

Instructions for Workshop 3

Based on Lecture 4

Exercise W3-1:

MOT's dividend is expected to grow at various rates over the next five years. The company just paid a \$1.00 dividend. MOT expects its dividend to grow at 20% for the next two years, then at 10% for three additional years, after which the company expects its dividend to grow at a constant rate of 5% per year indefinitely. If the required rate of return on MOT's common stock is 12% then what is the current price of one share of MOT's stock?

Exercise W3-2:

TUD, Inc., expects to have earnings this coming year of \$2.50 per share. TUD plans to retain all of its earnings for the next year. For the subsequent three years, the firm will retain 50% of its earnings. It will then retain 25% of its earnings from that point onward. Each year, retained earnings will be invested in new projects with an expected return of 20% per year. Any earnings that are not retained will be paid out as dividends. Assume TUD's shares outstanding remain constant and all earnings growth comes from the investment of retained earnings. If TUD's equity cost of capital is 10%, what is the current price of one share of TUD's stock?

Exercise W3-3:

The following data is given for Stock X and Stock Y:

	2015	2016	2017	2018	2019	2020
Stock X	-10%	20%	5%	-5%	2%	9%
Stock Y	21%	7%	30%	-3%	-8%	25%

Estimate the average return and volatility for each stock, the covariance between the stocks, and the correlation between these two stocks.

Exercise W3-4:

Consider a portfolio consisting of the following three stocks:

Firm	Portfolio Weight	Volatility	Correlation with Market Portfolio
TT	0.25	14%	0.7
WO	0.35	18%	0.6
RM	0.40	15%	0.5

In addition, the volatility of the market portfolio is 10%, the expected return on the market is 12%, and the risk-free rate is 4%. Given the information, calculate the expected return of the portfolio of three stocks.