More Information about Econ 135:

Financial Calculations Assignment

This assignment involves data collection and analysis. **Note that all work must be done within a specific time window – after the relevant data become available and before the due date.**

Motivation: The assignment is intended to help you to understand financial markets, specifically to compute and compare the total returns earned on a wide range of financial instruments. To keep the assignment manageable, I picked a small number of representative financial instruments—some bonds, foreign currencies, a stock index, money market rates. The same method can be applied to virtually all financial instruments and investments.

The Assignment: The task is to calculate total returns between two dates, a starting date and an end date. An example in class will explain the steps. Your start date is the end date of the class example. Your end date is posted on the class page.

(1) On the end date specified on the class page, record the end-of-day closing quotes for the following financial instruments:
   - The 10-year Treasury note: record closing price and yield.
   - The 10-year Inflation-Protected Treasury note (TIPS): record closing price and yield.
   - The S&P500 stock index: record the index value.
   - The $/Euro exchange rate: record the New York closing quote in $/Euro.
   - The 3-month T-bill: record the yield.
   - The Fed funds rate: record the yield.

Timing is critical, especially if you use online sources. Closing quotes should be available online in the afternoon. These data are often more difficult to obtain once markets reopen the next day. (Friday quotes often stay until Sunday night.)

(2) Calculate the total returns on investments in the above financial instruments. In the submission, put the final answers ahead of the documentation.

(3) Optional comments – for extra credit (or compensating credit if your calculations are not quite right):
   - Make a note if a result seems odd or unusual to you (also a good way to check for errors).
   - Can you think of monetary and macro-level financial news that might have influenced financial markets during the period over which you computed returns? Are the market movements consistent with the news, or perhaps puzzling? Make a note if you see a connection or pattern.
Work Options: you may either

(A) work alone or
(B) work together and disclose it.

Option A is preferred and graded more leniently. Option B recognizes that some students may learn more in a group or may be tempted to compare notes. Rules about group work: Groups can have at most three members. Each group member must name the other members on top of their entry. For writing questions and when written explanations are required, each group member must write the answer in his/her own words. To be clear: If you share any results, any ideas how to approach a problem, or any other information, you have worked together and must disclose it. Failure to disclose cooperation is cheating (and quite easily discovered); see http://www.econ.ucsb.edu/undergraduate/cheating.html for consequences.

Organize your answers as follows:

(a) A statement that you worked alone (Option A), or the names of who worked with you (Option B).
(b) The data you recorded (5 price or index quotes, 4 yield quotes).
(c) The total returns, final numbers only, displayed clearly.
(d) Notes and comments, if any (optional).
(e) Documentation. Show your work – how you calculated the total returns.

Length/style: Clearly organized tabular format for data and returns. Bullet points suffice for comments. Credit is given for finding the right data, for correct calculations, and (perhaps extra points) for insightful comments. [Note: Whenever I give extra credit, in fairness to others, such credit is applied after grade cutoffs are set.]

Submission format: The preferred option is a hardcopy in class (securely stapled). If you miss class, you may submit your work by email as a PDF or MS-word file. (Note: Do not email Excel spreadsheets. Though Excel is great for the calculations, you must format the worksheet so the printout is readable; only the printout is graded.) Solutions will be posted on Gauchospace. Because solutions are posted soon after the due date/time, no late submissions or excuses are accepted, and there are no make-ups.

Second Chance: Doing all the calculations correctly is not easy—there are many small steps that throw the numbers off when you try this the first time; and the financial instruments are selected to exemplify how different financial instruments require slightly different calculations. Hence there is an optional second round of submissions: For the second round, use the end date from the first assignment as starting date and use the end date announced on the class page. If you submit twice, only the better score counts. P.S. There is a substantive reason for encouraging you to do this assignment repeatedly: You will see how total returns over short periods can be combined to obtain total returns for longer periods.