3.1.3 Optimising Capital Structure Exercise[1]

Unit:	Unit 1 – Treasury Strategy
Module:	Module 3 – Financial strategy
Date:	1 September 2016
Summary:	An exercise to establish minimum WACC and hence an ideal capital structure
Keywords:	WACC, capital structure, equity risk premium

Given the following, calculate the minimum WACC and hence the best debt / equity split.

Firm is financed	Equity	80%
	Debt	20%
Current cost of	Debt	4.00%
Risk free rate		2.50%
Equity risk premium		5.00%
Current β		1.5
Current cost of	Equity	10.00%
Tax rate		30%
1 - tax rate		70%

Estimate of cost of debt at different debt proportions (D/(D+E)

Debt	Cost
0%	3.70%
10%	3.75%
20%	4.00%
30%	4.25%
40%	4.25%
50%	4.75%
60%	5.00%
70%	6.00%
80%	7.00%
90%	10.00%
100%	Not available

[1] Included in this exercise is an activity requiring you to post in the online forum. This activity is indicated by the icon. You are expected to post forum exercises to the appropriate forum within the two-week timeframe of the module. Please see the study timetable for reference.

Use the accompanying spreadsheet to complete this exercise, putting formulas into the cells highlighted in yellow. The graph on the second tab should show the information in a way you will recognise.

When you have completed the exercise, using the spreadsheet template, go back and adjust one of the fixed assumptions. For instance change the equity risk premium from 5% to 25%. It might be that the cost of debt would also change under this circumstance but see what this tells you about the ideal capital structure under such a high cost of equity. Under what circumstances might such a combination of factors be possible?

Post your thoughts around two topics to the module forum[2]:

1. new insights into leverage
2. what are the implications for corporate finance of near zero or negative interest rates

Create a new post in the *Forum exercise from 3.1.3 Optimising capital structure* category with the title, U1/M3/3.1.3/Leverage/[Your name] /[Company Name].

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