Market Insight

Infrastructure Debt: Relative Value?

London 15 February 2018, by Iain Barbour

This paper examines relative value amongst certain groupings of debt instruments typically classed under the banner of infrastructure debt. We observe that triple-B rated investment-grade rated debt within the Infrastructure & Transport sub-category offer the most consistent, risk adjusted returns across the maturity spectrum, whilst single-A rated bonds in the Energy & Utility sub-category offer the greatest value – at the long-end of the maturity spectrum, after adjusting for expected losses.

Introduction

In 2011, I researched how certain infrastructure credits offer significant relative value for buy and hold credit investors when compared to similar duration and rated corporate credits[i]. The last few years has seen institutional investors develop into core providers of debt to the global infrastructure markets, supporting the original thesis that the asset class offers good relative value. With infrastructure debt forming a core element of many institutional investors' portfolios, understanding relative value within the asset class is important.

Value is in the eye of the beholder. Different investors are subject to both differing regulatory capital requirements, varying asset, liability and liquidity management objectives and risk appetites. Trying to develop a one-size-fits-all thesis is therefore challenging. This paper therefore examines returns, benchmarking them against an independent historical view of embedded credit risk; we observe the return profile associated with certain bonds of differing characteristics and derive from this a value differential.

The 2011 paper discussed at length the derivation of idealised default curves for various categories of triple-B and single-A rated credits. In that analysis, I applied a conservative loss-given-default rate of 30% to all defaulting credits deriving expected loss curves for selected credits. We then compared Z-spreads observable on selected GBP-denominated bonds to the expected loss curves from which it was evident that typical infrastructure credits offer considerable value relative to comparably rated corporate credits, most notably at longer maturities.

Default and Expected Loss Expectations

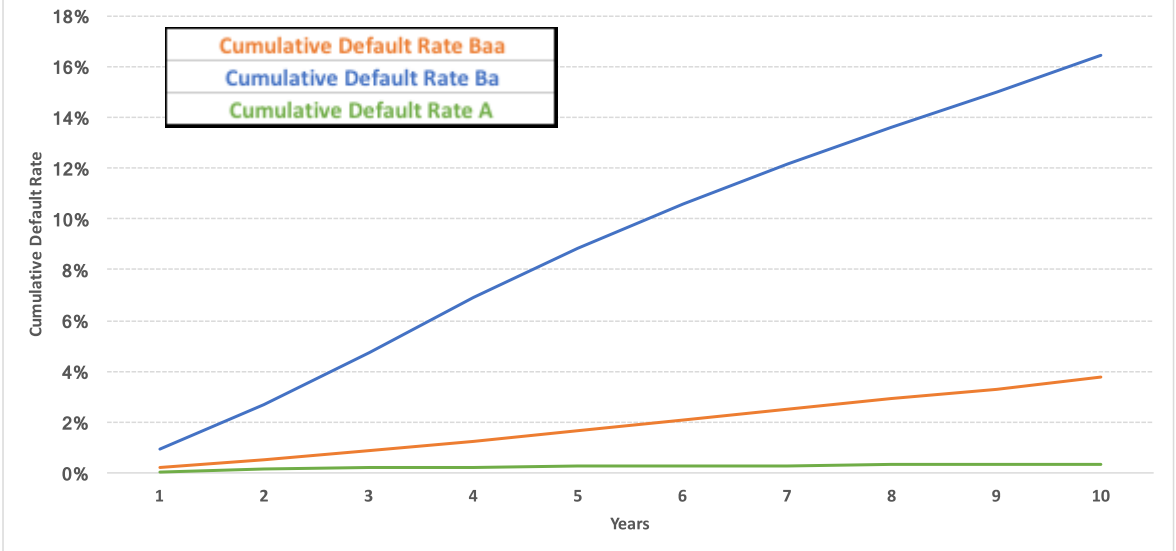
For the purposes of this Market Insight we draw upon Moody's Default Research relative to Infrastructure[ii] and Project

Finance Bank Loans[iii]. The Moody's research notes contain extensive commentary and offer valuable insight into credit performance; we do not attempt to summarise or paraphrase the conclusions here but commend them to readers seeking to understand this specialised credit-market sector. Some key observations are pertinent and relevant to this thesis:

- 10-year cumulative default rates are broadly consistent between project finance loans, certain sectors within the infrastructure debt sector classification and equivalently rated corporate issues. Default rates have spiked during certain periods of economic downturn reflecting primarily higher default rates in the Power sector.
- Recovery rates are materially higher for project finance loans and infrastructure credits when compared to other equivalently rated secured corporates.
- Construction phases appear to exhibit increased default rates and offer lower recovery rates.
- The Public Private Partnership sub-set classification demonstrates a cumulative default rate of 5.2% (3.9%, one-year earlier) versus 5.8% (4.7%) for the wider infrastructure sector and 6.7% (6.4%) for the entire unrated project finance dataset. This dataset exhibits similar recovery rates to the wider dataset.
- For lower-rated infrastructure & project finance debt securities, materially lower cumulative default rates are observed, when compared to the equivalently rated, non-financial corporate dataset.

Figure 1 illustrates the cumulative default rates for project finance loans at different rating bands:

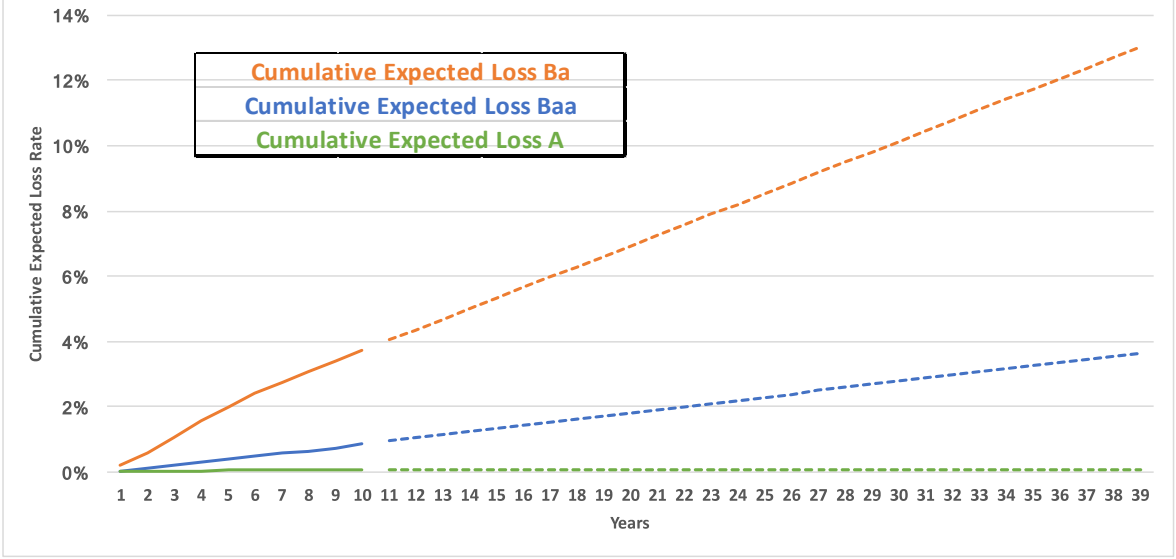
Figure 1: Cumulative Default Rates for Project Finance Loans



Source: Moody's Investors Service: Default and Recovery Rates for Project Finance Bank Loans, 1983-2015, Published 6 March 2017, Bishopsfield Capital Partners ("BCP")

In our analysis, we assume a recovery rate of 77.3%. this is the level quoted by Moody's for project finance bank loans, noting that the most likely outcome for a recovery is observed to be 100%. If we apply this recovery rate to the above default statistics, expected loss curves can be developed (see Figure 2).

Figure 2: Cumulative Expected Loss Rates for Project Finance Loans



Source: Moody's Investors Service; BCP

Credit returns

We have analysed certain GBP denominated bond spreads, compartmentalising them into various industry categories. Figures 3 illustrates the trends observed when reviewing spreads to gilts for selected bonds over time, compartmentalising the bonds into four groupings. There remains observable correlation between expected losses and bond spreads. Single-A rated energy/utility bonds demonstrate the lowest expected loss rates whilst also generating the lowest spreads, whilst triple-B rated infra/transport bond spreads remain at the other end of the spectrum.

An 'illiquidity premium' is anticipated by many investors. Quantifying it is challenging. We observe the differential between spreads earned on infrastructure debt (typically regarded as a 'buy and hold' investment) relative to that earned on comparably rated utility bonds (where reasonable liquidity is observed); the leading contributors to the differential are, in our opinion, illiquidity, credit complexity and the relative intensity required to monitor the credits. Assessing the relative contribution of these factors is objective; however, we do not believe this is driven by material differentials in loss given default expectations. There remains observable correlation between expected losses and bond spreads.

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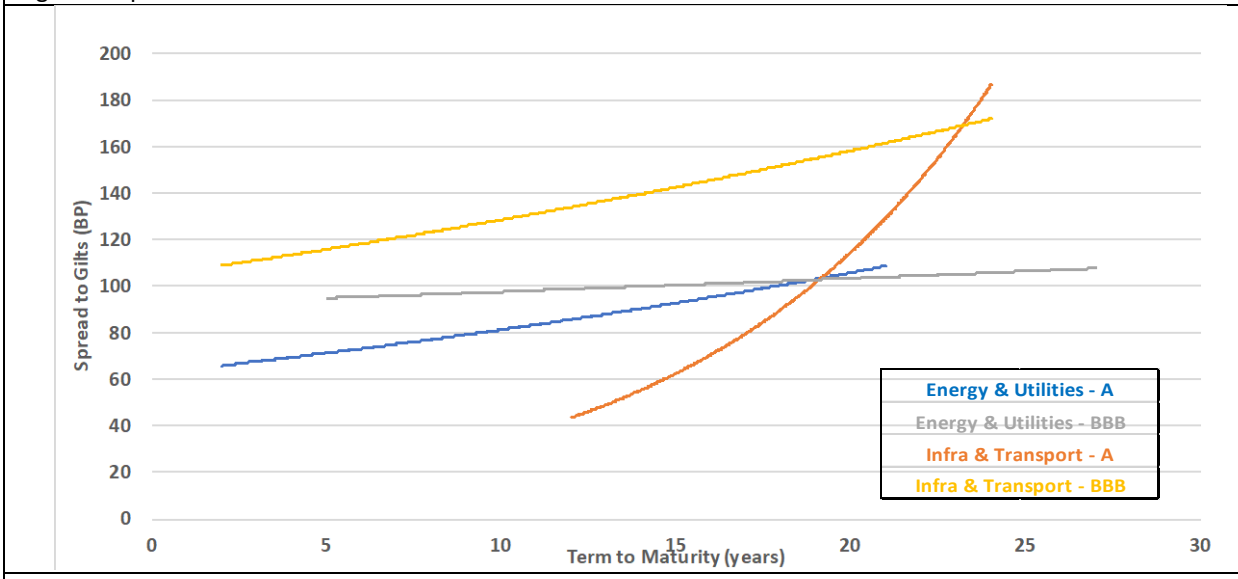
Figure 3: Spreads to Gilts for various Asset-Classes over Time



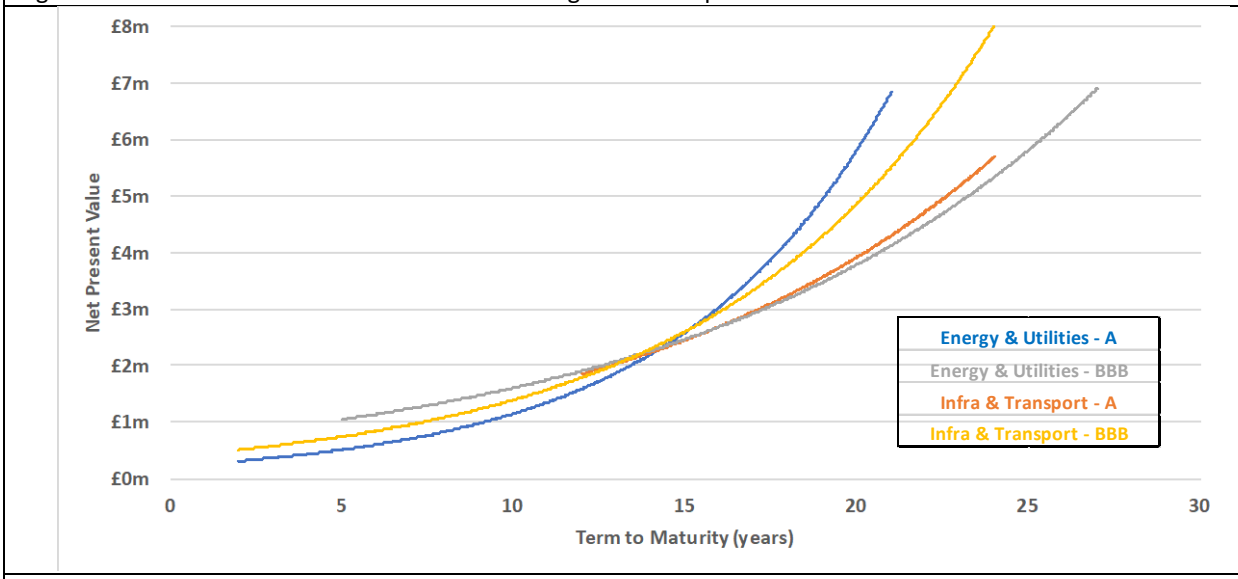
Source: BCP; Royal Bank of Canada ("RBC")

Present value analysis

To conclude the analysis, we calculate the net present value ("NPV") of a group of bonds. This is achieved by applying, annually, a marginal expected loss to the average yield of each bond, assuming a £10m notional value for each bond and a discount rate of 2.5%.

Figure 4 illustrates the resultant NPV at various durations. This indicates that, for example, single-A rated Energy & Utility bonds offer greatest relative value towards the long-end of the curve, whereas triple-B rated Energy & Utility bonds demonstrate better relative value, when compared to the universe of credits employed for this analysis, at the shorter-end of the curve. We observe that triple-B rated Infra & Transport bonds offer robust relative value most consistently across the maturity spectrum.

Figure 4: Net Present Value Curves for Selected Single-A and Triple-B Asset Classes over Time



Source: BCP, RBC, Moody's Investors Service

If you agree with our views in this Market Insight, and even if you don't, we would be delighted to hear from you

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Disclaimer

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[i] *Iain Barbour, with supporting research from Joel Turner, Trifinium Advisors Ltd: Unravelling the relative value of Infrastructure Bonds as compared with equivalently rated Corporate Bonds, Published 23 September 2011*

[ii] *Moody's Investors Service: Infrastructure Default and Recovery Rates, 1983-2016, Published 27 July 2017*

[iii] *Moody's Investors Service: Default and Recovery Rates for Project Finance Bank Loans, 1983-2015, Published 6 March 2017 and Addendum published 13 December 2017*