Finance 510-B
Problem Set 1
Work on individually. Due via e-mail on Friday, January 22, at 6:00 pm Tucson time.
Submit on a spreadsheet whose name includes your name.
Place each question in a separate worksheet within the spreadsheet.
Your answers must use the data that I sent you in a csv file on Monday, January 11. All
students files are different.

1. What is the market capitalization of Stock 1 at Time 0? What is the market capitalization of Stock 2 at Time 0?

2. What are the market capitalizations of these 2 stocks at Time Month 120?

3. Suppose that you bought 100 shares of Stock 1 at Time 0. You reinvest all cash dividends and retain all stock distributions over the 120 month holding period.

   (a) What will this position be worth after 120 months?

   (b) What is you annualized holding period return on this position?

4. Suppose you formed a $50,000 portfolio at Time 0, with the weights in the 2 stocks based on market values (i.e., a value-weighted portfolio).

   (a) What will this portfolio be worth after 120 months, assuming that you reinvest all cash dividends and retain all stock distributions in both stocks over the 120 month holding period?

   (b) What will your portfolio weights be after 120 months?

5. What are the mean monthly (log) rates of return on these 2 stocks?

6. What are the standard deviations of the (log) monthly rates of return on these 2 stocks?

7. Provide graphs of the cumulative distribution function and the probability density functions of the monthly (log) rates of return on these 2 stocks, under the assumption that they are normally distributed.

8. Under the assumption of normality, what are the 1%ile and 5%ile values under the distributions for each of these two stocks? What is the 95% confidence interval around the mean for each of these two stocks?

9. What is the correlation between the monthly log returns of Stocks 1 and 2? What is the covariation between the monthly log returns of Stocks 1 and 2?