Insights
Infrastructure

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Introduction to Infrastructure

Benjamin O'Dwyer
ETF Strategist

We expect infrastructure investing to continue expanding in the coming decades, but access can be challenging for many investors. Most liquid alternatives that seek to act as a proxy for the performance of this asset class are imperfect, with a high equity beta that renders them unsuitable to park 'dry powder.' An ETF provides a potential solution to these challenges.

Future Infrastructure Investment Requirements

Infrastructure assets represent the basic physical systems of a nation and therefore they are vital to a country's economic development and prosperity. However, the Global Financial Crisis and, more recently, the coronavirus crisis have led to an imbalance between infrastructure needs and funding.

At a time when economies need it most, traditional sources of capital are under pressure. This is not merely a European problem — A McKinsey report from June 2016 estimated that global spending on infrastructure would need to rise from $2.5 trillion to $3.3 trillion per year until 2030 in order to keep up with demand. OECD estimates, noted in a June 2017 report, were even more aggressive, putting the projected annual figure at $6.3 trillion.

Regional Demand

The need for infrastructure varies across regions, with emerging markets facing a different set of challenges to those in the developed world.

More than one billion people still live in poverty where even the most humble of social infrastructure is lacking, ranging from basic sanitation to electricity and education. Alongside this issue is the need to support the rapid economic development of emerging markets through investments in airports, railways and roads.

Needs vary among European Union (EU) member states as well. In Central and Eastern Europe, the existing infrastructure is significantly less advanced, particularly in areas such as transport and internet broadband. European policymakers have launched a trans-European transport network programme (known as TEN-T) to establish an efficient transport system for goods and people between member states. This network will be important for supporting EU cohesion. The transport industry alone accounts for more than 5% of total EU employment.

Meanwhile, the EU has outlined its key infrastructure needs for the decades ahead — and preliminary estimates point towards a figure of $13 trillion for the period ending 2030. This may sound ambitious, and the amount is certainly unprecedented, but maintenance and upgrades of existing systems are necessary, as are developments of new infrastructure.

Jan Mischke, of McKinsey, estimates that in western economies, public funding contributes roughly 50% of infrastructure costs, and in Europe investment from the EU is higher in newer member states. A further 40% of investment is typically from corporate spend (such as from telecommunications and utilities companies), and the remaining 5–10% from project finance.

With public funding across Europe under increased pressure following the glut of government spending to combat the COVID-19 crisis, it is clear that governments cannot fund this gap alone — a shift in the traditional model looks necessary. For private investors, infrastructure assets have a number of characteristics that make stepping up to this funding void potentially beneficial (see Figure 1).

Figure 1
Infrastructure Investment Attributes

Attribute	Investment Benefit	Industry Example
Monopolistic	High barriers to entry: initial capital outlay and strict regulations Revenue streams are relatively protected	Toll roads, airports, railroads Regulated utilities: electricity, gas, water Oil & gas pipelines Satellites
Inelastic Demand	Less sensitive to business cycle	Electricity, gas, water Towers, satellites Social infrastructure
Predictable Long-Term Returns	Assets are long-lived Steady user demand Reliable cash flows	Toll roads Regulated utilities: electricity, gas, water Oil & gas pipelines
Inflation-Linked	Real assets: long-term asset appreciation, in line with inflation Concessions permitting rent escalations linked to inflation	Toll roads, airports, railroads Regulated utilities: electricity, gas, water

Source: State Street Global Advisors.

Infrastructure as an Asset Class

Infrastructure as an asset class may be underdeveloped but it is not new. Infrastructure — alongside hedge funds, real estate and private equity — is part of the growing pool of alternative assets making their way into investor allocations.

Infrastructure investment offers a variety of potential benefits, including low correlation with traditional assets, relatively low sensitivity to business cycles, long duration and being linked to inflation. These characteristics could be particularly interesting for UK pension funds, where there is an inadequate supply of inflation-linked assets to meet the demand. In many cases — for example, toll roads — infrastructure also offers fairly predictable long-term returns with stable cash flows.

Furthermore, the two main revenue drivers, pricing and volume, have particular characteristics within this space. Prices are generally tied to long-term contracts and/or regulation and are often adjusted with inflation. Volume tends to grow steadily because of inelastic demand, efficiencies of scale, and increasing GDP.

Hence, in periods of rising inflation, infrastructure investments act as a real asset. Additionally, in times of economic contraction, such businesses tend to have defensive characteristics, since they are relatively insulated due to stable demand irrespective of the economic cycle.

The Infrastructure Bond Market

Infrastructure bonds include traditional corporate debt issued by the owners and operators of infrastructure, and also asset-backed bonds backed by revenue of the asset or specific project, which offers more direct exposure. This approach relies on the cash flow generated by the asset or project rather than the company itself.

The creation of a well-functioning market for asset-backed infrastructure bonds seems like the obvious next step. One fundamental setback to the growth of this market could be regulation. Uncertainty and confusion will be a hindrance to the evolution of infrastructure as a more viable asset class — for the market to advance, the call for cooperation and transparent legislation must be met.

The Europe 2020 Project Bond Initiative was introduced to establish a debt capital market for infrastructure projects. Although this market can be used to secure crucial funding, the credit-boosting facility makes the yield less attractive for many investors. This initiative has also been a catalyst for the development of a green bond market, which helps finance necessary projects to meet environmental objectives in the long run.

Figure 2
Sector Breakdown of Morningstar Global Multi-Asset Infrastructure Index

Sector	Bond (%)	Equity (%)	Total (%)
Communication & Telecom Assets	**4.17**	**3.41**	**7.58**
Cell Towers & Satellites	0.00	3.41	3.41
Communication Equipment	4.17	0.00	4.17
Energy	**0.00**	**3.15**	**3.15**
Oil & Gas Midstream	0.00	3.15	3.15
Social Infrastructure	**4.45**	**1.71**	**6.16**
Education	0.85	0.00	0.85
Managed & Long-Term Care Facilities	0.29	0.00	0.29
Medical Care	3.31	0.00	3.31
Medical Care Facilities	0.00	1.71	1.71
Transportation & Infrastructure	**16.39**	**19.28**	**35.66**
Airports & Air Services	3.37	0.95	4.32
Engineering & Construction	0.00	2.46	2.46
Highways & Toll Roads	2.24	0.00	2.24
Infrastructure Operations	0.81	0.99	1.81
Integrated Shipping, Logistics & Land Transport	1.96	5.97	7.93
Railroads	6.34	8.04	14.38
Shipping, Ports & Marine Transport	1.66	0.86	2.52
Utilities	**24.99**	**22.46**	**47.45**
Diversified Utilities	0.00	4.78	4.78
Electric Utilities	16.48	11.89	28.38
Gas Utilities	7.22	2.62	9.84
Waste Management	0.00	1.93	1.93
Water Utilities	1.28	1.24	2.52
Grand Total	**50.00**	**50.00**	**100.00**

Source: Morningstar, as of 30 September 2020.

How Investors Can Access Infrastructure Investments

There are various investment vehicles that can be used to access infrastructure. Figure 3 provides a brief overview of the major routes. Generally, the main trade-off is between the perceived volatility and liquidity of the different vehicles.

Direct investment into specific projects is only possible for the largest investors, for example sovereign wealth funds or large pension funds. With direct investment, investors gain control, transparency and capital structure discretion, and do not need an asset manager as an intermediary. It is also possible to get similar direct exposure via infrastructure funds, whether closed-ended or unlisted equity funds.

Indirect exposure is associated with listed equity, and a number of European mutual funds have successfully raised significant assets in this space. These funds are active but invest solely in listed equity and thus will carry high equity beta.

There are no fixed income infrastructure ETFs in Europe and many investors buy infrastructure bonds directly. However, certain investors do not have the scale or systems to invest in unlisted infrastructure or directly into debt securities. Such requirements can make it difficult for smaller investors to get exposure, let alone reach portfolio diversification.

An equity ETF investment provides an investable solution for smaller investors by offering a regulated, open-ended vehicle through which to access the infrastructure. An ETF can also help larger investors, who might have an allocation to direct infrastructure, by offering a temporary home for committed but uninvested capital.

An ETF structure is not a pure substitute for long-duration infrastructure, but low capital requirements and relatively low fees make it a compelling option as part of the infrastructure toolkit.

While each approach to infrastructure has its benefits, there are also drawbacks to each method of access. The main benefit of direct and/or unlisted infrastructure investment is direct access to the underlying asset, but this approach requires large capital allocations and on its own lacks diversification. In the case of equity-only ETFs and mutual funds, there is better diversification and transparency, although the return on investment has depended on the performance of infrastructure companies and, most notably, their share prices.

Figure 3
Accessing Infrastructure Through Different Investment Vehicles

Unlisted/Private Funds	Listed Investment Trusts	Mutual Funds (Equity Only)	ETFs (Equity Only)	ETF (Multi Asset)
Close to the assets	Close to the assets	Lower capital requirements	Intra-day liquidity	Diversified
High project transparency	Lower capital requirements	Diversification potential	Full holdings transparency	Multi-asset class
High potential return	Strong due diligence capabilities needed	Daily/weekly pricing	Low fees	Intra-day liquidity
High capital requirements	Potentially large premium/discounts	Higher volatility	Higher volatility	Transparent
Strong due diligence capabilities needed	Limited diversification	Holdings transparency may be restricted	Traditionally has provided access to equity infrastructure only	Relatively affordable
Low liquidity			Equity beta	No direct access to projects
Less predictable				
Cash flows				

Source: State Street Global Advisors.

A Multi-Asset Approach to Infrastructure

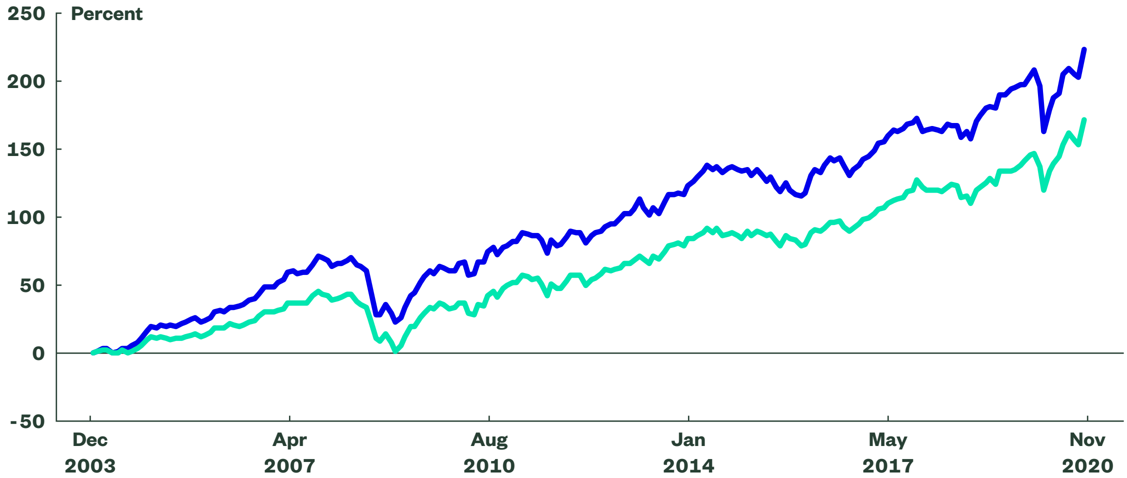
Investors can also access infrastructure through a multi-asset vehicle. Such an approach can provide a transparent, diversified portfolio of liquid securities that would have less volatility compared to a listed equity infrastructure exposure, while producing returns that approximate an unlisted investment. For example, the Morningstar Global Multi-Asset Infrastructure Index targets the full capital structure — equities and debt — of infrastructure investments. The index is split between 50% equity and 50% bonds, and is widely diversified with c. 560 equity and c. 1,700 bond investments.

In one trade, the index provides investors with access to the full, publicly available infrastructure universe of 18 sectors. The largest exposures are electric utilities, railroads, gas and diversified utilities, airport and air services and communication equipment. The addition of the bond exposure lowers the volatility (and equity beta) compared to existing equity-only mutual funds and ETFs, while providing returns that resemble an unlisted investment.

Figure 4
Equity-Like Returns Without the Associated Volatility

Morningstar Global Multi-Asset Infrastructure Index NR USD

50–50 MSCI World Index/ Bloomberg Barclays Global Aggregate Index TR



Source: Morningstar Direct, as of 30 November 2020.

Why Use a Multi-Asset Exposure?

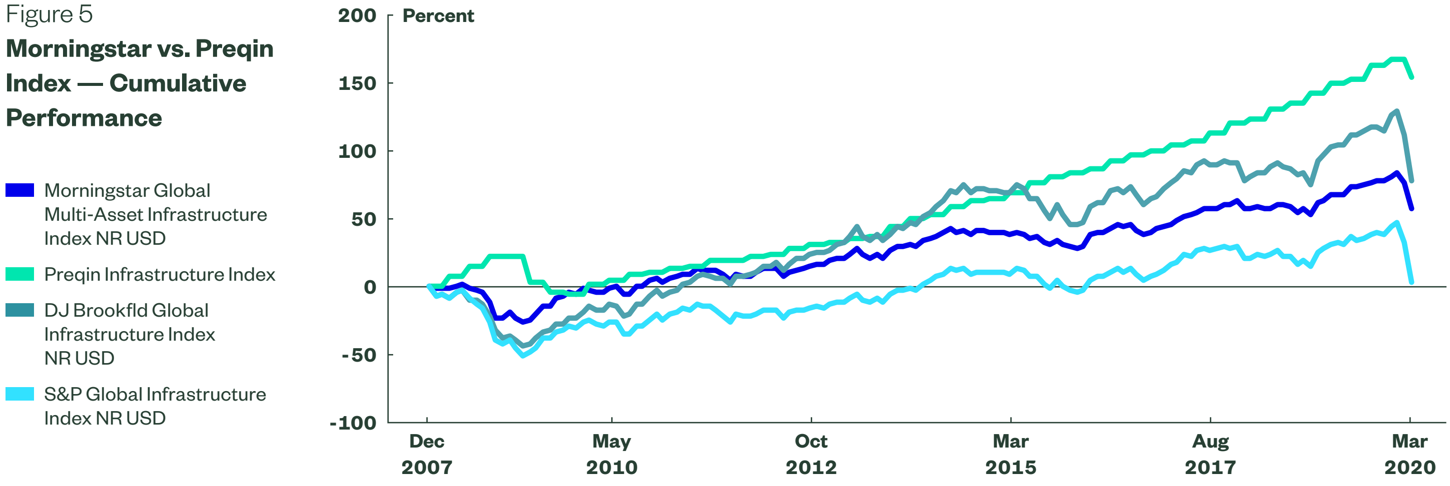
Direct infrastructure investment offers a combination of potential value appreciation (like an equity) and a regular income stream (like fixed income, albeit slightly less predictable). This hybrid nature is key to what makes infrastructure a relatively attractive asset class, and also why accessing it through a multi-asset index makes sense.

The inflation-linked nature of infrastructure projects can offer a degree of portfolio protection against a potential resurgence of inflation. The equity component of the Morningstar index includes companies that will be able to hedge revenues and pass on the cost of inflation through increased tariffs (for example toll roads and bridges), putting them at an advantage over companies that do not have this leverage.

Figure 4 shows the cumulative performance of the Morningstar Global Multi-Asset Infrastructure Index and compares it with pure equity and fixed income global exposures. As the infrastructure index is composed of an equally weighted proportion of equities and bonds, we compare it with a 50/50 composite of the MSCI World Index and the Barclays Global Aggregate Bond Index.

We can see that while the correlation of performance remains high, it exhibits lower drawdown and performance volatility over the long run. These are the characteristics that make infrastructure relatively attractive in a total asset allocation framework. Meanwhile, the index also exhibits a lower beta to pure equity portfolios or existing solutions.

Figure 5
Morningstar vs. Preqin Index — Cumulative Performance



Source: Morningstar Direct, as of 30 March 2020.

The Morningstar Global Multi-Asset Infrastructure Index

As we have seen, accessing to the infrastructure universe can be complex. The Morningstar Global Multi-Asset Infrastructure Index seeks to serve as a proxy for direct investment (as closely as reasonably possible).

Preqin is a data and intelligence company that tracks the largely undisclosed infrastructure universe (alongside other alternatives such as private equity and hedge funds) with a database of projects and closed funds. Using this information, and quarterly valuations, Prequin has built an index that can be used to compare and contrast other approaches to infrastructure investment.

Figure 5 shows the cumulative performance of the Preqin and Morningstar indices since common inception (December 2008). Given the less liquid nature of the infrastructure universe of funds, only quarterly data points exist and they are published with some lag (up to six to nine months).

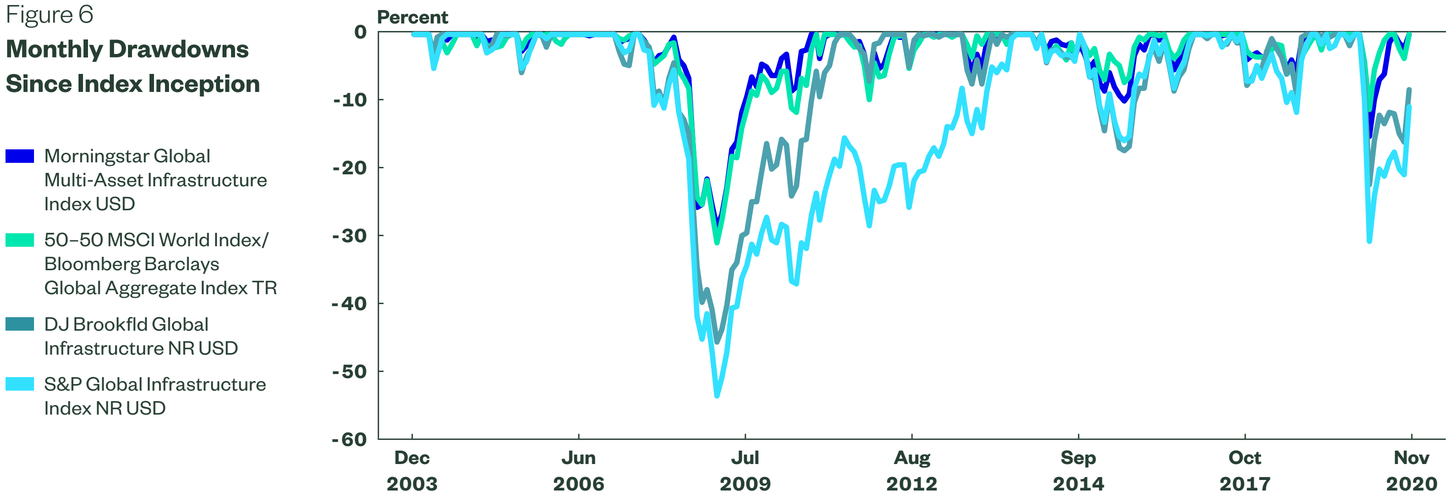
It is worth noting that, since the Preqin index is only published quarterly, this will dampen the effect of intra-quarter volatility on this index's performance. We also note that valuations may lag and that drops and recovery in the Preqin index price may be slightly misaligned with markets on which the Morningstar index is based. Figures 5 and 6 show that the valuation lag was apparent during the Global Financial Crisis.

For investors used to investing in infrastructure funds, one of the issues they face relates to where and how to park 'dry powder,' or committed but uncalled capital. Equities are too volatile, and cash provides too low a yield. As we can see from Figures 5 and 6, the accuracy of the Morningstar Global Multi-Asset Infrastructure Index as a proxy to direct infrastructure is relatively high and proves the closest match among the existing universe of liquid solutions.

It is also worth emphasising that infrastructure investment is commonly sought out for its low performance volatility. The stable nature of infrastructure income generation tends to exhibit lower drawdowns in market selloffs. As Figures 5 and 6 demonstrate, the Morningstar Global Multi-Asset Infrastructure Index shares these characteristics.

During the Global Financial Crisis, the index exhibited a lower drawdown than a 50/50 global equity and bond composite, as illustrated previously in Figure 4. On a monthly basis, the maximum cumulative drawdown during the past 10 years would have been -28.4% versus -30.6% for a 50/50 MSCI World/Barclays Global Aggregate portfolio (see Figure 7). Drawdowns for other equity-only indices were also much poorer in the Global Financial Crisis, at -45.2% for the Dow Jones Brookfield Global Infrastructure Index and -53.2% for the S&P Global Infrastructure Index.

Figure 6
Monthly Drawdowns Since Index Inception



Source: Morningstar Direct, as of 30 November 2020.

Using a Multi-Asset Infrastructure ETF in a Portfolio

Investors can potentially benefit from multi-asset ETF exposure in three ways:

1. **As a core allocation.** An ETF can be used to gain core exposure to the infrastructure asset class. It is suitable for clients that do not meet minimum investments, cannot invest for liquidity reasons or do not have the research capability for unlisted investments.

2. **For targeted asset allocation purposes.** Based on a survey run by ETF Risk and State Street Global Advisors, we have noted that both intermediary and institutional investors have varying degrees of allocation to infrastructure. Weights range from 0% to more than 20% but the average target allocation is around 10% of the portfolio. While the ultimate goal for a long-term infrastructure investor is to invest directly, potential barriers exist, in particular regarding size and eligibility. This leads to a less than perfect ability to generate the strategic asset allocation benchmark returns.

   Moreover, studies conducted by specialists like Preqin have shown that investors are often underweight versus their strategic allocation target. Based on the previous analysis versus the Preqin index, an ETF represents a potential solution for allocating strategically to the universe. It can also be used to tactically adjust the exposure depending on the prevailing market environment, for example if an allocation model signals it is appropriate to do so.

3. **Temporary home for 'dry powder.'** Investors waiting for a capital call can benefit from the intraday liquidity offered by the ETF structure, while keeping their cash working as part of their infrastructure allocation.

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