Corporate Finance, Module 3: “The Value of Common Stocks” (Chapter 4)

Homework Assignment (The final exam asks questions similar to this problem.)

(The attached PDF file has better formatting.)

Exercise 3.1: Stock prices

A firm will have earnings next year of $4 per share. The firm plows back 60% of its earnings into projects with ROE’s of 20%, and its discount rate is 16%.

A. What is the firm’s payout ratio? (Use the plow-back ratio.)
B. What is next year’s dividend? (Use the earnings per share and the payout ratio.)
C. What is the dividend growth rate? (Use the ROE and the plow-back ratio.)
D. What is the stock price? (Use the dividend growth model.)
E. What is the price-earnings ratio? (The text uses this year’s stock price divided by next year’s earnings. In practice, stock analysts use the current stock price divided by earnings over the past year. Use the formula in the textbook)
F. What is the present value of growth opportunities? (= the current stock price minus the discounted value of future earnings.)

Question: What should we know for the final exam?

Answer: The dividend growth model seems to calculate the stock price from other items, such as the dividend growth rate, the opportunity cost of capital, and the dividend yield. Some final exam problems compute the stock price from other inputs.

In practice, the stock price is known. Our goal may be to compute the opportunity cost of capital or the dividend growth rate. Know how to back out each item from the stock price.

The final exam may ask three problems: one asks to compute a stock price, one asks to compute a dividend growth rate, and one asks to compute the opportunity cost of capital.

Some final exams give a complete scenario: the risk-free interest rate, the CAPM beta, the return on book equity, the plow-back ratio, and so forth. A series of problems may ask for the opportunity cost of capital, the dividend growth rate, and the stock price.