2nd Homework – Repo Transactions

Due Monday, February 4, 2008

Note: This refers to the same trading days as HW 1

It's fine if you use the built-in functions on the Bloomberg to help with the calculations, but make sure to report the relevant numbers

1. On Thursday, January 17, what were the invoice bid and ask prices for the 4.25% note maturing 11/15/17?

2. Suppose the repo rate for that note is the general collateral rate of 4.15%, and the margin requirement for an overnight repo is 2% (i.e. collateral = 102% of money). You want to buy $100M face value of the note, and sell it the following Tuesday.
   a. How much of the purchase price can you borrow by repoing out the note?
   b. How much interest will you have to pay on Tuesday?

3. You close out the position at the Tuesday price. What was your total net profit or loss?

4. What yield change from 1/17 to 1/22 would have just wiped out the margin? Judging from the spreadsheet "10yr.xls" posted on the course website showing the 10-year yield every business day back to 1962, how likely is such a yield change (i.e. historically, what fraction of ***two-business-day*** yield changes were at least that big in absolute value)?

5. Suppose you want the probability of the margin being wiped out to be 1%. That is, *given the margin requirement you choose*, the probability that the bond's yield goes up far enough that the margin is wiped out two business days later is 1%. What margin would accomplish this?