Gearing

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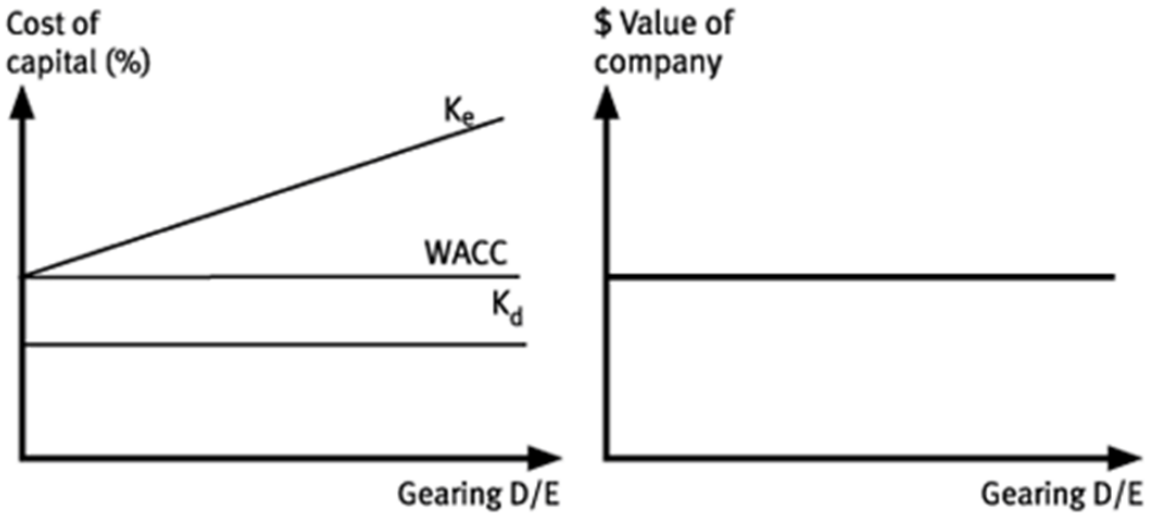
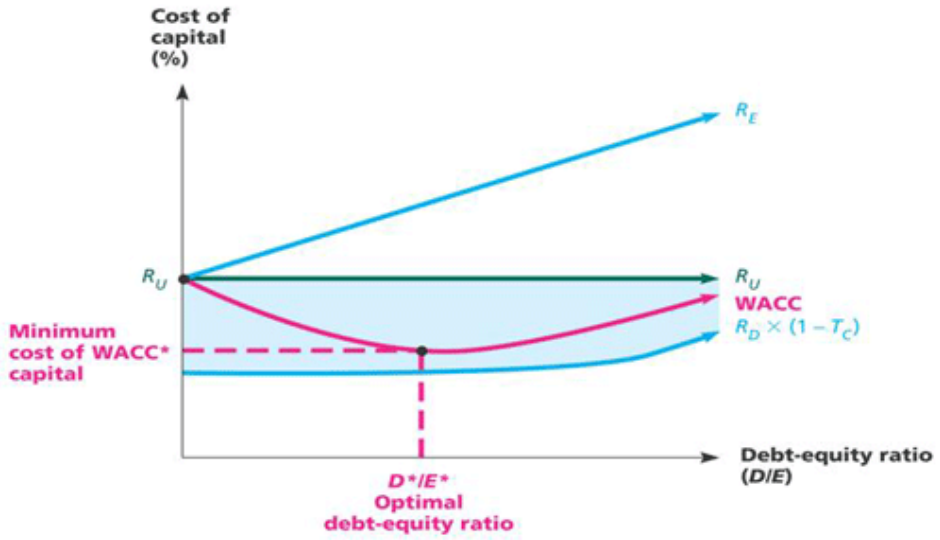
Relationship between Gearing and WACC

- Modigliani and Miller Trade-off Theory of Leverage
  - In world of no taxes, transaction costs, bankruptcy costs – gearing ratio independent of cost of capital
  - As gearing increases, equity becomes more risky so cost of equity increases – overall WACC is constant



Relationship between Gearing and WACC

» Modigliani and Miller Trade-off Theory of Leverage
  – In world of taxes (interest payments are tax deductible) and bankruptcy costs, theoretically there is an ‘optimal’ gearing ratio that minimises the (post-tax) WACC



How to determine ‘optimal’ gearing? Look at actual business practice

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Use of Market Value, not Book Value

» Gearing should be calculated as:

market value of debt / market value of firm

» Market value, not book value, the only relevant measure because:
  – Book value sunk, historic cost. WACC represents cost of financing today.
  – All WACC parameters based on market, not book, values. Need consistency.

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Use of Market Value, not Book Value

[After presenting a book value balance sheet for an example company called Geothermal]…Why did we show the book value balance sheet? Only so you could draw a big X through it. Do so now. We hope this will help you remember that book values are not relevant to estimating the cost of capital. When estimating the weighted average cost of capital, you are not interested in past investments but in current values and expectations for the future. Geothermal's true debt ratio is not 50 per cent, the book ratio, but 40 per cent [the market value ratio].

Brealey, R., S. Myers, G. Partington and D. Robinson, 2000, Principles of corporate finance, McGraw-Hill Australia, p. 566.

Updated AER Data

- Does not show systematic change compared to long term trend
- Support looking at longer term averages – 5 to 10 years
- Factors affecting optimal gearing do not change much over time, so historical time series highly relevant

Net debt	Envestra	APA group	Duet	Ausnet	Spark
2007	65%	58%	66%	54%	60%
2008	77%	72%	74%	59%	71%
2009	75%	68%	78%	70%	71%
2010	74%	60%	79%	61%	67%
2011	66%	52%	77%	64%	64%
2012	63%	44%	71%	59%	61%
2013	53%	46%	69%	54%	63%
2014	47%	45%	62%	56%	56%
2015		49%	61%	56%	58%
2016		48%	49%	55%	
5 year average	**54%**	**47%**	**62%**	**56%**	**60%**
10 year average	**65%**	**54%**	**69%**	**59%**	**64%**

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