Schroders

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Schroders Infrastructure

With dry powder for infrastructure equity investment at an all time high[1], project sponsors have had to become more conscious of financing costs for projects in an attempt to reduce costs to bolster equity returns. With this, we have seen the junior debt segment of the market becoming used more frequently to create more efficient funding structures.

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Junior debt offers unique characteristics for investors compared to other asset classes:

1. **Risk/return profile** – junior debt offers a unique profile where investors can capture a high complexity, or illiquidity, premium for often a better credit profile compared to other asset classes of similar ratings or returns
2. **Portfolio benefits** – traditional high yield corporate bond portfolios are highly exposed to the risk of downgrade risk if a bond suffers a deterioration in credit quality and is downgraded and sold at a loss. Infrastructure debt are private assets and therefore not exposed to this risk unless there is an impairment, which is rare
3. **Diversification** – infrastructure assets are not correlated to the general market and therefore offers diversification benefits not available through other more traditional asset classes

With an increasingly competitive infrastructure equity market, project sponsors have had to become more sophisticated in their financing structures to try to reduce debt servicing costs. This has led to more tranching to exploit investors under different regulatory regimes and with different risk/return objectives. Solvency II and Basel III have pushed insurance companies and banks (respectively) into the investment grade segment of the market, leaving the junior debt part – which is often not investment grade – relatively uncrowded. Due to the increase in supply of junior debt and less investor demand, we believe the junior debt segment of the market may currently offer an attractive risk/return profile.

Junior debt characteristics

Junior debt is a 'pure' debt play that focusses on investments in the following assets:

1. **Tranches of debt located higher in the capital structure than traditional investment grade infrastructure senior debt strategies (subordinated and/or HoldCo debt)**

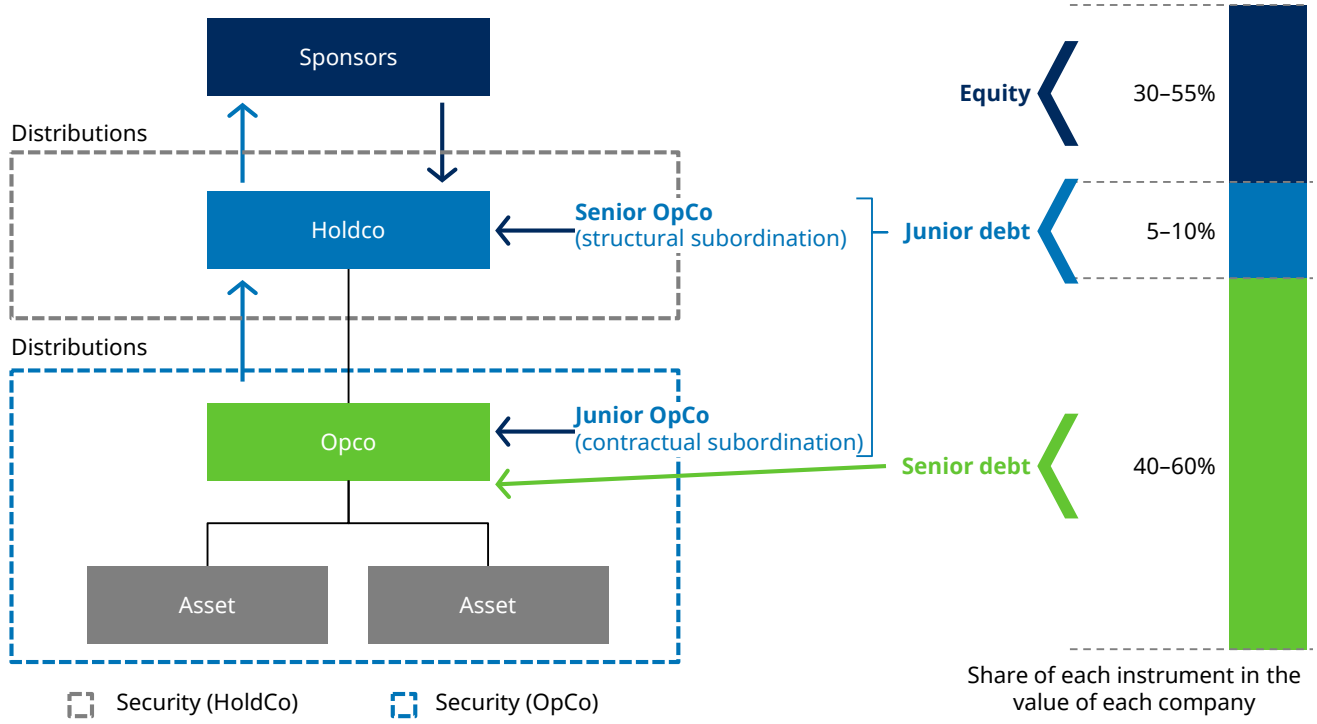
Climbing up the capital structure is a useful way to crystallise higher returns, and lending to core infrastructure assets means you don't significantly increase your risk. This strategy can be achieved by investing in subordinated debt either contractually (at the operating company level – 'OpCo') or structurally (in the holding company – 'HoldCo').

Contractual subordination refers to lenders providing finance to one single entity (OpCo) with a contractual agreement between various classes of debt that subordinated debt will rank junior in security and payment to senior debt. Structural subordination refers to lending to a holding company while senior lenders lend at the operating company level.

[1]Source: Preqin, Probitas Partners, infrastructure Institutional Investor Trends for 2017 Survey – closed end funds, global. 'Dry powder' being defined as capital raised by funds but not invested.

Subordinated lenders will usually (i) rank junior in payment, and (ii) share the security package alongside senior lenders on a second lien or fully subordinated basis, with limited rights to enforce securities and accelerate the debt. Subordinated debt is usually shorter in term than OpCo senior debt (with a maximum of seven to eight years) and its pricing directly derives from the OpCo senior debt pricing, in addition to a pickup premium.

Figure 1 – Typical infrastructure financing structure



Source: Schroders, December 2017 – for illustrative purposes only.

In the subordination model (Opco/Holdco), senior debt is raised at two levels (see figure 1) by distinct entities: OpCo and HoldCo, which mechanically creates a structural subordination. When designing the financing, it is possible to size the debt at the OpCo level so as to achieve investment grade type metrics. Remaining cash at Opco level will be 'upstreamed' to HoldCo (subject to standard distributions limitations) and subsequently distributed to shareholders subject to distribution covenants. The strategy will target investments in debt sitting at the HoldCo level which usually meets sub-investment grade criteria and will typically not be rated.

Financing at HoldCo level generally differs from the contractual senior/subordinated financing at Opco level: structurally subordinated debt will share a different security package than senior OpCo debt (generally limited to receivables available at HoldCo level e.g. intercompany loans and pledge of shares). By contrast, OpCo contractually subordinated debt will share in the same security package as senior OpCo lenders, but on a 'second lien' basis (i.e. subordinated lenders will only have access to security proceeds once senior lenders have been fully repaid).

2. Senior leveraged loans to infrastructure companies involved in expanding or 'turnaround' business models

This type of financing is akin to leveraged loan finance as it uses short/medium tenors, together with financial structures found in the leveraged loan market, and is likely to result in sub-investment grade/cross-over ratings. Financings are structured as five to eight year loans, as is typical in the leveraged loan market.

Comparison of senior and junior debt

The junior debt part of the market is one which displays quite different characteristics to the senior part of the market in terms of size of opportunity, market participants, prepayment protection and risk profile. Indeed, Solvency II gives a capital reduction for investment grade 'qualifying infrastructure' and one of the criteria for this is it must be senior debt, which excludes the junior debt part of the market. This creates incentives for insurance companies to invest only in investment grade debt and avoid the non-investment grade debt market. Similarly banks tend to shy away from non-investment grade investments due to the penal regulatory capital treatment.

Notably the tenor for senior and junior debt are also generally quite different: senior debt is often longer in tenor and better suited to investors looking for duration, while the junior debt part of the market tends to be shorter in term and more suited to investors who want to capture an illiquidity premium, however over a shorter timeframe.

As a result, infrastructure project sponsors have recognised this and started structuring senior and junior tranches of debt to appeal to different investor bases, which results in markedly different features, as outlined below.

	Senior debt	Junior debt
Annual issuance size	c.£50bn	c.£5bn
Typical term	5–50 years	5–10 years
Typical rating	Rated or N/R (A – BBB area)	N/R (BB – B area)
Seniority	Senior	Junior HoldCo or Senior OpCo
Coupon structure	Fixed, floating or inflation-linked	Fixed or floating
Solvency II treatment	~30% reduction versus corporate bonds of same duration and credit rating for 'qualifying infrastructure'	Same capital requirement as corporate bonds of the same duration and rating

Source: Schroders, as at January 2019.

When thinking about portfolio construction, senior and junior debt clearly play quite a different role in pension funds' portfolios. Junior debt front loads returns and can assist a pension fund move to buy-out more quickly, whereas longer dated investment grade infrastructure debt can provide duration and hedging characteristics.

Risk/return comparison

Return expectations

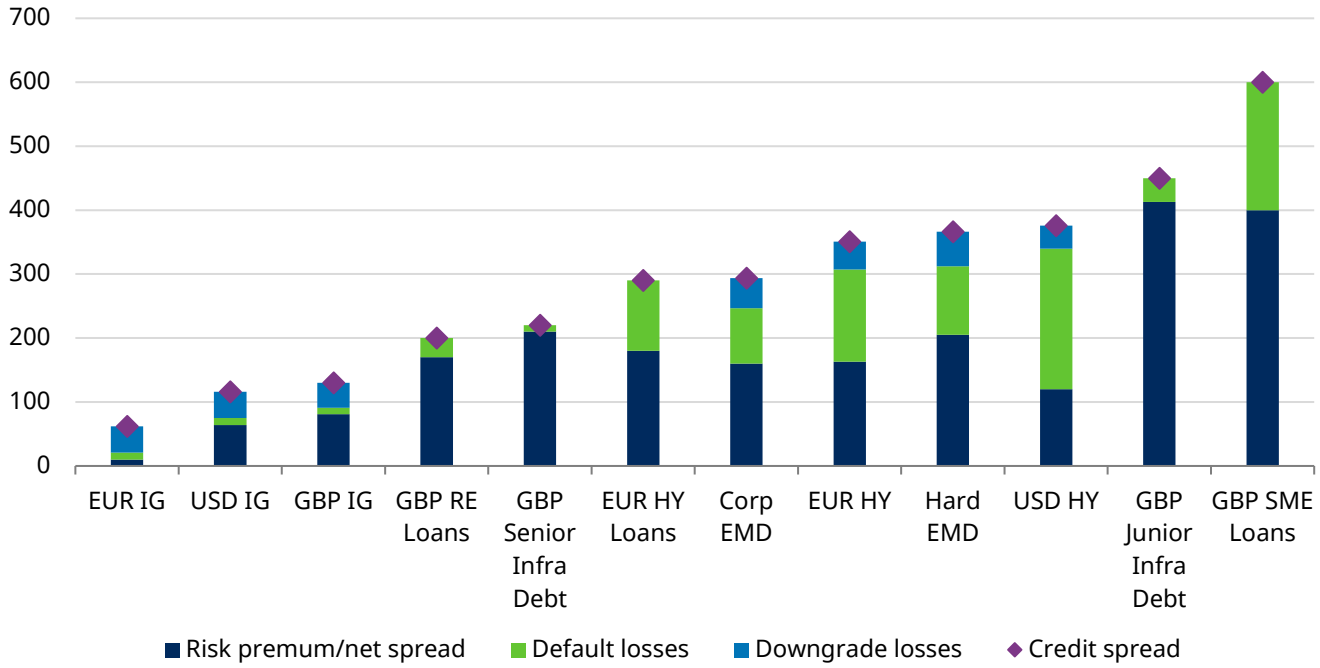
Due to preferential capital treatment for investment grade debt, the Junior segment of the market enjoys a significant spread premium for only a marginal increase in risk compared to Senior infrastructure debt.

The table below shows the expected spread for infrastructure debt versus corporates across investment grade (IG) and high yield (HY), net of expected losses. We can see Junior infrastructure enjoys twice the illiquidity premium as Senior infrastructure debt. This is likely due to demand in this market being more limited than in the traditional senior infrastructure debt universe due to Basel III regulated and Solvency II regulated institutions receiving preferential capital treatment for Senior infrastructure debt and more generally there being fewer players in this space due to the relatively niche and newer aspect of the market.

	IG Corporates (GBP)	Senior infrastructure (GBP)	HY Corporates (EUR)	Junior infrastructure (GBP)
Spread (bps)	130bps	220bps	351bps	450bps
Duration (years)	8.2	10	4.5	6
Expected default loss (pa)[1]	11bps	10bps	144bps	37bps
Expected downgrade losses (pa)[2]	38bps	–	44bps	
Net return (pa)	81bps	210bps	163bps	413bps
Implied illiquidity/ complexity premium (pa)	–	129bps	–	250bps

Source: Schroders January 2019, Thompson Reuters Datastream, BAML, JP Morgan, Moody's Infrastructure Default and Recovery Rates, 1983–2017. [1]Expected default loss equal to average historical default loss rate. [2]Downgrade losses assumed to be zero for private market infrastructure debt. Corporate bond spreads as at 31 October 2018.

We can also compare infrastructure debt to other fixed income options to see the difference in expected gross and net return. The red dot shows the expected gross spread, and the solid blue line gives the expected return after subtracting historical losses. We can see Junior infrastructure debt offers a unique combination of higher expected returns coupled with a low expected loss.



Source: Schroders, as at January 2019. Thompson Reuters Datastream, BAML, JP Morgan. S&P Global Ratings 'European Loan & CLO market: Market Trends 2017 and S&P Global Ratings Outlook 2018'. S&P: U.S. Leveraged Loan Investors Continue To Find Comfort As Credit Quality Holds, At Least For The Moment, July 2017, Moody's: 'Infrastructure Default and Recovery Rates, 1983–2017', SG 'in the mood for loans', November 2016, Moody's: 'Second-lien debt issuance slows, reflecting investors' jitters; recoveries, already low, could get worse as credit cycle turns', May 2016, S&P Global Ratings 'European Loan & CLO market: Market Trends 2017 and S&P Global Ratings Outlook 2018', Netspar 'Credit Risk for SME loans in the Netherlands', Moody's Risk Calc 4.0 Netherlands.

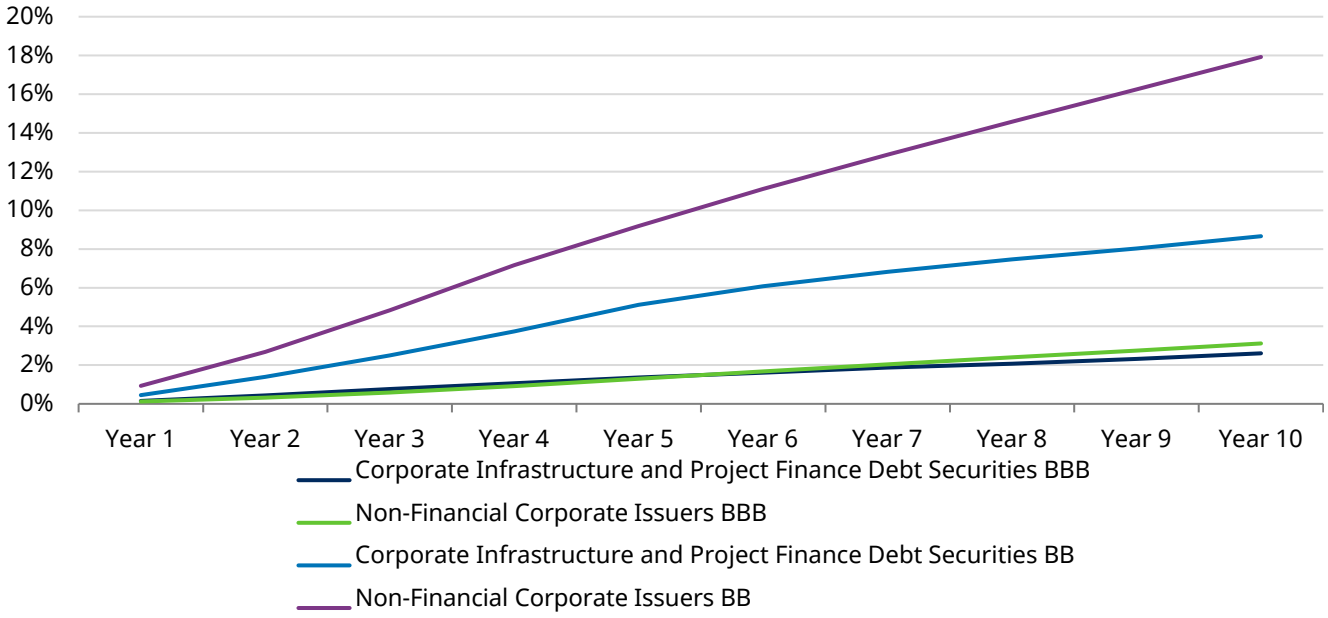
Past performance is not a guide to future performance and may not be repeated. The value of investments and the income from them may go down as well as up and investors may not get back the amounts originally invested.

Probability of default

Moody's has conducted analysis of the Moody's-rated infrastructure and project finance universe over the period of 1983–2017. They also compare this to non-financial corporate (NFC) issuers across defaults, recovery rates and migration data.

The probability of default on a cumulative basis from years since project inception can be seen below. As this shows, Ba rated infrastructure debt is over 50% less likely to default compared to Ba NFCs over a 10 year period (8% versus 18%).

Cumulative probability of default

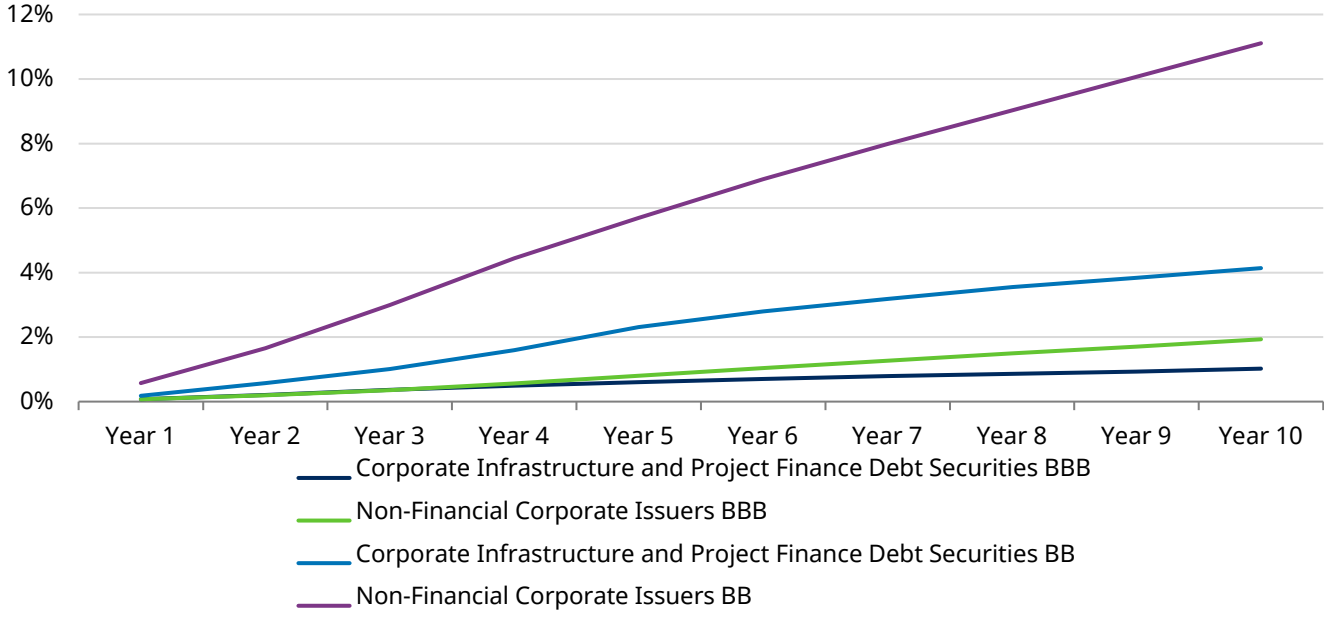


Source: Moody's 'Infrastructure Default and Recovery Rates, 1983–2017'.

Credit loss

Ba rated infrastructure debt has a much higher recovery rate versus NFCs of the same rating: 52% for Ba infrastructure versus only 38% for Ba NFCs. The lower probability of default and higher recovery rate means the expected loss on Ba rated infrastructure debt is only 38% of that for Ba rated NFCs.

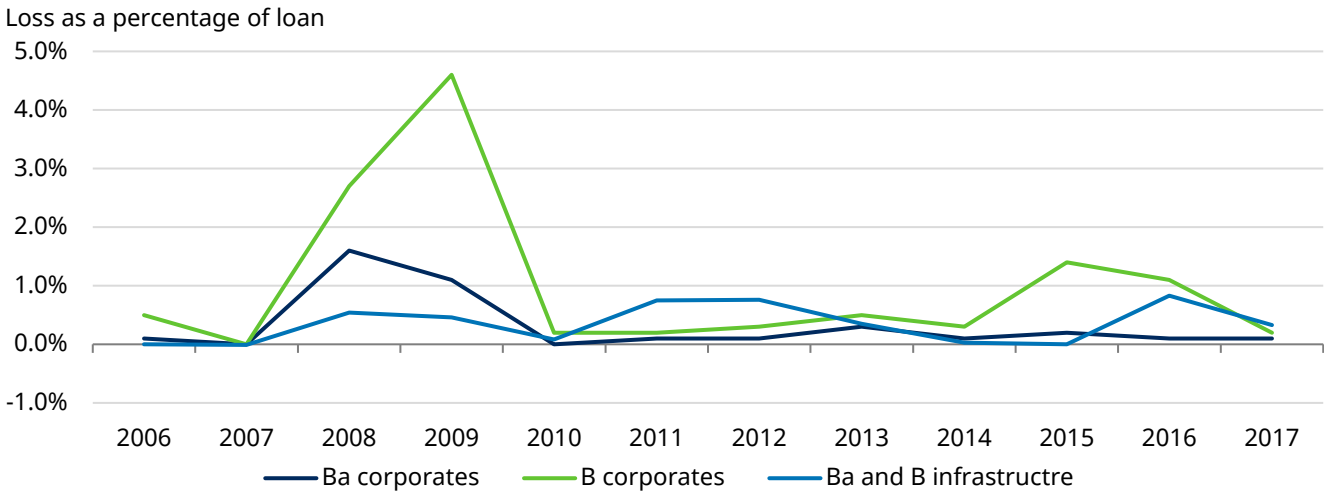
Cumulative credit loss rates



Source: Moody's 'Infrastructure Default and Recovery Rates, 1983–2017'.

Diversification benefits

Looking at the historic losses experienced each year, you can see that Ba and B rated infrastructure securities fare the financial crisis much better than corporate bonds, thereby providing diversification benefits to your portfolio if we are to experience another financial crisis. This is explored in more detail in our paper 'Lessons from the financial crisis'.



Source: Moody's 'Infrastructure Default and Recovery Rates, 1983–2017'.

Conclusion

Junior infrastructure debt offers unique characteristics for investors compared to other asset classes due to its high illiquidity premium, its low-risk credit profile and the diversification benefits gained from investing into core infrastructure assets. Differing regulatory treatment for Senior versus Junior debt has created a major divergence in investor appeal and resulting structural differences in the nature of the debt. We think the junior infrastructure debt market is uniquely placed to form an important part of investors' portfolios due to its high illiquidity premium, lower risk credit profile and unique diversification characteristics.

Infrastructure debt key risks

- **Interest rate risk for fixed-rate instruments**: interest rate volatility may reduce the performance of fixed-rate instruments. A rise in interest rates generally causes prices of fixed-rate instruments to fall
- **Deterioration of the credit quality of the bond:** caused by a change in the market environment (for commercial activities) or a change in law/regulation (for all infrastructure activities)
- **Risk of issuer default**: a decline in the financial health of an issuer can cause the value of its bonds to fall or become worthless
- **Prepayment risk**: the capital may be repaid by the borrower before reaching maturity
- **Exchange rate risk**: where assets are denominated in a currency different to that of the investor, changes in exchange rates may affect the value of the investments
- **Illiquid and long term investment risk**: due to the illiquid nature of the underlying investments, an investor may not be able to realise the invested capital before the end of the contractual arrangement (which is likely to be long term). If the investment vehicle is required to liquidate parts of its portfolio for any reason, including in response to changes in economic conditions, the investment vehicle may not be able to sell any portion of its portfolio on favourable terms or at all
- **Capital loss**: the capital is not guaranteed and investors may suffer substantial or total losses of capital
- **Greenfield risks:** in contrast to 'brownfield' investments, investments in 'greenfield' infrastructure assets expose investors to additional risks, in particular construction risk (e.g. construction delays, cost overruns, etc.) and deployment risk (e.g. capital being deployed in several instalments during construction period rather than upfront for brownfield investments).

Operational risks

- **Trade cancellation risk**: trades and settlements are made on a bilateral, negotiated basis. A last-minute trade cancellation can occur in the absence of standard trade and settlement processes via clearing houses
- **Service provider risk**: investments can be at risk due to operational and administrative errors, or the bankruptcy of service providers