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Cost of debt methodology

General overview

Agenda

- QCA methodology
- QCA methodology - information
- Debt Risk Premium - econometric method
- Debt Risk Premium – ‘paired bonds’ method
- Benchmark debt raising transaction costs
- Benchmark interest rate swap transaction cost
- Total cost of debt

QCA methodology

QCA's methodology is based on advice from Dr Martin Lally:

- A rational regulated entity would incur transaction costs to:
  - Issue interest rate swaps to swap the base interest component of debt to align with the term of the regulatory period
  - If available, credit default swaps would be used to convert the margin component of the debt to match the term of the regulatory period
- The regulator should provide compensation for these transaction costs

QCA methodology – information

Application of the QCA's method requires the following:

- Prudent **term** of debt issuance (PwC report found 10 years)
- Discover whether the required credit default swaps are available
- If 'no', requires the **debt risk premium** for the prudent term
- **Transaction costs** associated with:
    - Issuing corporate bonds
    - Entering into interest rate swap contracts
    - (if needed, transaction costs of issuing credit default swaps)

DRP - Econometric method

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Based on PwC (2013) report to QCA

1. Assembly and analysis of **bond yield data**:

- Australian corporate bonds Bloomberg & UBS data for fixed/floating
- Test staleness of yield data

2. Testing **functional form**:

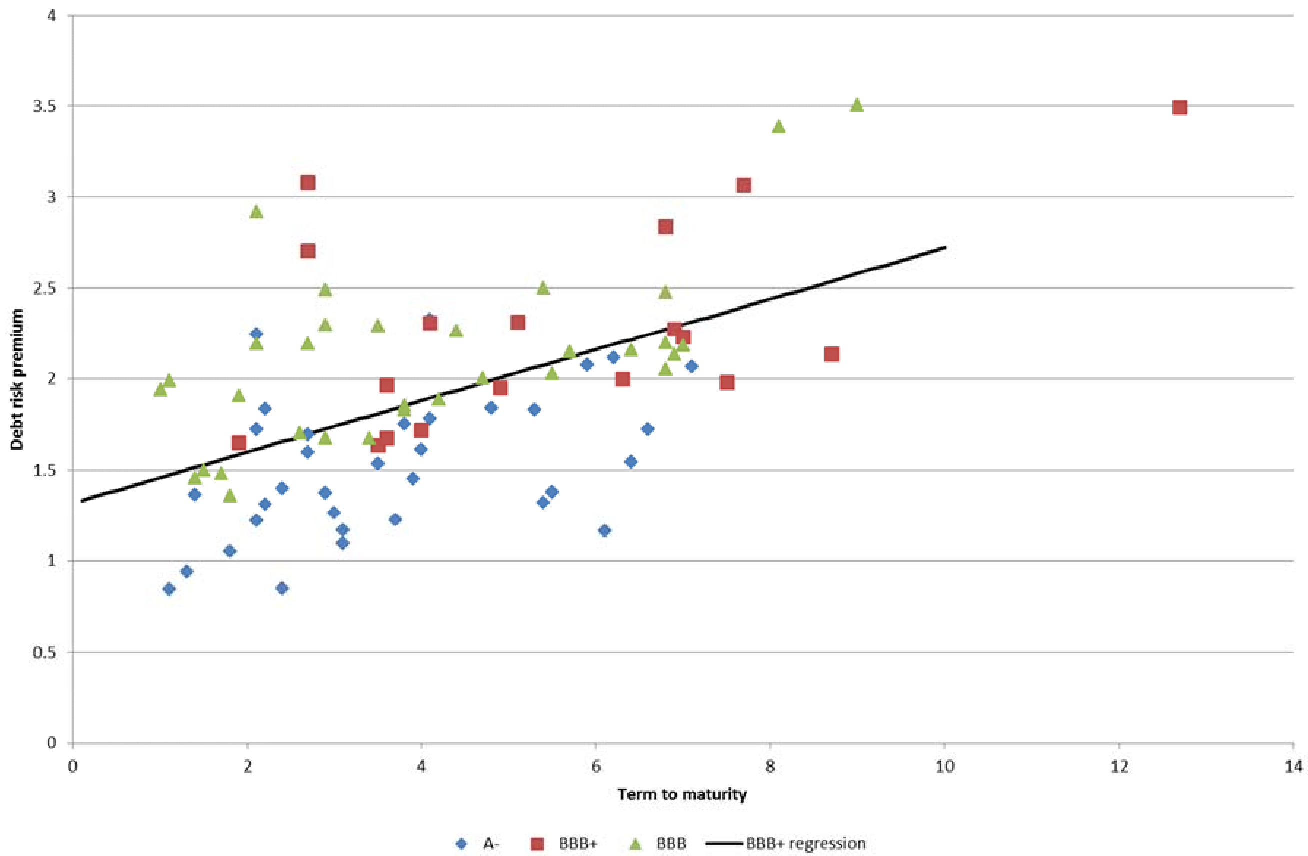
- PwC (2013) found the linear form was most appropriate

3. **Test weighting** of different credit rating observations:

- Is there bias?

DRP - Econometric method

Distribution of bond DRPs for BBB/BBB+/A- credit ratings for 20 days to 31 October, 2013 – Linear functional form



Source: Bloomberg, UBS and Incenta analysis

DRP - ‘Paired bonds’ method

- Based on PwC (2013) report to QCA
- **Problem:** e.g. Bloomberg BBB FVC is only produced to 7 years
- **Solution:** average the bppa change in DRP from 7 to 10 years observed for 2 bonds issued by the same issuer, and extrapolate the 7 year Bloomberg BBB FVC DRP to 10 years
- Concern about the small number of bonds, but:
  - Current example has 8 bonds (4 pairs) from 5.27 to 9.16 years to maturity
  - Pairs hold all factors influencing yields constant - only term is varied
  - Econometrics assumes idiosyncratic factors will average out

Benchmark transaction costs

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PwC (2013) report methodology is based on that used by the AER - which is based on an ACG report from 2004

Two main components of debt issuance transaction costs are:

- Arrangement/placement fees
- Other costs associated with bond issues

Interest rate swap transaction cost

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To estimate the benchmark swap transaction cost allowance (bppa) to swap the base interest rate component of:

- A fixed T year bond yield (where T is the benchmark debt term), into
- An N year fixed rate yield (where N is the term of the regulatory period)

This requires two transactions:

- Transaction 1: swapping T year fixed to T year floating
- Transaction 2: N year floating to N year fixed

- Recent Jemena Limited market quotes (7.9 and 9.4 basis points)

Total cost of debt

Following the QCA's method, the total cost of debt can be estimated by summing:

- The risk free rate (N period)
- The T year debt risk premium (DRP)
- Debt raising transaction costs
- Interest rate swap costs