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Can infrastructure weather the next storm?

Understanding the risk profile of GDP-linked assets

Key takeaways

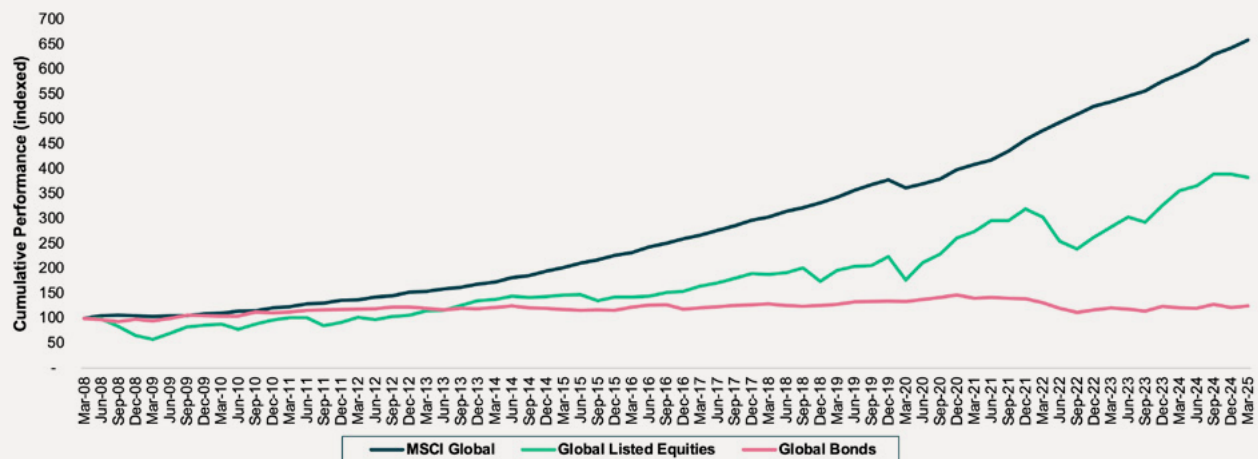
- Infrastructure has proved resilient in past economic slowdowns and can outperform traditional assets in periods of low growth and high inflation
- We use proprietary investment risk management and portfolio construction tools to analyse the susceptibility of each of our fund assets' revenue streams to GDP-linked risks and diversify exposures
- While infrastructure sub-sectors such as utilities have well understood defensive properties, other sub-sectors such as toll roads, seaports and airports can provide important downside protections and stronger long-term risk-adjusted returns for investors

In today's complex macroeconomic and geopolitical environment, investors are reviewing their exposures and downside mitigations. A backdrop of upheaval in global trade, elevated market volatility and recession risks has challenged the traditional diversification properties of equities and bonds.

In this uncertain landscape, the argument for seeking assets that can generate risk-adjusted returns independent of macro exposures is compelling. Steady, reliable cashflows and low volatility are among the hallmarks of infrastructure investing. Its resilience can span a range of economic conditions, with unlisted infrastructure equity generating average annualised returns of 12.5% between 2010 and March 2025, with volatility of only 2.9%. (see Figure 1).

FIGURE 1

INFRASTRUCTURE'S RESILIENCE THROUGH A RANGE OF ECONOMIC CONDITIONS



Data presented to March 2025 quarter. Data presented is the latest available at the time of preparation. Global Listed Equity and Global Bonds are rebased relative to 100 from March 2008 (inception date of MSCI Global Quarterly Private Infrastructure Index). Equities proxied using MSCI World Index. Bonds proxied using Bloomberg Global-Aggregate Total Return Index Value Unhedged USD. Past performance does not guarantee future results.

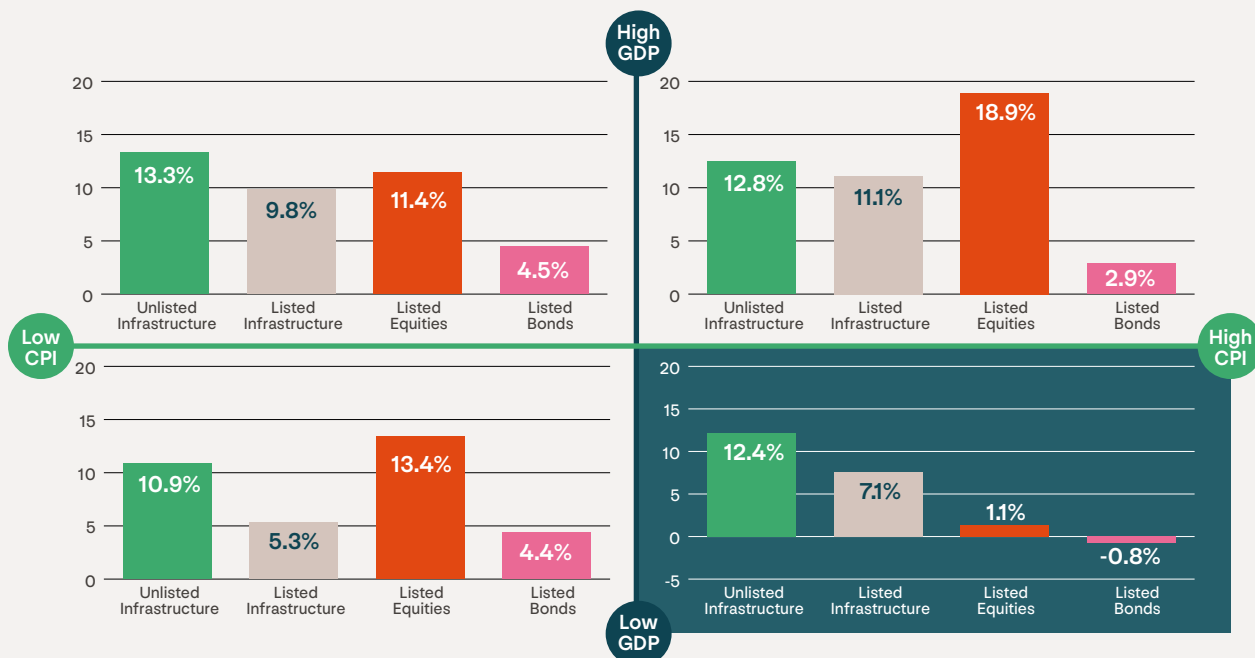
Source: IFM, MSCI, Bloomberg.

Infrastructure can offer important portfolio diversification properties via its robust performance in weak economic growth environments, and via built in inflation protection mechanisms. Indeed, an

environment of low growth but relatively high inflation – or ‘stagflation’ – has in the past seen the strongest outperformance of infrastructure versus traditional asset classes (see Figure 2).

FIGURE 2

INFRASTRUCTURE OUTPERFORMS IN A LOW GROWTH/HIGH INFLATION ENVIRONMENT



Source: IFM, Bloomberg, MSCI, The Organisation for Economic Co-operation and Development, S&P Capital IQ.

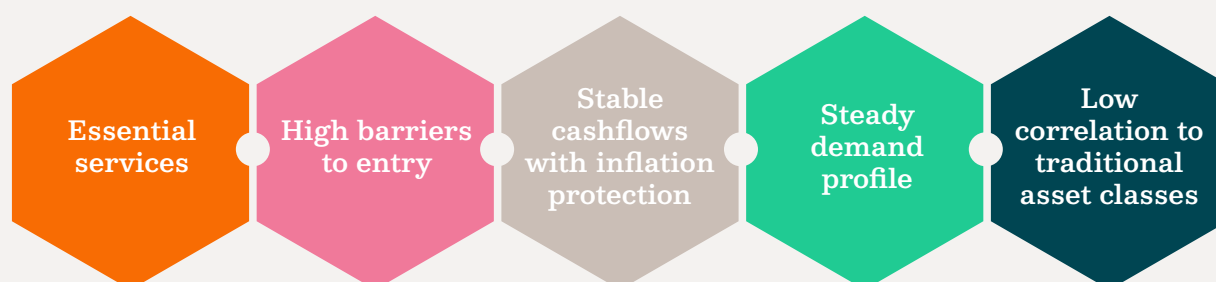
Unlisted Infrastructure proxied using MSCI Global Quarterly Private Infrastructure Asset index (Unfrozen) ("MSCI UGI"), Listed Infrastructure proxied using S&P Global Infrastructure. USD Hedged Net Total Return Index ("S&P GI"). Equities proxied using MSCI World 100% Hedged to USD Net TR USD ("MSCI World"), Bonds proxied using Bloomberg Global- Aggregate Total Return Index Value Hedged USD ("Bloomberg Global"). High/Low CPI and GDP are based on US Consumer Price Index (CPI) and US real Gross Domestic Product (GDP), respectively, and are defined as quarterly changes on the annual four-quarterly rolling basis exceeding or falling below a 2% threshold. Total returns represent the annual four-quarterly rolling data from 31 March 2010 to 31 March 2025. Past performance does not guarantee future results.

This resilience reflects some fundamental characteristics of infrastructure: tangible assets that perform critical services to society and hence tend to see generally stable demand throughout business cycles. The cost and complexity to build and run many such assets reflect the high barriers to entry and secure market positions that underpin long-term returns.

In addition, infrastructure revenues are often linked to inflation, meaning the asset class can provide a form of inflation hedge. This link is either explicit, via tolls or fees that are CPI-linked or regulated real returns for utility companies; or via the ability to pass on cost increases to customers via long-term contracts, reinforced by strong market positions.

FIGURE 3

ESSENTIAL CHARACTERISTICS OF INFRASTRUCTURE ASSETS



At IFM, our focus on building resilient infrastructure portfolios means we tend to favour mature infrastructure assets with an established history, strategic locations, strong competitive positions, and low elasticity of demand. For example:

- The Indiana Toll Road has been a critical part of the US transportation network since 1956, connecting freight hub Chicago to the East Coast
- Global Container Terminals handles the majority of Vancouver's container trade by volume, while Baltic Hub is Poland's largest container port. The latter is the only Baltic Sea port capable of servicing ultra-large container vessels and is one of the fastest growing globally
- Spanish water company Aqualia accounts for nearly half of the country's private water market, is among the top ten players worldwide, and has a 45-year operating history

We have historically employed conservative levels of leverage at our infrastructure investments and combined this with the issuance of long-term, fixed rate or hedged debt with laddered maturities to help mitigate interest rate risk. The investment grade rating held by the majority of our portfolio company-level debt reflects these assets' critical nature and robust cashflows. We also actively manage our assets to further derisk and create value.

At a portfolio level, we seek to diversify risk across sectors, geographies and revenue streams – isolating each asset's exposure to different factors such as growth, inflation or climate risk using our proprietary tool InFRAME. As part of the framework, we also model the impact of risk events such as a global hard landing and stagflation (see Figure 4). The diverse outcomes for sectors and revenue types provides the basis for stronger risk-adjusted returns over the long-term.

Using InFRAME to help build diversified infrastructure portfolios

IFM's proprietary risk management and portfolio construction framework is called InFRAME. We use this framework to arrive at an asset allocation range set, via three distinct steps:

- **Risk profiling.** We identify constituent revenue streams for each asset on a forward-looking basis and define the proportion that are contracted, regulated, volume-linked and market-related. This helps us evaluate an asset's exposure to different risks and value drivers, ranging from GDP growth to inflation, extreme weather and regulatory risk.
- **Scenario analysis.** We consider how asset and portfolio returns react under a series of different medium-term, macroeconomic scenarios, concentrating on how individual assets' equity returns respond over a five-year horizon.

- **Portfolio optimisation.** We consider what allocation of revenue streams can potentially achieve target portfolio returns, identifying target asset allocations via stochastic simulation and performing analysis relating to portfolio acquisitions or divestments.

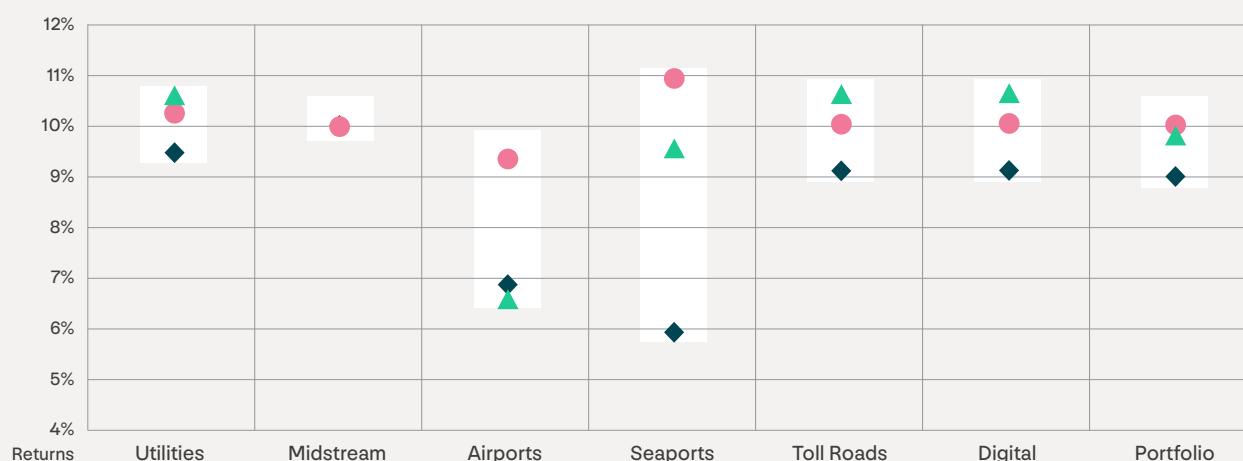
Read more about the history, methodology and data-set of InFRAME here: [An enduring methodology for building infrastructure portfolios](#).

Investments in infrastructure are subject to various risks including regulatory risk and market risk, which are outlined in further detail on the "Important Disclosures" page. Prior to making an investment in any infrastructure strategy, investors should refer to the offering documents for a complete discussion of risks.

FIGURE 4

MACROECONOMIC SCENARIO ANALYSIS ACROSS INFRASTRUCTURE SUB-SECTORS

	Macro Scenarios	GDP	Inflation	Interest Rates
▲	Stagflation	↓	↑	↑
◆	Global Hard Landing	↓	↓	↓
●	China Housing Crisis	—	↓	↓



Source: IFM Investors. Diagrams are provided for illustrative purposes only. Returns shown do not relate to specific IFM assets.

Understanding the risk profile of GDP-linked assets

How can investors judge the resilience of different infrastructure sub-sectors in a downturn?

Utilities and energy

Infrastructure sub-sectors that earn contracted or regulated revenues, including utilities, regulated transport assets and energy producers, typically face little risk of sharp changes in price or volumes. This gives them their classic defensive properties, while regulatory frameworks typically aim to ensure inflation protection through real return guarantees or providing inflation indexation.

Digital infrastructure

Providers of digital infrastructure, such as telecom towers, typically also earn contracted revenues and display market-defensive characteristics. We see data centre revenues being supported by capacity constraints and rapidly increasing demand, while many have hedged the cost of power over different periods and are also able to pass on cost increases to revenue rates on customer contracts.

Infrastructure assets with predominantly volume-linked or market-based revenues – including toll roads, seaports and airports – are typically viewed as being more exposed to GDP fluctuations. But here, too, there are often characteristics that can help to

provide resilience in a downturn and protection from inflation. Below we explore risks at these three sub-sectors in greater detail.

Toll roads

Different toll road businesses offer variable degrees of downside GDP protection, from the most secure: earning contracted revenues or ‘availability payments’ from governments for maintaining and operating the road, to the most cyclical: earning revenues based on traffic where there are multiple alternative routes.

IFM’s overall fund exposures to the sector span around 3,500 km¹ of toll roads, which are diversified across North and South America, Europe and Australia, urban and interurban roads, light leisure and heavy freight traffic.

Most have strong mechanisms for helping to manage inflation pass-through, typically via agreements that allow annual toll increases. The Indiana Toll Road can raise annual tolls by the greater of CPI, nominal GDP per capita or a 2% floor, linking toll increases directly to inflation. Other roads and tunnels that we operate in the US, Germany and Peru have similar inflation or growth-linked mechanisms. The M6 toll road in the UK has full discretion to set toll rates.

¹ Figure includes roads managed by Aleatica in Europe and South America, the Indiana Toll Road, and toll road concessions managed by Atlas Arteria across Europe and the US, including a 31.14% interest in APRR Group which manages a large motorway network in Eastern France.

In many cases, a long track record also allows us to understand and model how road traffic may react in challenging economic circumstances such as GDP contractions or high inflation. The Indiana Toll Road has decades of operating data and has shown resilience in prior downturns.

Aleatica: in the driver's seat

Aleatica, our largest toll road investment, owns and operates toll roads, ports and an airport across Mexico, South America, the UK and Europe. Although its assets are predominantly located in high-growth economies, it has some mechanisms to protect against slower growth. Sixteen of its 20 concessions benefit from some form of contracted return or regulated frameworks, minimum guaranteed revenues, availability payments, toll setting discretion, or other forms of downside protection.

For example, five of Aleatica's seven toll road assets in Mexico have a contracted return mechanism contained within their concession agreements, which sets out a specific real rate of return on the capital or equity invested into the project. In Italy, the concession can be extended, prices raised, or other adjustments made if the road has not made an agreed rate of return after a five-year period.

Airports

IFM fund airport exposures include assets in Australia, the UK and Austria. While passenger traffic volumes can be correlated with economic growth and consumer demand, many airports also have material non-aeronautical revenue streams.

In Australia, passenger travel is predominantly domestic and the long distances between major cities provides a natural hedge against alternative forms of travel. Additionally, Australian airports often have large land banks which allow for diversified property revenues. Given their locations, which are often close to city centres and key arterial roads, such revenue sources can include hotels, shopping centres, leisure precincts, logistics companies and data centres.

IFM funds have typically sought airports with comparatively low elasticity of demand and strategic positions. In the UK, revenues at Manchester Airports Group are dominated by short-haul leisure travel and trips to see friends and family via low-cost carriers, which have historically proven more resilient than long-haul business travel, for instance, in recovering demand post-Covid. Its revenues are also diversified across three airports, multiple categories including aeronautical, duty free, food and beverage, car parking, lounge access, and across cargo and passenger traffic.

Seaports

Seaport exposures at IFM span multiple continents, with large container terminals in Canada, Australia, Poland and Turkey that are dependent on global trade flows. These ports are key trading gateways, with limited competition due to their capacity, ability to meet demand from ultra-large vessels, and operate in all weather conditions, helping mitigate slowdown risks. And while their revenues can be more cyclical than some other infrastructure assets, there is often flexibility built into their business models which can be used to mitigate the impact of periods of lower GDP growth.

Some ports have a high proportion of variable costs that can shrink if volumes fall. Others have executed strategic pivots when trade flows change. Baltic Hub, for instance, successfully navigated lower transshipment volumes following geopolitical developments in the region by increasing domestic volumes and those to nearby countries. Both Baltic Hub port in Poland and Global Container Terminals in Vancouver were able to grow revenues in 2020 and 2021 during the Covid-19 pandemic.

In addition, most ports can either set tariffs that are CPI or labour-inflation-linked or can negotiate increases that pass on price pressures. Baltic Hub, for example, was able to negotiate tariff growth that exceeded Polish CPI on average in the four years from 2018-2022, while Mersin International Port has been able to raise its tariff multiple times in a year to pass on elevated Turkish inflationary pressures.

Conclusion

Infrastructure assets are not immune to an economic slowdown. Yet the essential nature of their services, their secure market positions and steady demand profile mean many are more shielded than traditional businesses and can provide an important diversification benefit for client portfolios.

By carefully selecting assets, diversifying exposures and modelling risks, we seek to minimise the impact across the infrastructure portfolios of the funds that we manage. Many of our funds' more GDP-exposed assets aim to benefit investor portfolios in times of economic expansion and have protections in place to shield them from the impact of both softening growth and high inflation.

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