight of 60%. Whilst this index is a much better reflection of infrastructure than its sibling index, it nonetheless has a number of structural issues and a short track record which limits its applicability for this analysis.

S&P Global Infrastructure Index. This is an index of 75 companies chosen to ensure a mix of different types of infrastructure. It has a weight of 40% to utilities, 40% to transport and 20% to energy. It has a relatively broad definition of infrastructure, meaning that despite the small number of stocks, there is a significant number that might not be considered “pure” infrastructure – such as aircraft leasing companies and logistics hubs. We do not consider this index to be a good representation of the listed infrastructure market and we have not included this index in any of our analysis.

Global Listed Infrastructure Organisation Index. This index is managed by GLIO and takes a less rules based and more fundamental approach to selecting stocks for inclusion. In our view this index represents a more infrastructure-like index than the majority of the formally constructed indices noted above. The index includes Emerging Markets, which in our view detracts from its quality somewhat.

Of the indices reviewed, we would suggest that the FTSE Developed Core Infrastructure Index and the GLIO Index provide the closest definition to our view of infrastructure and, in our opinion, provides the best industry benchmark.

DISCLAIMER:

ATLAS Infrastructure Partners (UK) Limited and ATLAS Infrastructure (Australia) Pty Ltd (collectively ATLAS) have prepared this promotional / marketing communication.

ATLAS Infrastructure Partners (UK) Limited is authorised and regulated in the UK by the Financial Conduct Authority (FCA Register number 760096) and the US Securities and Exchange Commission (SEC Register number 801-110882).

ATLAS Infrastructure (Australia) Pty Ltd is the holder of Australian Financial Services (AFS) licence number 497475 issued by the Australian Securities and Exchange Commission (ASIC).

This communication is for information purposes only and should not be regarded as an offer or solicitation to buy or sell any security. Expressions of opinions are those of the author only and are subject to change without notice. The information, data, opinions, estimates, and projections contained herein have been obtained from sources which we believe to be reliable. Furthermore, all charts and graphs are from publicly available sources or proprietary data. No representation or warranty either expressed or implied, is made nor responsibility of any kind is accepted by ATLAS its directors or employees either as to the accuracy or completeness of any information stated in this document.

PERFORMANCE DISCLAIMER:

Unless stated otherwise, the figures used in this communication represent past performance. Past performance is not a guide to future performance. The value of investments will rise and fall. There is no guarantee the fund will achieve its objective, and you may not get back the amount you originally invested. Changes in currency exchange rates (for the unhedged share classes) will affect the value of your investment. Further risk factors that apply to the fund can be found in the fund's Key Investor Information Document (KIID) which is available upon request.

ATLAS and/or its officers, directors and employees may have or take positions in securities of companies mentioned in this communication (or in any related investment) and may from time to time dispose of any such positions.

ATLAS has a conflicts management policy relating to its activities, which is available upon request. Please contact the ATLAS Chief Compliance Officer for further details.

ATLAS shall not be liable for any direct or indirect damages, including lost profits, arising in any way from the information contained in this communication. This communication is for the use of Professional and Institutional investors only and may not be re-distributed, re-transmitted or disclosed, in whole or in part, or in any manner, without the express written consent of ATLAS.