CMA Part 2

Strategic Financial Management - Examination Sample Essay Question

Grandeur Industries:

Grandeur Industries is currently in the process of reviewing capital budget submissions from its various divisions. Grandeur uses the Capital Asset Pricing Model (CAPM) for a variety of purposes, including the determination of benchmark investment returns. The company's overall cost of capital is 16% and its beta value is 1.2. The risk-free rate is 4% and the expected return on the market is 14%. The following projects from different divisions are under consideration and there is no capital rationing in effect.

Project	Internal Rate of Return	Project Beta
A	16%	1.4
B	18%	1.6
C	12%	0.7
D	17%	1.1

REQUIRED:

1. Calculate the required return for all four projects. Show your calculations.

2. Identify which of the four projects under consideration should Grandeur accept. Support your decision.

3. Define and explain beta.

4. Describe four factors that would impact the beta value that is chosen for use in evaluating a project.

5. Identify alternative approaches to dealing with risk in capital budgeting.

Answers
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Grandeur Industries:

1. The Capital Asset Pricing Model (CAPM) when used in an investment analysis context postulates that the return on an investment should be at least equal to the Risk-Free Rate plus a Risk Premium. The Risk Premium is based on the risk (volatility) of the investment relative to the overall market (as measured by Beta) times the incremental return on the market above the risk-free rate. The model can be expressed as follows;

Required Return = $r_f + (r_m - r_f) \times \beta$

Where: r_f = the Risk-Free rate

r_m = return on the market

β= the Beta value for the investment, a measure of risk

For the various projects:

Project A: Required Return = 4% + (14% - 4%) x 1.4 = 18%
Since the Internal Rate of Return (IRR) of 16% is less than the required 18%, the project should be REJECTED.

Project B: Required Return = 4% + (14% - 4%) x 1.6 = 20%
Since the Internal IRR of 18% is less than the required 20%, it should be REJECTED

Project C: Required Return = 4% + (14% - 4%) x 0.7 = 11%
Since the IRR of 12%, is greater than the required 11%, it should be ACCEPTED.

Project D: Required Return = 4% + (14% - 4%) x 1.1 = 15%
Since the IRR of 17%, is greater than the required 15%, it should be ACCEPTED.

The capital asset pricing model allows firms (users) to assess the size of risk premium necessary to compensate for bearing risk. It is a way to estimate the required rate of return on a security or investment. Once the required return has been determined is lets the user know of the expected return from the investment is sufficient to warrant acceptance of the investment.

2. Grandeur should accept project C and D since the both the IRRs of the projects are greater than their required rate of return.

3. Beta = Measure of a stock's volatility in relation to market.
Market beta = 1
A stock that moves > market, beta > 1; if < market, < 1.
High beta stocks are riskier but potential for higher returns and vice versa.

4. Factors that have an influence on the Beta value for a project include:

- The industry that the Division undertaking the project is in and its risk characteristics.
- Experience the division has with similar projects, if any.
- Ability of the Division to realize estimated returns on projects in the past.
- Strength of the management team of the division.
- Level of competition expected.
- The geographical location of the project. Certain countries are riskier to operate in than others.
- The degree to which the project involves new technology or unproven operating conditions.

Answers
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5. a. Informal method. NPVs are calculated at the firms' desired rate of return, and the possible projects are individually reviewed.

b. Risk-adjusted discount rates. Adjusting the rate of return upward as the investment becomes riskier

c. Certainty equivalent adjustments. Decision maker needs to specify the indifferent point to choose between a certain sum of money and the expected value of a risky sum.

d. Simulation analysis. Based on different assumptions, computer is employed to generate many examples of results.

e. Sensitivity analysis. Forecasts of NPVs under different scenarios are compared to each other to evaluate how assumption changes about a certain variable may alter the NPV.