

Problem Set 4

Corporate Finance, Sections 001 and 002

Due Thursday, February 19th

Suggested problems:

RWJ Problems 5.26, 5.29, 5.30

(Use revised problems on <http://finance.wharton.upenn.edu/~jwachter/fnce100>.)

Required problems:

1. Suppose that the consensus forecast of security analysts of your favorite company is that earnings next year will be \$5.00 per share. The company plows back 50% of its earnings and if the Chief Financial Officer (CFO) estimates that the company's return on equity (ROE) is 16%. Assuming the plowback ratio and the ROE are expected to remain constant forever, answer the following questions.
 - (a) If you believe that the the company's required rate of return is 10%, what is your estimate of the price of the company's stock?
 - (b) Suppose you observe that the stock is selling for \$50.00 per share, what would you conclude about either your belief of the stock's required rate of return or the CFO's estimate of the company's return on equity? (a qualitative answer is sufficient)
 - (c) Suppose that you are confident that 10% is the required rate of return on the stock. What does the market price of \$50.00 per share imply about the market's estimate of the company's expected return on equity? (please give a number)
2. Consider a firm with year-end EPS projected to be \$1.00 and a required rate of return of 12%. The firm is expected to have two high growth phases and then stabilize at a long run growth rate as outlined in the table below. Initially, the plowback ratio (b) is high but then it declines in two steps to a steady state value. What is the value of a share of this company's stock? [Hint: use the multiphase valuation model and the formulas for a growing annuity and perpetuity.]

Phase	Duration	Assumptions	End-of-phase EPS
I	5 years	$g = 18\%, b = .7$	$\$1 \times (1.18)^4$
II	4 years	$g = 12\%, b = .55$	$\$1 \times (1.18)^4 \times (1.12)^4$
III	Perpetual	$g = 7\%, b = .4$	— — —