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PRACTICE EXERCISES LECTURE 4

Q1. **Assume Evco, Inc., has a current price of \$45 and will pay a \$2.05 dividend in one year, and its equity cost of capital is 16%. What price must you expect it to sell for right after paying the dividend in one year in order to justify its current price?**

Q2. **Anle Corporation has a current price of \$27, is expected to pay a dividend of \$2 in one year, and its expected price right after paying that dividend is \$28.**

a. **What is Anle's expected dividend yield?**

b. **What is Anle's expected capital gain rate?**

c. **What is Anle's equity cost of capital?**

Q3. **Suppose Acap Corporation will pay a dividend of \$2.72 per share at the end of this year and \$2.99 per share next year. You expect Acap's stock price to be \$53.72 in two years. If Acap's equity cost of capital is 11.1%:**

a. **If you planned to hold the stock for two years, what price would you be willing to pay for a share of Acap stock today?**

b. **Suppose instead you plan to hold the stock for one year. What price would you expect to be able to sell a share of Acap stock for in one year?**

c. **Given your answer in part (b), what price would you be willing to pay for a share of Acap stock today, if you planned to hold the stock for one year? How does this compare to your answer in part (a)?**

Q4. **Canadian-based mining company El Dorado Gold (EGO) suspended its dividend in March 2016 as a result of declining gold prices and delays in obtaining permits for its mines in Greece. Suppose you expect EGO to resume paying annual dividends in two years' time, with a dividend of \$0.25 per share, growing by 2% per year. If EGO's equity cost of capital is 10%, what is the value of a share of EGO today?**

Q5. DFB, Inc., expects earnings at the end of this year of \$4.01 per share, and it plans to pay a \$2.09 dividend at that time. DFB will retain \$1.92 per share of its earnings to reinvest in new projects with an expected return of 15.1% per year. Suppose DFB will maintain the same dividend payout rate, retention rate, and return on new investments in the future and will not change its number of outstanding shares.

a. What growth rate of earnings would you forecast for DFB?

b. If DFB's equity cost of capital is 12.8%, what price would you estimate for DFB stock today?

Q6. Colgate-Palmolive Company has just paid an annual dividend of \$1.50. Analysts are predicting dividends to grow by \$0.12 per year over the next five years. After then, Colgate's earnings are expected to grow 6% per year, and its dividend payout rate will remain constant. If Colgate's equity cost of capital is 8.5% per year:

a. What is the present value of the first five dividends?

b. What price does the dividend-discount model predict Colgate stock should sell for today?

Q7. You bought a stock one year ago for \$50 per share and sold it today for \$55 per share. It paid a \$1 per share dividend today.

a. What was your realized return?

b. How much of the return came from dividend yield and how much came from capital gain?

Q8. You are considering how to invest part of your retirement savings. You have decided to put \$300,000 into three stocks: 60% of the money in GoldFinger (currently \$23/share), 30% of the money in Moosehead (currently \$71/share), and the remainder in Venture Associates (currently \$4/share). If GoldFinger stock goes up to \$40/share, Moosehead stock drops to \$60/share, and Venture Associates stock rises to \$14 per share:

a. What is the new value of the portfolio?

b. What return did the portfolio earn?

c. If you don't buy or sell any shares after the price change, what are your new portfolio weights?

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Q9. Consider a portfolio consisting of the following three stocks:

	Portfolio weight	Beta of stock
HEC Corp	0.26	0.455
Green Midget	0.29	1.456
Alive and Well	0.45	0.594

The volatility of the market portfolio is 10% and it has an expected return of 8%. The risk-free rate is 3%.

a. **Compute the expected return of each stock.**

b. **Using your answer from part (a), calculate the expected return of the portfolio.**

c. **What is the beta of the portfolio?**

d. **Using your answer from part (c), calculate the expected return of the portfolio and verify that it matches your answer to part (b).**

Q10. How does the relationship between the average return and the historical volatility of individual stocks differ from the relationship between the average return and the historical volatility of large, well-diversified portfolios?

Q11. Suppose Autodesk stock has a beta of 2.10, whereas Costco stock has a beta of 0.75. If the risk-free interest rate is 5.5% and the expected return of the market portfolio is 14%, what is the expected return of a portfolio that consists of 70% Autodesk stock and 30% Costco stock, according to the CAPM?

$\beta = 2.1 \times 70\% + 0.75 \times 30\%$

$r = 5.5\% + \beta(14\% - 5.5\%)$