

Accounting problems

Finance



Accounting Problems Affiliation Question 2 Effective annual rate, $r = (1 + i/n)^n - 1$

where i = annual nominal rate, n = no of compounding periods

$$r = (1 + 0.16/8)^8 - 1$$

$$r = 0.1717$$

$$r = 17.17\%$$

Question 4

True. The discount rate depends on the business risk of the project because projects are assessed independently of the firm's situations.

Question 5

Using CAPM

$$E(r_i) = R_f + \beta (MRP)$$

$$0.09 = 0.03 + \beta (0.07)$$

$$0.09 - 0.03 = 0.07\beta$$

$$\beta = 0.8571 * 2$$

$$\beta = 1.71$$

Question 6

Yes, they help in maximizing the value of the firm.

Question 7

Beta = (Covariance of portfolio A and Market return) / Variance of Market return.

$$\beta = 0.06 / (0.22)$$

$$\beta = 1.5$$

$$\text{Required return of portfolio A} = 4 + 1.5(12 - 4) = 16.00\%$$

Question 8

Correct statements

a) A project with a beta of 1.3 requires a return greater than 16.5% in order

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to add value

b) The slope of the SML can be calculated by referring to any two points on the SML, for example the points representing Assets 1 and 2. Slope is equal to difference in return divided by difference in beta $(.175 - .125)/(1.5 - .05)$.

c) If Asset 2 has an IRR greater than 15% then it should be accepted (according to the SML and the firm objective of maximizing value.

d) All projects plotting on the SML have an NPV of zero

Question 10

$$E(R) = R_f + \beta(R_m - R_f)$$

$$E(R) = 0.03 + 1.2(0.04)$$

Risk adjusted rate of return = 7.80%

Question 11

Correct statements

a) Positive NPV assets plot above the line and are considered to be underpriced

b) The risk-free asset has a beta of zero and the market portfolio has a beta of one

c) In equilibrium all financial assets will plot on the SML line and have an NPV of zero.

d) All assets, securities and portfolios which plot on the SML are efficient.

Question 13

True, because the portfolio is less risky