

FIN 3331 – Risk & Return Assignment

1. You are given the following probability distribution of returns for stock J:

A probability of .2 that the return will be 12%; a probability of .35 that the return will be 18%; a probability of .3 that the return will be -10%; and a probability of .15 that the return will be 10%. What is the expected return of this stock? What is the standard deviation rounded to the nearest whole number?

2. Given the following hypothetical returns of large companies and T-bill between 2007 and 2012. Please calculate the average return and standard deviation of both large companies

<u>Year</u>	<u>Large co. stock return</u>	<u>T-bill return</u>
2007	-14.69%	7.29%
2008	-26.47	7.99
2009	37.23	5.87
2010	23.93	5.07
2011	-7.16	5.45
2012	6.57	7.64

3. Troy has a 2-stock portfolio with a total value of \$100,000. \$37,500 is invested in Stock A with a beta of 0.75 and the remainder is invested in Stock B with a beta of 1.42. What is his portfolio's beta?
4. You are given the following returns for the Market and for XYZ in years 1998 (the best year for the market) and 2001 (the worst year). (a) What is your estimate of the beta of stock XYZ? And (b) Assuming a risk free rate of 6 percent and an expected return on the Market of 12% in the coming year, what would be the required return on stock XYZ?

	<u>Market</u>	<u>XYZ</u>
1998	45.00%	67.50%
2001	-15.00%	-22.50%

5. Your research has determined the following information about the common stock of two particular firms.

	<u>Stock A</u>	<u>Stock B</u>
Expected Return:	10%	15%
Standard Deviation	5%	9%

Part 1:

1. Explain what is meant by the stock's "Expected Return"
2. Calculate each stock's coefficient of variation.
3. Under what situation is the coefficient of variation useful? Briefly explain.

4. Which stock is riskier?
5. What do you base your answer on?
6. What type of risk are we considering here?
7. Is there anything that can be done to reduce this type of risk? If so, what?
8. When is this type of risk most relevant?

Part 2:

You did some additional research, and also found the following values for each stock's beta coefficient:

	<u>Stock A</u>	<u>Stock B</u>
Beta Coefficient	0.7	1.4

Other current information is as follows:

- Current Risk-free Rate: 5%
- Current Market Rate: 12%

1. What type of risk are we now considering?
2. What is the current Market Risk Premium?
3. What is the required return for each stock suggested by CAPM?
4. Will diversification reduce the type of risk identified in #1 above?
5. Is there anything that can help to reduce this type of risk in a portfolio of stocks? If so, what.
6. Suppose that you invest \$1,000 in Stock A, \$1,500 in Stock B, and \$2,500 in Stock C that has a beta of 2.0. Find your portfolio's beta and required rate of return.