FIN 430
HOMEWORK ASSIGNMENT 1
Fall 2020

Please answer all questions. You need to show your steps in order to receive full credit. Upload your answers in the Module 1 drobox, either as a word document or a pdf. Make sure to upload as 1 file. Save your file using a descriptive name like ***FirstNameHomework1.***

1) Suppose you bought 100 shares of stock at an initial price of $35 per share. The stock paid a dividend of $0.30 per share during the following year, and the share price at the end of the year was $40. Compute your total dollar return on this investment. Does your answer change if you keep the stock instead of selling it? Why or why not? (5)

(100*0.03) + 100*(40-35) You can keep it, you will get the same price in return
=30 + 100*5
=30 + 500
=$530

2) In problem 1, what is the capital gains yield? The dividend yield? What is the total rate of return on the investment? (6)

Capital- (40-35)/35 = 0.142= 14.2%
Dividend- 0.3/35= 0.86
Total Rate- 14.2 + 0.86= 15.06
Total Dollar/ Initial investment- 530/3500= 0.1514

3) The rates of return Cherry Jalopies, Inc, stock over the last six years were 16 percent, 10 percent, -1 percent, 2 percent, 14 percent and 11 percent. Over the same period, the returns on Straw Construction Company's stock were 15 percent, 17 percent, -7 percent, 0 percent, 21 percent and 15 percent. What was the arithmetic average return on each stock over this period. (6)

Cherry- (0.16 + 0.1 + -0.01 + 0.02 + 0.14 + 0.11)/6= .086
Straw- (0.15 + 0.17 + -0.07 + 0 + 0.21 + 0.15)/6= .10

4) Using the information from problem 3, what is the geometric average return for Cherry Jalopies, Inc. (5)
Cherry- (1.16) (1.1) (1.01) (1.02) (1.14) (1.11) ^(⅙)-1
=88.5%

Straw- (1.15) (1.17) (1.07) (1) (1.21) (1.15) ^(⅙)-1
= 1.122%

5) Using the information from problem 3, calculate the variances and standard deviations for Cherry and Straw (10)

Cherry- 16^2 + 10^2 + -1^2 + 2^2 + 14^2 + 11^2/6
=112.66
square root of 112.66= 10.6 = 10

Straw- 15^2 + 17^2 + -7^2 + 0^2 + 21^2 + 15^2
=188.5
square root of 188.5= 13.7= 13

6) An investment has an expected return of 10% per year with a standard deviation of 5%. Assuming that the returns on this investment are roughly normally distributed, how frequently do you expect to lose money? (5)

You lose money if you have a negative return. With an 10 percent expected return and a 5 percent standard deviation, a zero return is two standard deviations below the average.

7) Based on historical returns, if you invest in long term corporate bonds, what is the approximate probability that your returns will be below -7.5% in a given year? What range of returns would you expect to see 95 percent of the time? (8)

That's plus or minus one standard deviation, so about two-thirds of the time, or two years out of three. In one year out of three, you will be outside this range, implying that you will be below it one year out of six and above it one year out of six.

8) What is the historical rate of return of the following investments? What is the historical risk premium on these investments: (5)

a) Long-term government bonds
b) Treasury bills
c) Large stocks
d) Small stocks