FINA 0025 –Financial Management
Tutorial 8 Solutions

Note that detailed answers to tutorial questions will only be provided in tutorials. The following abridged answers are intended as a guide to these detailed answers. This policy is in place to ensure that you attend your tutorial regularly and receive timely feedback from your tutor. If you are unsure of your answers you should check with your tutor, a pit stop tutor or the lecturer.

A. Short Answer Questions

A1. FALSE. It depends upon the assumptions made about expected future growth and risk.

A2. FALSE. With the increasing of dividend payments to stockholders and reduced plowback ratio makes firm more risky and therefore bondholders will be in worst situation regarding the likelihood fulfill their obligations.

A3. TRUE. Securities can have a high correlation with the market portfolio but have a high or low level of systematic risk or Beta (relative to the market portfolio0.

A4. FALSE. CAPM do not predict anomalies such as:

- Returns lower on Mondays than on other days
- Returns higher in January compared to other months (especially for small firms)
- Returns higher the day before a holiday
- Returns higher at the beginning and end of the trading day
- Returns higher for firms with "low" price-earnings ratios
- Returns higher for smaller firms compared to larger firms
- Returns higher for firms with higher book-to-market value of equity ratios

A5.TRUE

A6.FALSE

$$COV_{Greenwich,M} = r_{Greenwich,M}\sigma_{Greenwich}\sigma_M = 0.5(0.60)(0.15) = 0.045$$

$$\beta_{ACME} = \frac{COV_{Greenwich,M}}{\sigma_M^2} = \frac{0.045}{(0.15)^2} = 2$$

$$R_{Greenwich} = R_F + \beta_{Greenwich}(R_M - R_F) = 3\% + 2(8\% - 3\%) = 13.0\%$$

$$P_{CS} = \frac{DIV_1}{R_{Greenwich} - g_{DIV}} = \frac{\$1.5}{0.13 - 0.04} = \$16.67$$

Because the stock is worth less than its current price, it should be sold.

A7. FALSE. Only efficient portfolios lie along the CML.

A8. TRUE. As investors become more risk averse, they require higher compensation for taking on risk. Thus, the market price of risk increases. Also, as investors become more risk averse, they prefer to hold less risky assets. Thus, the demand of risky assets (such as stocks) falls, which in turn leads to a drop in risky asset values.

A9.FALSE. The percent price decline for longer maturity bond will be higher than for the shorter maturity bond, all else being the same.

B. Problems

B1. Par =1000 C = 5% t = 7 m = 2

c = C/m = 2.5%

n = t × m = 14

R = 6%

i = R/m = 3%

Z = 1/ (1+0.03) = 0.9709

Z_14 = 0.9709^{14} = 0.6612

A_14 = (1-0.6612) / 0.03 = 11.2961

Annuity value = 11.2961 × 0.025 × 1000 = $282.40

Principal Value = 0.6612 × 1000 = $661.12

Bond Value = $282.40 + $661.2 = $943.52

B2. Here only the principal repayment matters

Z_14 (r = 6%) × 1000 = $661.12

Note that this has to be the same as the calculation of the principal value in a).

B3. Systematic risk is the risk associated with variations in the overall market. Unsystematic risk is the risk associated with the specific characteristics of an investment.

Because unsystematic risk can be diversified away, the investor will not be rewarded for assuming unsystematic risk.

B4. A project's IRR measures the profitability of the project, assuming that the cashflows are expressed annually, it identifies the annualised % return which an investor in the project will achieve.

The Opportunity Cost of Capital provides a benchmark for determining whether or not to the project is financially attractive. It is the return which other equally risky projects offer.

B5. If the IRR is less than the Opportunity Cost of Capital, then the project should be rejected. If the IRR is greater than the Opportunity Cost of Capital, then the project should be accepted.In an efficient market, if the IRR was greater than the Opportunity Cost of Capital, then investors would recognise that the project offered additional returns compared to other investments with the same level of risk. Demand for the project would force the price up until an equilibrium level was reached where the IRR was equal to the Opportunity Cost of Capital.