

**QUESTION**  
 An investment manager is considering two investment opportunities. The first investment is a stock with a beta of 1.2 and an expected return of 15%. The second investment is a bond with a beta of 0.5 and an expected return of 8%. The market return is 10% and the risk-free rate is 5%. Which investment is more attractive?

**ANSWER**  
 The investment manager should consider the expected return relative to the risk. The risk is measured by the beta coefficient. The stock has a higher beta (1.2) than the bond (0.5), indicating that the stock is riskier than the bond. However, the stock also has a higher expected return (15%) compared to the bond (8%).

To evaluate the attractiveness of the investments, we can calculate the expected return using the Capital Asset Pricing Model (CAPM) formula:

$$\text{Expected Return} = \text{Risk-Free Rate} + \beta(\text{Market Return} - \text{Risk-Free Rate})$$

For the stock:

$$\text{Expected Return} = 5\% + 1.2(10\% - 5\%) = 12\%$$

For the bond:

$$\text{Expected Return} = 5\% + 0.5(10\% - 5\%) = 7.5\%$$

Since the stock's expected return (12%) is higher than the bond's expected return (7.5%), the stock is more attractive.

## ANSWERS

**QUESTION**  
 A company is considering a new investment project. The project has an initial investment of \$100,000 and generates cash flows of \$30,000 per year for 4 years. The discount rate is 10%. Calculate the NPV of the project.

**ANSWER**  
 To calculate the NPV, we need to discount the cash flows back to their present value and then subtract the initial investment.

The present value of the cash flows is:

$$\begin{aligned}
 & \frac{\$30,000}{1 + 0.10} + \frac{\$30,000}{(1 + 0.10)^2} + \frac{\$30,000}{(1 + 0.10)^3} + \frac{\$30,000}{(1 + 0.10)^4} \\
 & = \frac{\$30,000}{1.10} + \frac{\$30,000}{1.21} + \frac{\$30,000}{1.331} + \frac{\$30,000}{1.4641} \\
 & = \$27,272.73 + \$24,793.39 + \$22,566.26 + \$20,469.33 \\
 & = \$95,101.71
 \end{aligned}$$

Since the NPV is positive (\$95,101.71 - \$100,000 = -\$4,898.29), the project is not profitable.