

Cost of capital assignment

Business



WEIGHTED AVERAGE COST OF CAPITAL FOR DELL COMPUTER 1) From the SEC website, the balance sheet of Dell Computer reveals a Book value of debt = \$3,394,000,000 and Book value of equity = \$4,625,000,000. The same balance shows the breakdown of the long-term debt (book values) in table 1.

Coupon Rate (%)	Maturity	Book Value (Face Value in million \$)
3.38	06/15/2012	400
4.70	04/15/2013	599
5.63	04/15/2014	500
5.65	04/15/2018	499
5.88	06/15/2019	600
7.10	04/15/2028	396
6.50	04/15/2038	400

2) From finance.yahoo.com, ??? The most recent (Oct 30 2009) stock price (P_0) = \$14.45. Market value of equity or market capitalisation = \$28,260,000,000. ??? Shares outstanding (28,260,000,000 / 14.45) = 1,955,709,343. ??? No dividend is paid recently. In this case, the dividend discount model cannot be used. ??? The three-month treasury bill yield = 0.03%. Cost of Equity Risk free rate (R_f) = 0.03%. Systematic risk of Equity (Beta, β_E) = 1.36. Assuming market risk premium = 8.6%. Using the Capital Asset Pricing Model (CAPM), Cost of equity (R_E) = $R_f + \beta_E(R_M - R_f)$. Where, R_M is expected return on the overall market ($R_M - R_f$) is the market risk premium. Cost of equity (R_E) = $0.0003 + 0.086 \times 1.6 = 0.1173 = 11.73\%$. Therefore, the cost of equity is 11.73%.

3) Cost of Debt From www.nasdbondinfo.com, the yields to maturity (YTM) for DELL bonds are shown in table 2.

Price (%)	Yield to maturity (%)
103.23	6.10
106.22	4.28
109.15	3.39
105.21	4.88
107.52	4.88
111.23	6.07
101.48	6.38

Table 3 is generated by combining tables 1 and 2.

Coupon Rate	Book Value (\$)	% of Total	Market Value (\$)	% of Total	Yield to Book Values	Market Values (%)	(Face Value in million)	(in million)	Maturity (%)	(%)
3.38	400	11.84	12.90	11.42	10.20	25.24	4.70	599	17.66	36.30
5.63	500	14.75	45.80	15.13	39.50	50.51	5.65	499	17.62	80.00
5.88	600	17.54	54.80	15.13	39.50	50.51	5.65	499	17.62	80.00

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147525.00. 1454. 8890. 720. 71 5. 886000. 177645. 20. 1794. 8840. 860.
 87 7. 103960. 117440. 50. 1226. 0790. 710. 74 6. 504000. 118405. 90.
 1126. 3860. 750. 72 Total 3,394. 0003, 611. 61. 0 4. 294. 29 To calculate
 the weighted average cost of debt, ??? the percentage of the total debt
 represented by each issue is computed ??? the percentage of each issue is
 multiplied by the yield on the issue ??? they are added to get the overall
 weighted average cost of debt ??? this is done for both the book and market
 values as shown in table 3 From table 3,

The book value weighted average cost of debt and the market value cost of
 debt are both = 4.29% In this case, there is no difference if you use either of
 them. 4) Weighted Average Cost of Capital (WACC) Using book values: Debt
 (D) + Equity (E) = 3,394b + 4,626b = \$8,020,000,000 Capital structure
 weight for: Debt = 3,394,000,000/8,020,000,000 = 0.4232 Equity = 4,
 626,000,000/8,020,000,000 = 0.4768 Marginal tax rate (Tc) = 35% Let E
 + D = V WACC = (E/V)RE + (D/V)RD(1-Tc) = 0.4768 × 11.73 + 0.4232 × 4.
 29(1-0.35) = 6.7730 Therefore, the Weighted Average Cost of Capital on a
 book value basis is 6.77% Using market values: Debt (D) + Equity (E) = 3,611.
 6b + 28,260b = \$31,871,600,000 Capital structure weight for: Debt = 3,
 611,600,000/31,871,600,000 = 0.1133 Equity = 28,260,000,000/31,
 871,600,000 = 0.8867 Let E + D = V WACC = (E/V)RE + (D/V)RD(1-Tc) =
 0.8867 × 11.73 + 0.1133 × 4.29(1-0.35) = 10.7169 Therefore, the
 Weighted Average Cost of Capital on a market value basis is 10.71% The
 market value approach seems more relevant since the market-to-book ratio
 is on the high side as shown below. Market-to-book = 28,260b/4,625b = 6.
 1.