

# The case for infrastructure debt

Infrastructure white paper series: **Part 1**





# Introduction to our infrastructure series

Investors can access the infrastructure asset class in a number of ways: directly through unlisted (private) debt or equity, or by buying listed (public) debt or equity.

This series will explore some of the key portfolio considerations to help inform investors about the relative risks and rewards of investing in, and within, the asset class.

Our first paper focuses on the growing area of infrastructure debt. We look at the fundamentals behind the increased institutional interest in the sector and highlight some of the key risks for consideration.

## Overview of infrastructure

Infrastructure is the backbone of the economy and is essential for the orderly operation of a modern society. Infrastructure can be broadly defined as physical structures or facilities, systems and networks that provide or support essential public services. Infrastructure encompasses a wide range of assets, but we can broadly categorize them between:

Sectors	Revenue structure
<p><i>Utility and Energy:</i></p>  <ul style="list-style-type: none"><li>• Provision or transportation of essential services, such as water, gas, electricity</li><li>• Power generation (conventional and renewables)</li><li>• Storage assets</li></ul>	Range from low-risk regulated utilities to high-risk merchant power plants
<p><i>Transportation related:</i></p>  <ul style="list-style-type: none"><li>• Toll roads, bridges, tunnels, rail</li><li>• Airports, ports, ferries, car parking, service stations</li></ul>	Typically, user-paid so investments exposed to "demand risk"; often some level of protection to mitigate volume risk
<p><i>Communications:</i></p>  <ul style="list-style-type: none"><li>• Telecom, TV and broadcasting towers</li><li>• Cable and fiber optic networks</li><li>• Smart meters, data centers</li></ul>	Industry typically underpinned by regulation, but investments often exposed to "demand risk"
<p><i>Social Infrastructure:</i></p>  <ul style="list-style-type: none"><li>• Schools, hospital, housing and judicial facilities</li><li>• Public transport</li></ul>	Assets generally not economically viable without government support, such as an "availability payment"

## Institutional investment in infrastructure

The infrastructure market has evolved from a bank-dominated market less than 10 years ago, to one with a growing institutional investor presence. The fundamental drivers are regulatory change and the search for yield.

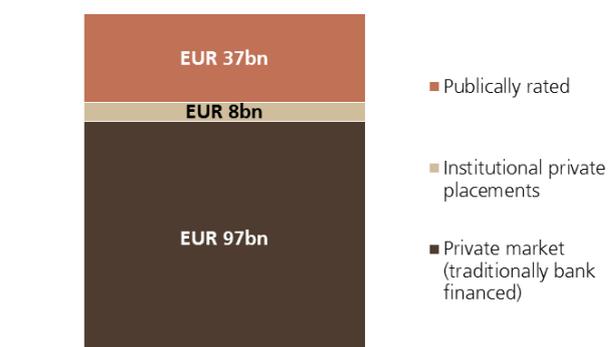
The introduction of Basel III penalized banks for lending long-term, while amendments to Solvency II made infrastructure more attractive for European insurance companies. In addition, institutional investors' appetite for higher-yielding alternatives, such as infrastructure, has grown as returns in traditional fixed income markets have become compressed by loose monetary policy.

As a percentage of assets under management (AUM), institutional investment in infrastructure is still low at 1.1%<sup>1</sup> in OECD countries, albeit the percentage has doubled since 2012. According to Preqin, institutional interest in the sector is strong: 89% of infrastructure investors surveyed plan to maintain or increase their allocation to the asset class next year.

In Europe, the activity in the debt fund market has been steadily growing. Since 2013 around EUR 7 billion<sup>2</sup> of debt funds have been raised; six funds totaling EUR 2.6 billion<sup>3</sup> were raised in 2016, a record. However, banks continue to maintain a high share (circa 90% - see figure 1) of the private<sup>4</sup> infrastructure debt market.

We observe that banks are typically targeting shorter tenors of less than 5 years unless there is a strategic client relationship angle. This move away from long-term lending is a direct result of the increased capital requirement under Basel III.

**Figure 1: EUR 142 billion infrastructure debt market in 2016**



Source: UBS Asset Management, Real Estate & Private Markets (REPM), IJ Global

Institutional investors have been very active in the larger transactions (average size, 2016: EUR 227 million) but banks continue to be dominant in the mid-cap area where the highest volume of transactions are; in 2016, more than 54% of the deals in the private market were less than EUR 100 million.

The mid-market space offers a large addressable market, and could present opportunities for investors able to offer long-term funding, a competitive advantage.



<sup>1</sup> Annual Survey of Large Pension Funds. OECD, 2015

<sup>2</sup> Excludes managed/segregated accounts as information is not public

<sup>3</sup> Source: Preqin, Infradeals

<sup>4</sup> Excludes publically-rated companies



## Portfolio considerations of infrastructure debt

We see the key attractions of the asset class for investors as:



Lower risk than equivalent corporate debt



Duration and premium over public corporate bonds



Counter-cyclical properties act as a diversifier to other credit



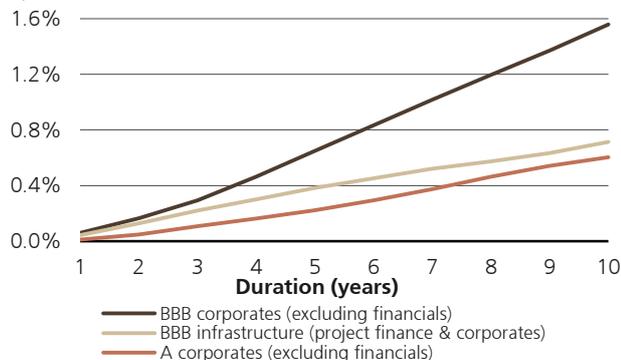
Lower risk than equivalent corporate debt

Infrastructure debt is lower risk than equivalently-rated corporate<sup>5</sup> debt according to default and recovery studies by Moody's. The studies show that at the BBB rating, the 10-year expected loss rate of infrastructure debt is less than half that of corporate debt; these lower losses mean that infrastructure debt provides superior net spreads (actual return experience) versus equivalently-rated corporate debt with the same gross spread.

The European Commission has reflected this lower risk by establishing a separate bucket for infrastructure under Solvency II regulation. This results in a significant reduction in the solvency capital requirement (SCR) for eligible infrastructure versus corporate debt.

**Figure 2: Expected loss of BBB infrastructure trending towards A-rated corporates**

(Expected loss)

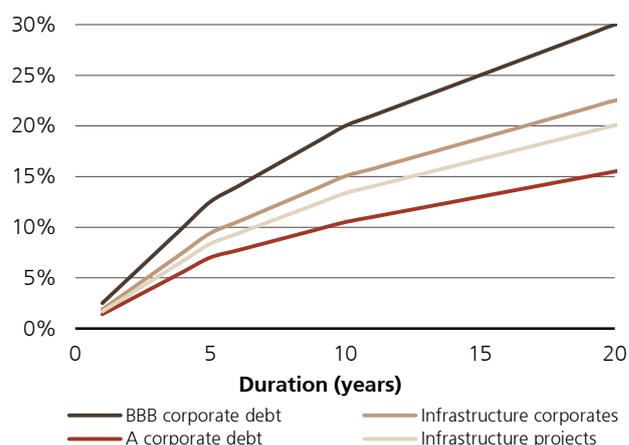


Source: UBS Asset Management, REPM; Moody's Infrastructure Default and Recovery Rates, 1983 – 2015

<sup>5</sup> References to corporate debt refers to non-financial corporates throughout

**"At the BBB rating, the 10-year expected loss rate of infrastructure debt is less than half that of corporate debt"**

**Figure 3: SCR for infrastructure lower than for BBB corporates**  
(Solvency capital requirement – SCR)



Source: UBS Asset Management, REPM, based on European Commission Delegated Regulation (EU) 2017/154



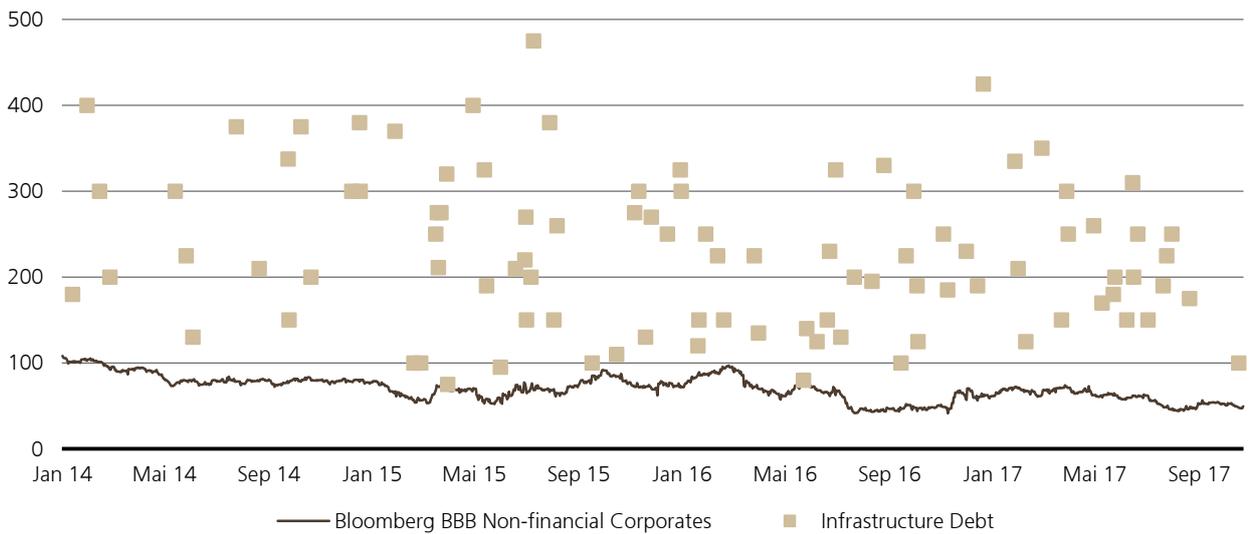
Duration and premium over public corporate bonds

Infrastructure is capital intensive and typically has a long expected useful life. These features support long-term debt which, coupled with the stable business risk, can provide effective duration for liability-matching investors. Inflation-linked debt could further benefit liability-matching schemes; however, the demand from European issuers is limited as equity investors seek to retain the inflation-linked cash flows of the asset.

Private infrastructure debt provides a premium over public corporate bonds. This premium is compensation for the illiquid nature and the complexity of the investment, where transactions typically require structuring expertise and an understanding of the asset specific risks. Figure 4 maps the spread for private infrastructure transactions (over swaps) in Europe from 2014 to 2017, and shows the superior return experience relative to a passive corporate index.

**Figure 4: Infrastructure debt premium (2014-2017)**

(Spread over swaps in Bps)

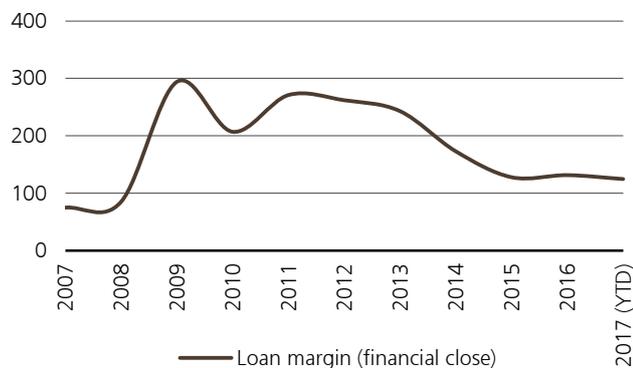


Source: UBS Asset Management, Real Estate & Private Markets (REPM); Infrastructure Debt: Infra Deals; Bloomberg BBB Non-financial Corporates: BVCSE010 Index.  
 Note: The infrastructure pricing data are reported as spread over swaps. In order to compare like-for-like, we subtract the 10-year swaps rate (EUSA10 Currency) from the BVCSE010 Index, leaving only the spread, i.e. over swaps.

We see infrastructure debt opportunities clustered in the cross-over space between high non-investment grade and low investment grade. Premia have compressed, especially for availability-based projects such as public-private partnerships (PPPs), see figure 5.

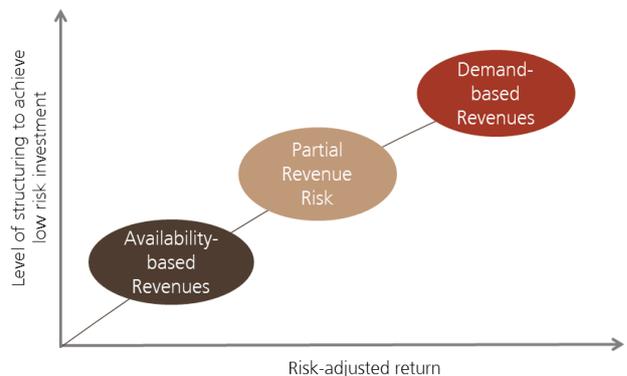
We believe risk-adjusted returns can be enhanced by directly sourcing and structuring (e.g. through sizing appropriate leverage, security, distribution lock-ups and cash reserves) versus widely syndicated transactions where often the opportunity to influence the structure is limited (see figure 6).

**Figure 5: European PPP pricing compression**



Source: UK National Audit Office for 2007-2014 and UBS estimates for 2015-2017

**Figure 6: Illustration of how mitigating revenue risk through structuring can boost risk-adjusted returns**



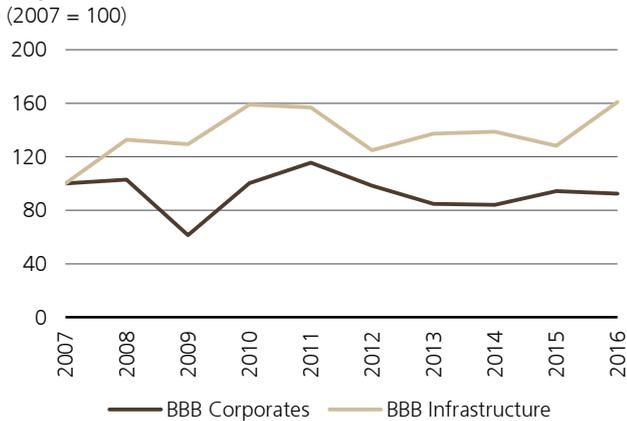
Source: UBS Asset Management, REPM; October 2017

→ Counter-cyclical properties act as a diversifier to other credit

The defensive and counter-cyclical properties of infrastructure should result in more stable cash flows than corporates. This is illustrated in figure 7 which shows the EBITDA profile of European BBB-rated issuers in infrastructure and wider corporates.

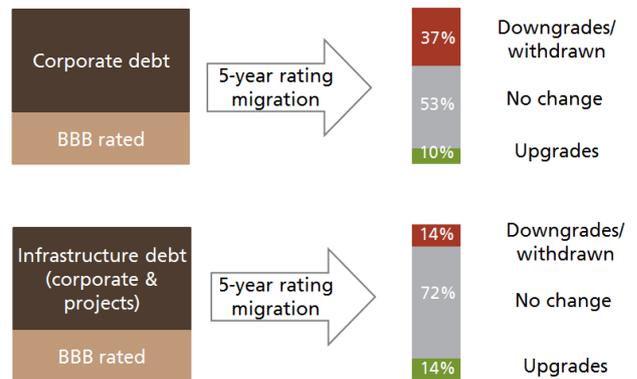
This stable EBITDA experience can be further corroborated by Moody's 5-year migration rates (see figure 8) which show the higher rating stability of infrastructure issuers versus corporates. Additionally, Moody's found that the 1-year rating migration rate for corporates was 23%<sup>6</sup> more volatile than infrastructure over the study period.

**Figure 7: Infrastructure EBITDA has been more robust than corporates**

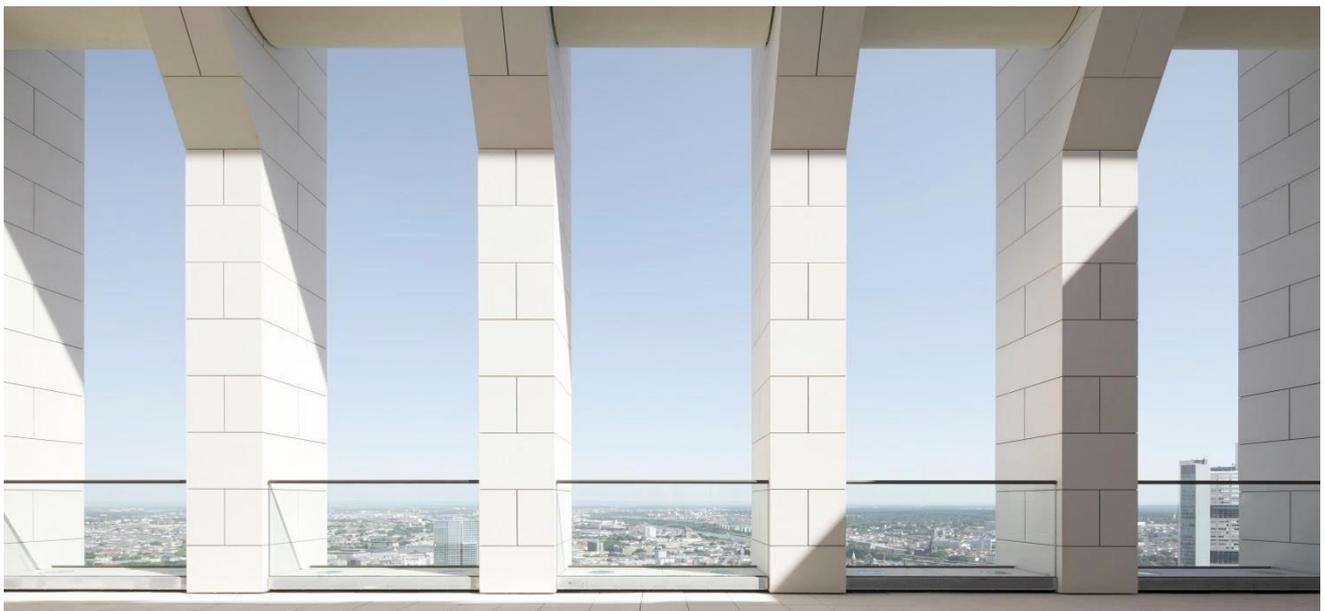


Source: Bloomberg; note: all issuers rated BBB as at October 2017; infrastructure excludes telecommunications companies

**Figure 8: Less downgrades from infrastructure over 5-year period**

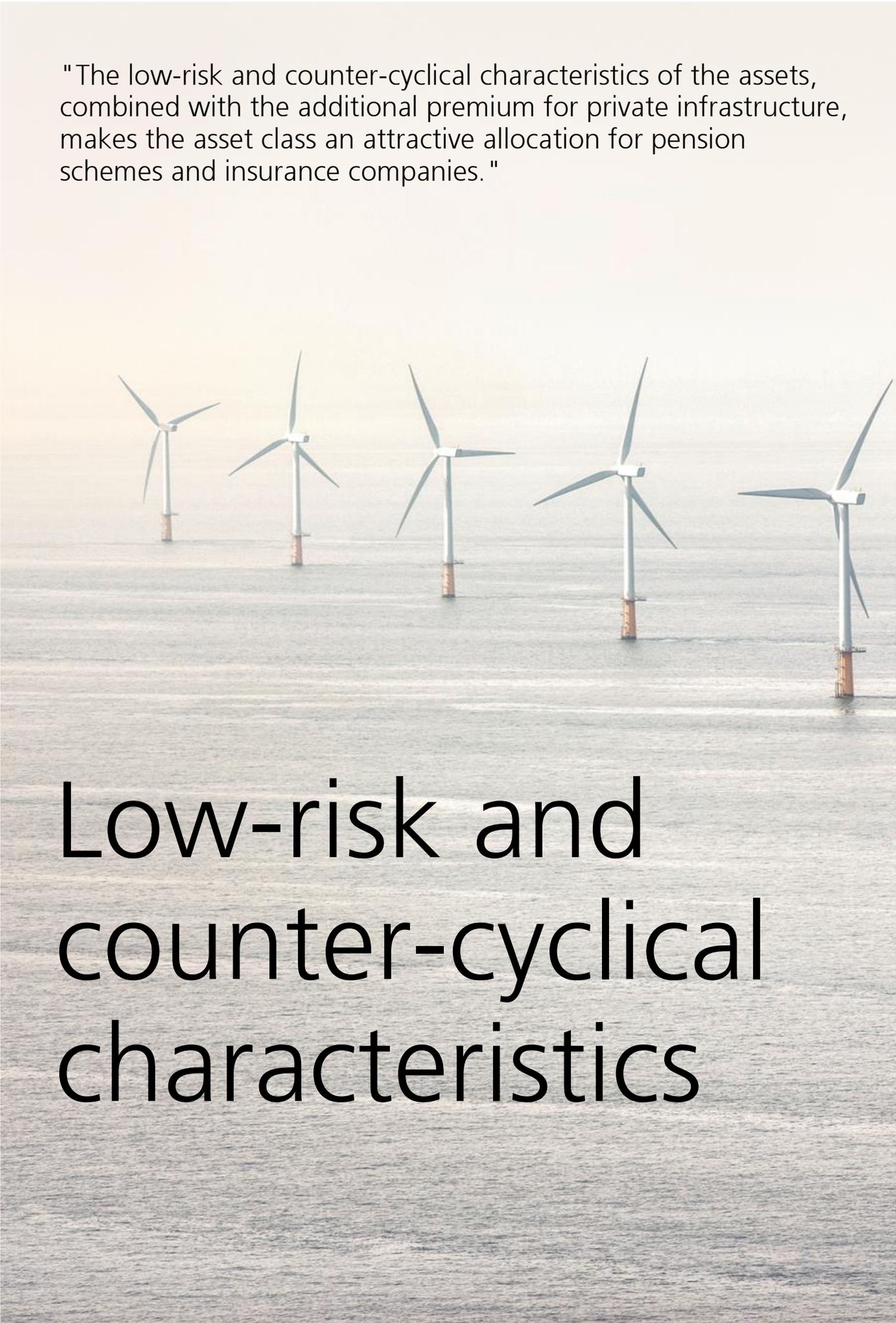


Source: Moody's Infrastructure Default and Recovery Rates, 1983 – 2016. Note: this refers to Issuer ratings for corporate and project finance infrastructure, and non-financial corporates.



<sup>6</sup> Addendum: Infrastructure Default and Recovery Rates, 1983-2015

"The low-risk and counter-cyclical characteristics of the assets, combined with the additional premium for private infrastructure, makes the asset class an attractive allocation for pension schemes and insurance companies."



Low-risk and  
counter-cyclical  
characteristics

## Key risks of investing in infrastructure debt

### Revenue risk

As illustrated in figure 6, there are a wide range of revenue risk profiles. Demand risk is most prevalent in transportation and energy projects. A user's preference to travel or demand for a power plant's output can change, but if the asset provides an essential route or is critical to energy security in that region, this can act as an important revenue stabilizer.

### Regulatory and sovereign risk

Given their essentiality and monopolistic features, infrastructure assets are often heavily regulated, thus exposing them to an element of political interference. Evaluating the track record of regulatory stability, transparency and independence is key to the investment analysis.

### Contractual and credit risk

Along with regulatory protections, contractual protections are an important feature of infrastructure transactions. In sectors where the demand for, or price of, the output is uncertain, these contracts - if provided by creditworthy counterparts and are not on substantially off-market terms - can significantly reduce these risks.

### Construction and operational risk

Greenfield projects involve construction risks, though such risks can be mitigated through structuring (for example, by passing risks to a competent and creditworthy contractor) supported by performance supports and liquidity to cover delays and cost overruns.

As infrastructure requires the operation of critical assets and services, the inherent risks are high: failure to perform could result in heavy penalties or, in certain scenarios, a loss of licence or concession. To reduce this risk, it is critical that the owners / operators have the requisite sector experience.

### Capital structure

Infrastructure assets are typically levered at around 75:25 debt: equity. The case supporting high leverage is the essentiality of the asset and stability of cash flows; however, given the range of revenue risk profiles, it is important to size debt levels appropriate for the risks around revenue stability. Similarly, structures that contain an element of refinancing, inflation, currency or interest rate risk should be appropriately hedged to be able to withstand downside stress scenarios.

## Key implications of ESG on infrastructure investment

The economic and social benefits of infrastructure position the asset class well to make a positive impact with respect to ESG; however, each investment needs to be considered on its own merits, and increasingly, satisfying environmental, social and governance conditions is a prerequisite in the industry to any infrastructure investment.

The climate change implications of an investment are central to this analysis. Against the backdrop of the Paris Agreement, investors increasingly recognize their responsibility to promote investments that facilitate the decarbonisation agenda.

Applying ESG principles to infrastructure investment can have the dual benefits of sustainable investment and the potential for a more profitable long-term asset. Given the scale and long-term nature of infrastructure investments, ignoring these principles could have enormous implications, and therefore must be addressed.

## Conclusion

The infrastructure debt market is maturing and is now firmly embedded as its own asset class. The combination of Solvency II regulation making infrastructure more attractive for insurance companies, and Basel II and III making it more penal for banks, has resulted in a significant change in the infrastructure debt market constituents over the past 10 years.

Overlaid on these regulatory changes is the low-yield environment, driven by quantitative easing, which is putting pressure on returns in the traditional fixed income markets. Increasingly, investors are looking at alternative asset classes such as infrastructure debt to boost returns.

The low-risk and counter-cyclical characteristics of the assets, combined with the additional premium for private infrastructure, makes the asset class an attractive allocation for pension schemes and insurance companies. Furthermore, the social and economic benefits that infrastructure can bring to society increases the appeal of the asset class.



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