

Quiz 3 Solutions

Security Analysis - Finance 40610

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Fall Semester 2007

Instructions: Please answer all of the questions completely and show all of your work. You may use a formula sheet and a calculator. The quiz is worth 25 points.

1. (12 points) You are performing a valuation of Southwest Airlines. As an initial step, you want to make adjustments to treat operating leases as debt. The future operating lease commitments for Southwest Airlines are listed below (assume you are valuing the firm as of 12/31/2006). Based on this information, calculate the debt value of operating leases for Southwest Airlines as of 12/31/2006. Assume that the firm's cost of debt equals 7.0%.

Operating Lease Commitments	
2007	360
2008	318
2009	280
2010	250
2011	203
>2011	1,000
Total	2,411

} Average=\$282.2/year

$$\text{Assumed Annuity Beyond 2011} = \text{Avg}_{2007-2011} = \$282.2 / \text{year}$$

$$\text{Assumed Annuity Length Beyond 2011} = \frac{1000}{282.2} = 3.544 \text{ years}$$

$$\begin{aligned} PV_{\text{LeaseCommitments}} &= \frac{360}{(1.07)^1} + \frac{318}{(1.07)^2} + \frac{280}{(1.07)^3} + \frac{250}{(1.07)^4} + \frac{203}{(1.07)^5} + \frac{282.2 \left(\frac{1 - (1.07)^{-3.544}}{.07} \right)}{(1.07)^5} \\ &= 336.45 + 277.75 + 228.56 + 190.72 + 144.74 + 612.814 = \$1791.034 \end{aligned}$$

2. (13 points) Additional financial information for Southwest Airlines in fiscal year 2006 is listed below. Use this information, along with your solution to question (1), to calculate Free Cash Flow to the Firm (FCFF) for Southwest Airlines in 2006.

EBIT	\$934 mil
Net Income	499 mil
Capital Expenditures	1,399 mil
Depreciation	515 mil
Operating Lease Expense	433 mil
Book Value of Debt	1,689 mil
Book Value of Equity	6,449 mil
Debt Issues	300 mil
Non-cash Working Capital	-1923 (in 2006)
Non-cash Working Capital	-2158 (in 2005)
Tax rate	27.0%

$$AdjustedEBIT = 934 + 433 - \left(\frac{1791}{8.54} \right) = 1157.37$$

or

$$AdjustedEBIT = 934 + (1791)(.07) = 1059.37$$

$$FCFF = EBIT(1 - T) - (Capex - Depr) - \Delta WorkingCapital$$

$$FCFF = 1157.37(1 - .27) - (1399 - 515) - (-1923 - (-2158)) = -274.12$$

or

$$FCFF = 1059.37(1 - .27) - (1399 - 515) - (-1923 - (-2158)) = -345.66$$