# What’s different about infrastructure debt – ratings agency studies?

This article looks at ratings agency analysis of the credit characteristics of infrastructure assets compared with generic corporate credit. These studies show that across a large sample of loans/bonds – infrastructure credits have shown lower volatility, lower defaults, and higher recoveries.

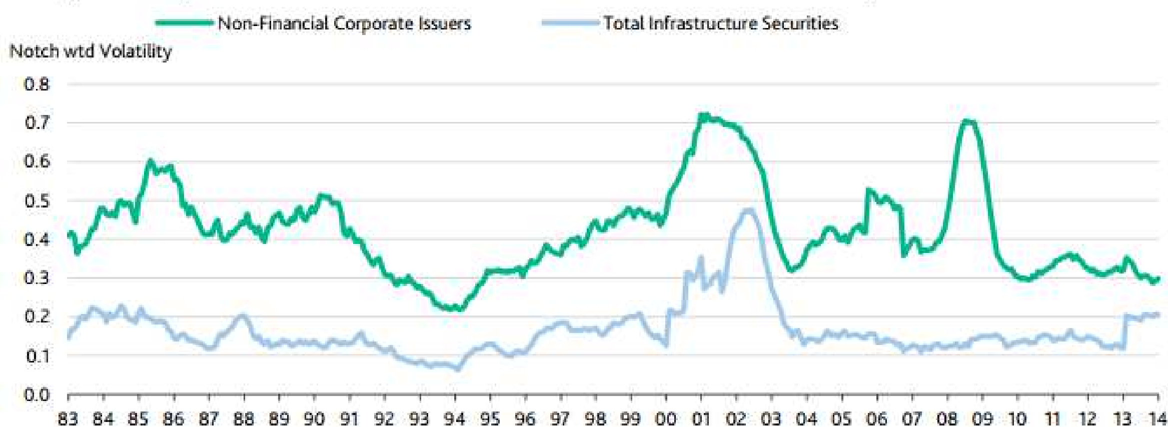
Infrastructure assets have very low operating cash flow volatility compared to a typical corporate entity. These low volatility characteristics are appealing to a debt investor. Traditional credit analysis involves a comparison of leverage and interest coverage ratios to ascertain the credit worthiness of a borrower. The underlying volatility of the business is often overlooked, and is a key ingredient in determining the probability, or distance, to default of a borrower.

The low volatility characteristics of infrastructure assets are commonly due to very stable revenues and/or high operating margins. All things being equal, a borrower with lower cash flow volatility has a lower probability of defaulting on its obligations (in a random walk world).

Moody’s have conducted a study comparing infrastructure borrowers to non-financial corporates (non-infrastructure borrowers that are not financial institutions) over the period 1983 to 2014. This includes over $3.3 trillion of infrastructure debt currently rated. The report contains interesting findings from their back tested data over the 30-year period.

## Ratings volatility

The following chart is the sum of the notch weighted upgrade and downgrade ratios over a twelve-month horizon. A notch is when a borrower goes up or down one credit rating level, for example from Baa1 to Baa2 is a notch down by one. The analysis does not make a distinction between upgrades or downgrades.



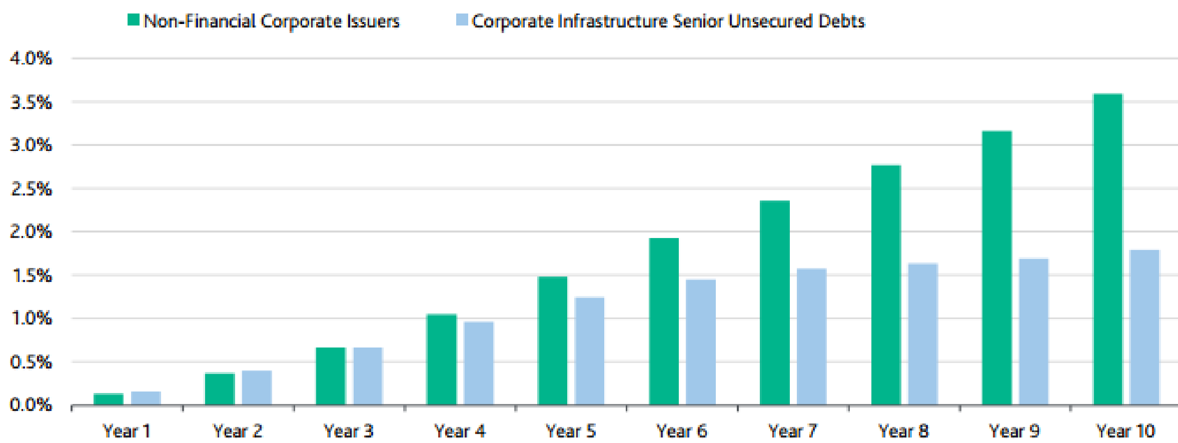

*Source: Moody’s*

The chart above shows that infrastructure borrowers have consistently demonstrated around half the ratings volatility of non-financial corporates. For the history buffs – the spike in infrastructure ratings volatility in the early 2000s relates to fallout from the collapse of Enron (and associated defaults by Pacific Gas and Electric Company and Southern California Edison).

## Default and recovery rates

The lower volatility cash flows of infrastructure assets are reflected in the observed default rates for equivalently rated corporate issuers. Infrastructure credits demonstrate similar default rates in the early part of their lives (typically during the construction period), but then experience much lower default rates over longer time horizons. Ten years after issuance, the average infrastructure borrower has a cumulative default rate under half that of the typical corporate.

**Baa Cumulative Default Rates**




*Source: Moody's*

When infrastructure issuers default, they have higher recoveries. The key reasons why recoveries are better for infrastructure issuers are structural seniority, and hard asset backing. The following table is the average trading price of an issuers bonds 30 days after missing a payment or filing for bankruptcy.

**Recovery Rates for Defaulted Corporate Infrastructure Debts**

| Sector | Senior Secured | Senior Unsecured |
|---|---|---|
| Utilities | 76% | 58% |
| Regulated E&G Utilities and Networks | 83% | 63% |
| Unregulated E&G Utilities and Power | 80% | 55% |
| Transportation | 74% | n/a |
| Average Corporate Infrastructure Debt Securities | 75% | 57% |
| Average Non-Financial Corporate Issuers | 53% | 37% |

*Source: Moody's*

Most infrastructure loans are senior secured. That is, they benefit from a first ranking security over all of the assets of the borrower. The average recovery rate of secured infrastructure loans is 75%. By contrast, most corporate bonds are issued on an unsecured basis. This lower security position is reflected in lower recoveries (only 37%) and hence higher losses for investors.