Fixed Income

Study Questions for Repo 2 material

Problems. Show all work. Remember you will use your (financial) calculator on the quiz so you should practice answering the questions with a calculator. (You can check your answers on a spreadsheet.)

1. Suppose that today is Wednessday November 18, 2019. The overnight general collateral repo rate is 3%. The November 15, 2029 5.5% Treasury note sells for 100-13 bid, 100-13+ ask (clean quotes). The haircut on this note in repo is 0. The August 15, 2029 6% note sells for 102-6 bid, 102-6+ ask. You want to capture the on-the-run premium. The on-the-run note is trading on special in repo for 300 basis points, the first off-the-run note is general collateral in repo.
   (a) The yield curve is generally flat. What is the on-the-run premium in this market (in yield terms).
   (b) Construct a trade to capture the on-the-run premium–using $100 million par of the on-the-run note, using the following assumptions:
      - You close the trade on February 15, 2020.
      - Between now and 2/15/20 nothing changes in this market–that is the gc repo rate, the Nov 15, 2029 note's specialness, and the clean quotes on both notes.
      - On 2/15/20 the yield on the 5.5% Nov 15 2029 note jumps to be the same as that on the 6% August 2029 note.
2. How large would the specialness on the on-the-run note have to be in order to make this trade unprofitable?
3. Repeat #1 but the haircut is 2%.