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Primer: building a case for infrastructure finance

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Infrastructure covers a wide variety of assets, from airports and telecommunications networks to hospitals and schools. These assets are often characterised by high barriers to entry, long lives, stable operating cash flows (often inflation-linked) and a limited sensitivity to the broader economic environment[1]. The stability of the cashflows appeals to equity investors while providing comfort to lenders. There are many routes in to the market, offering a wide variation in risk and return. Both debt and equity, in listed and unlisted forms, are available, but not all are equally attractive right now. Equity is generally fully priced, whereas some areas of private debt are still attractive for those who can accommodate liquidity constraints. In all cases, expertise is required to steer a path through this market.[2]

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The traditional distinction in infrastructure is between operational assets ("brownfield" projects) and those at the construction stage ("greenfield" projects). In both cases, stable cashflow and asset backing mean they can support high levels of debt (typically 75% of enterprise value[3]).

Equity finance can come from a variety of sources but, in Europe at least, 70-80% of debt finance has historically been provided by banks, with the rest from capital markets, the opposite of the US. However, banks are retreating from the market under the impact of banking regulation, with institutional investors increasingly filling the void. The different ways to invest are shown below in increasing order of governance burden:

Equity	
1.	Listed infrastructure equities (a subset of global equity markets)
2.	Unlisted equity investments in infrastructure projects via funds and external managers
3.	Direct investment/co-investment in specific infrastructure projects or companies

Debt	
1.	Infrastructure corporate bonds (a subset of the broader corporate bond universe)
2.	Private infrastructure loans via funds with external managers
3.	Private infrastructure loans via direct lending or segregated accounts through an asset manager

1 *Revenue and dividend payouts in privately-held infrastructure investments*, EDHEC Infrastructure Institute, March 2016.

2 A longer version of this article is available on the Schroders web site: see *Infrastructure financing - an overview*.

3 Association for Financial Markets in Europe

Listed infrastructure equity

Global indices, such as the Dow Jones Brookfield Global Infrastructure Composite Index (DJBGICI), tend to be dominated by North America (65%) and the utilities and energy sectors (c. 85%). Since it was established in 2002, the DJBGICI has generated a higher return than the broader global equity market with lower volatility. It has also outperformed all individual sectors of the global equity market in absolute and risk-adjusted terms, while it trades on a much higher dividend yield than the market. The differences are highlighted in the following table:

	Listed global infrastructure	Global equities
Return p.a.	12.3%	8.5%
Volatility p.a.	12.8%	14.9%
Sharpe ratio	0.9	0.5
Correln. with global equities	0.8	n/a
Beta to global equities	0.7	n/a
Dividend yield	4.2%	2.5%
Price/earnings multiple	34.3	21.9
Price/book multiple	2.5	2.2

Source: Datastream, S&P and Schroders, 31 December 2002-31 December 2016. Yield and p/e multiple as at 31 December 2016

However there are a number of caveats. Firstly, listed infrastructure has been highly correlated with broad markets and has therefore offered little diversification. Secondly, infrastructure indices have little or no exposure to financials, so the historic comparison has flattered infrastructure after the credit crunch.

Thirdly, listed infrastructure trades on a higher price/earnings multiple than the broader market and this is looking stretched compared with historical norms. Against a backdrop where high valuations have driven expectations for public equities down to mid single-digit percentage return levels (or lower), it is difficult to argue that listed infrastructure equities are in a position to offer much more.

Unlisted infrastructure equity

Unlisted infrastructure investments can be made through funds or segregated accounts or by investing directly. The last of the three is the cleanest route, but requires a significant amount of expertise and governance oversight. Given that larger amounts also need to be committed, this method tends to be restricted to very large investors.

A more traditional route for institutional investors is through a closed-ended private equity style vehicle with a long horizon. Realised internal rates of return have varied by fund and risk level, but have been broadly 8-10%, net of fees. However, expected returns are now only around 6-8%, with target cash yields around 5%, slightly more than expected from listed equities but less than private equity funds typically aim for.

These low returns have been driven by the general rise in asset prices, combined with heavy demand, flat deal volumes and a dearth of assets. The increased competition has pushed up prices, with deal multiples now back at levels not seen since before the financial crisis.

Infrastructure debt

Due to retrenchment by the banks, there is a growing opportunity for institutional investors to lend to infrastructure projects. Senior infrastructure debt offers a more stable alternative to equity, increasing its appeal to certain investors. In particular, senior debt can be very long dated, and sometimes inflation-linked. The junior parts of the debt structure are normally shorter duration and offer the potential for higher returns, with higher risk than senior debt but less risk than equity. Figure 1 shows the diversity of opportunities.

Infrastructure corporate bonds

Infrastructure corporate bonds are a small subset of the broader corporate bond market. They range from investment grade to sub-investment grade, with an average rating of low investment grade. At the strategic level, they have offered little that could not be captured through broad market exposure. Risk-adjusted returns have been slightly better than the market, but only in line with corporate bonds of equivalent credit rating, with similar credit spreads. Furthermore, the correlation with corporate bonds has been close to 1 over the past 10 years, so they have offered little by way of diversification.

Like infrastructure equities, the bonds have been less volatile than market comparators, but only due to limited exposure to financial services. Infrastructure corporate bonds can offer the prospect of superior returns, but only on a tactical rather than a structural basis.

Private infrastructure debt

In Europe, the private market accounts for c.80% of infrastructure debt, offering a greater diversity of exposures than the corporate bond market. It has the following features:

- Credit spread: private debt offers a significant premium to public bonds, estimated at between 1.0% to 1.5% for a similar credit profile in Europe
- Liquidity: private debt is not readily tradable, as most debt instruments are loans
- Security: most loans are secured, whereas corporate bonds are usually unsecured
- Covenants: negotiated covenants offer more scope to manage risk than public bonds
- Structuring: bespoke structures offer more scope to match the risk of the asset
- Fee income: private lenders are normally paid fees by borrowers, which can be material
- Fund management fees: fees tend to be only slightly higher than corporate bond funds'.

Private infrastructure debt has been a growing market in recent years, offering institutional investors a higher yield without a commensurate increase in credit risk. They will, however, need to tie up their money for longer. On the supply side, the structural issues and regulatory changes already described have created an opportunity for institutional investors to step in and fill the void left by the banks. And here Europe dominates the lower-risk brownfield market, accounting for a 43% global share in 2015.

Figure 1: The wide-ranging characteristics of infrastructure

Liquidity	Nature	Sectors	Geography	Business	Rating	Maturity	Seniority	Currency	Rate
Public	Greenfield	Transport	Western Europe	Merchant*	>A-	20Y+	Senior	EUR	Fixed
Private	Brownfield	Power	CEE	Contracted	BBB/BBB+	10Y – 20Y	Sub-ordinated	GBP	Floating
		Utilities	UK	Concession	BBB-	7Y – 15Y	HoldCo	USD	Linker
		Telecom	OECD	Regulated	BB+/BB	<7Y		AUD	
		Social	Emerging	Availability†	NR			Other	

*Where revenue is market related to some degree. †Where payment is made by the contracting partner, normally the government or other public body, rather than the user.
Source: Schroders.

Figure 2: The characteristics of infrastructure debt

	Core	Higher yielding	Long duration
Maturity (years)	5-10	5-7	10-30
Fixed/floating	Mainly floating	Floating and fixed	Fixed
Bonds/loans	Mainly loans	Loans or bonds	Bonds
Rank	Senior	Most subordinated	Senior
Credit risk (average)*	[BBB]	[BB]	[BBB]
Credit spread (bps)	200	400+	150-200
Annual issuance (€bn)†	50	5	10

*Implicit rating as not often officially rated. Estimated for UK and Europe. Source: Schroders, January 2017.

Private infrastructure debt is a heterogeneous asset class, mirroring the variety of risk profiles among infrastructure companies, as detailed in Figure 1, and types of debt, as shown in the table in Figure 2. As with unlisted infrastructure equity, investments are typically made via closed-ended private equity style vehicles, although larger institutions can also lend to specific projects or companies on a direct or co-invested basis or through segregated accounts.

Banks' domination of infrastructure financing in Europe means the majority of the market is structured as 5-7 year floating rate loans[4]. Most share characteristics with bonds of low investment-grade credit quality. However, very long-dated fixed-rate debt is also common. Unlike other forms of private infrastructure debt, these share characteristics with corporate bonds, often being unsecured and with neither financial nor maintenance covenants. There is a small market for higher yielding investments in a variety of structures, but always with security packages and covenants, in contrast to most high yield bonds.

Private debt has offered a persistent spread pick-up over public debt. Pricing data are limited, but Figure 3 compares representative European private transactions with investment grade characteristics against a European infrastructure corporate bond index.

4 InfraDeals database.

On average, infrastructure debt offered 100-300 basis points (bps) over equivalent government bonds in the 18 months to March 2017, 50-200 bps more than public bonds.

As with the equity, demand for senior infrastructure debt has outpaced supply. It is particularly strong in long duration, where European insurers like its favourable treatment under Solvency II capital requirements. Spreads look tight at 150-200 bps, down from 250-300 bps after the financial crisis[5]. In contrast, they have remained more stable on shorter-dated core infrastructure debt at around 200 bps. And in the less mature and less competitive subordinated debt market, spreads have actually risen to above 400 bps.

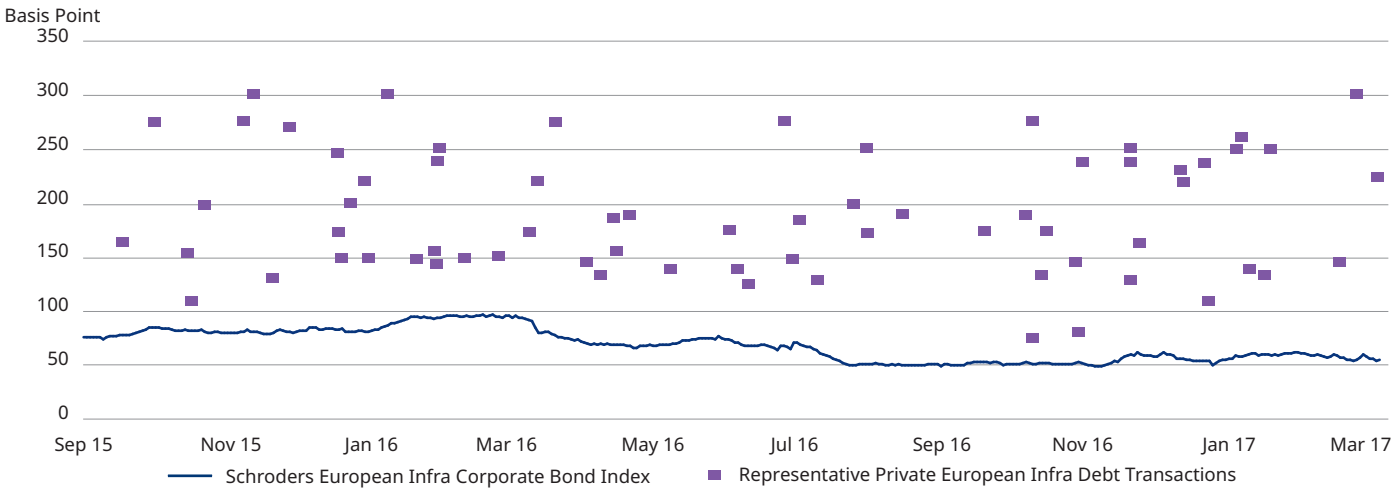
In terms of losses, infrastructure debt has suffered less than similar corporate bonds due to:

1. A lower likelihood of suffering either a deterioration in credit quality or a default

Rated infrastructure securities have been less likely than the broad market to be downgraded. BBB-rated infrastructure securities have also seen lower defaults over long horizons. At lower credit qualities, the default experience has been far superior (Figure 4).

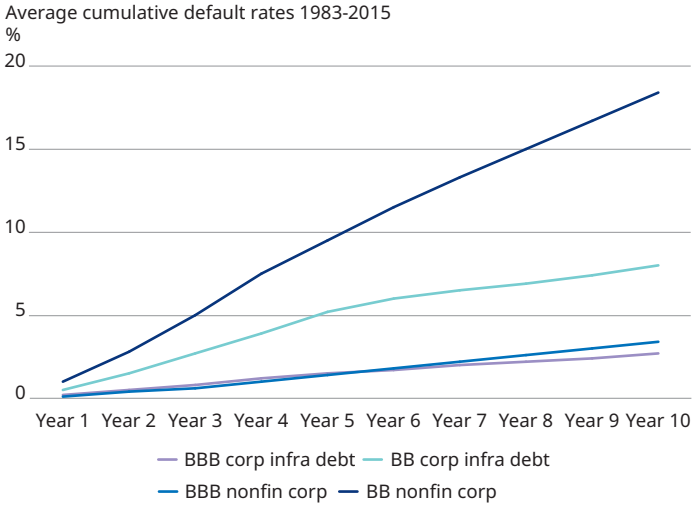
5 *European Infrastructure Investors Survey 2016: A positive horizon on the road ahead?,* Deloitte

Figure 3: Private debt offers a spread pickup over listed infrastructure bonds



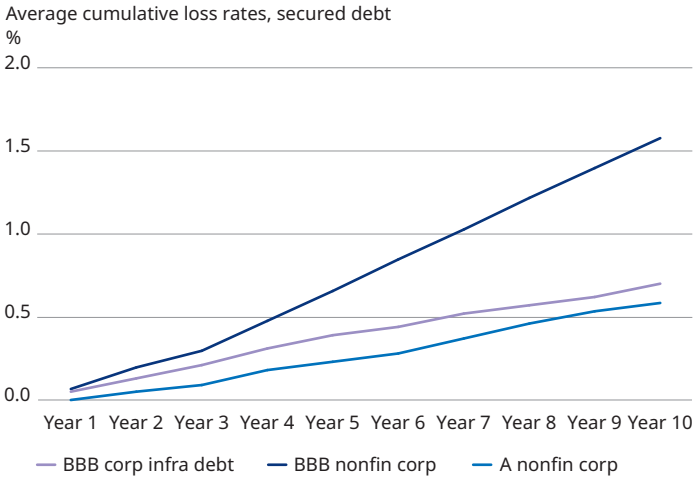
Data relate to bonds or transactions with explicit or implicit investment grade characteristics. Source: Bank of America Merrill Lynch ("BoAML"), Bloomberg, Cbonds.com, InfraDeals database, Schroders and The Private Placement Monitor. Index is a proprietary BoAML European infrastructure corporate bond index developed with Schroders. As at 31 March 2017.

Figure 4: Infra debt has tended to be lower risk than its mainstream rivals



Source: Moody's Infrastructure Default and Recovery Rates, 1983-2015.

Figure 5: Default losses have been closer to bonds a full credit rating higher



Loss rate has been calculated as default rate x (1 – recovery rate).
Source: Moody's Infrastructure Default and Recovery Rates, 1983-2015, and Schroders.

2. Higher recovery rates in the event of default, resulting in lower default loss rates

Senior secured infra debt has had a historic recovery rate of 74% in the event of default, compared with only 54% for senior secured corporate bonds. For senior secured BBB-rated infrastructure debt, the combination of similar near-term but lower long-term default rates and a much higher recovery rate have resulted in slightly lower short-term default loss rates and significantly lower loss rates over longer periods. Over the long run, default losses on BBB-rated securities have been almost 1% lower than non-financial equivalents, with performance closer to A-rated securities than BBB (Figure 5).

Within the subordinated sub-investment grade market, recovery rates are broadly the same across infrastructure debt and non-financial corporate debt. Even so, the much lower default experience of BB-rated securities has contributed to loss rates around half those of BB non-financial issues.

It is fair to say that infrastructure debt is still more exposed to political, regulatory and event risk than traditional corporate bonds. For instance, only 2% of non-financial defaulters had an investment grade credit rating the year before their default, compared with 28% of infrastructure debt defaulters. Given this background and the fact that credit quality can change rapidly, many institutional investors prefer to focus on areas with more stable credit ratings, such as north and western Europe.

Conclusion

Infrastructure investment, in listed and unlisted forms of both debt and equity, is increasingly available to non-specialist investors, but not all routes to market are equally attractive. Equity, for instance, is generally priced at elevated levels, whereas private debt remains attractively priced. As well as providing a higher credit spread, infrastructure debt has demonstrated lower credit risk than public bonds of similar credit profile. Competition for deals and lack of supply has dimmed its attractions lately, particularly at longer durations. However, advantages remain, especially at shorter durations and in riskier parts of the market. It is true that investors face different risks and must be ready to lock up their money for some time, but infrastructure undoubtedly offers attractive features not available to them elsewhere.