**Chapter 6 Homework**

1) Stock A has the following returns for various states of the economy:

State of

the Economy Probability Stock A's Return

Recession 10% -30%

Below Average 20% -2%

Average 40% 10%

Above Average 20% 18%

Boom 10% 40%

Stock A's expected return is?

2) Joe purchased 800 shares of Robotics Stock at $3 per share on 1/1/09. Bill sold the shares on 12/31/09 for $3.45. Robotics stock has a beta of 1.9, the risk-free rate of return is 4%, and the market risk premium is 9%. Joe's holding period return is?

3. You own a portfolio with the following expected returns given the various states of the economy. What is the overall portfolio expected return?

State of economy probability of state of economy rate of return if state occurs

Boom 27% 14%

Normal 70% 8%

Recession 3% -11%

4) The prices for the Electric Circuit Corporation for the first quarter of 2009 are given below. The price of the stock on January 1, 2009 was $130. Find the holding period return for an investor who purchased the stock on January 1, 2009 and sold it the last day of March 2009.

 Month End Price

 January $125.00

 February 138.50

 March 132.75

5) Collectibles Corp. has a beta of 2.5 and a standard deviation of returns of 20%. The return on the market portfolio is 15% and the risk free rate is 4%. What is the risk premium on the market?

6) An investor currently holds the following portfolio:

 Amount

 Invested

8,000 shares of Stock A $16,000 Beta = 1.3

15,000 shares of Stock B $48,000 Beta = 1.8

25,000 shares of Stock C $96,000 Beta = 2.2

The beta for the portfolio is?

7) Assume that you have $165,000 invested in a stock that is returning 11.50%, $85,000 invested in a stock that is returning 22.75%, and $235,000 invested in a stock that is returning 10.25%. What is the expected return of your portfolio?

8) If you hold a portfolio made up of the following stocks:

 Investment Value Beta

Stock A $8,000 1.5

Stock B $10,000 1.0

Stock C $2,000 .5

What is the beta of the portfolio?

9. The risk-free rate of return is 3.9 percent and the market risk premium (rm –rf) is 6.2 percent. What is the expected rate of return on a stock with a beta of 1.21?

1. You own a portfolio consisting of the stocks below.

Stock Percentage of portfolio Beta

1. 20% 1
2. 30% 0.5
3. 50% 1.6

The risk free rate is 3% and market return is 10%.

1. Calculate the portfolio beta.
2. Calculate the expected return of your portfolio.
3. Computing holding period return for Jazman and Solomon for period 1 through 3 (bought in period 1 and sold in period 3). Show the holding period returns for each company.

**Period Jazman Solomon**

**1 $10 $20**

**2 $12 $25**

**3 $15 $15**

1. Calculate expected return

|  |  |  |
| --- | --- | --- |
| **State of the economy** | **Probability of the states** | **% Return (Cash Flow/Inv. Cost)** |
| Economic Recession | 30% | 5%  |
| Strong and moderate Economic Growth | 70% | 15%  |

1. Calculate the expected returns of the following cases, respectively
2. Invest $10,000 in Treasury bill with guaranteed return of 4%.
3. Investment $10,000 in Apple. 50% possibility to earn 20% return and 50% possibility to lose 10% of investment.
4. Investment $10,000 in Wal-Mart. 50% possibility to earn 5% return and 50% possibility to earn 0% of investment.
5. Rank the risk of the following cases, from the least risky one the most risky one
6. Invest $10,000 in Treasury bill with guaranteed return of 4%.
7. Investment $10,000 in Apple. 50% possibility to earn 20% return and 50% possibility to lose 10% of investment.
8. Investment $10,000 in Wal-Mart. 50% possibility to earn 5% return and 50% possibility to earn 0% of investment.

15. An investor currently holds the following portfolio:

 Amount

 Invested

8,000 shares of Stock A $10,000 Beta = 1.5

15,000 shares of Stock B $20,000 Beta = 0.8

25,000 shares of Stock C $20,000 Beta = 1.2

Calculate the beta for the portfolio.

16. Joe purchased 800 shares of Robotics Stock at $5 per share on 1/1/13. Bill sold the shares on 4/18/13 for $6. Robotics stock has a beta of 1.2, the risk-free rate of return is 1%, and the market risk premium is 10%. Joe's holding period return is how much?