Fixed Income
Study Questions for Repo 1 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 Tuesday December 3, 2019. The overnight general collateral repo rate is 3%. The November 15, 2029 5.5% Treasury note sells for 98-03 bid, 98-03+ ask (clean quotes). The haircut on this note in repo is 0. You believe that over the next 2 weeks this note will appreciate dramatically in price. Build a spreadsheet that shows what the cash flows will be on a trade where you buy $100 million par of this note and finance with repo over a 2-week period for three scenarios:

   (a) The clean quotes of the note do not change over the 2-week holding period, and repo remains at 3%.

   (b) The clean quotes of the note rise to 100-29, 100-29+, and the overnight repo rate drops to 2.8% after one week, where it stays for that week.

   (c) The clean quotes of the note drop to 96-18, 96-18+, and the overnight repo rate rises to 3.2% after one week, where it stays for that week.

2. Repeat the above exercise but the haircut is 2%.

3. Suppose that today is Tuesday November 17, 2020. The overnight general collateral repo rate is 5%. The August 15, 2030 7.5% Treasury note sells for 101-13 bid, 101-13+ ask (clean quotes). The haircut on this note in repo is 0. You believe that over the next 2 weeks this note will cheapen dramatically in price. Build a spreadsheet that shows what the cash flows will be on a trade where you short $100 million par of this note and finance with repo over a 2-week period for three scenarios:

   (a) The clean quotes of the note do not change over the 2-week holding period, and repo remains at 5%.

(b) The clean quotes of the note rise to 104-11, 104-12, and the overnight repo rate drops to 4.6% after one week, where it stays for that week.

(c) The clean quotes of the note drop to 98-30, 98-31, and the overnight repo rate rises to 5.2% after one week, where it stays for that week.

4. Suppose that today is Tuesday November 17, 2020. The overnight general collateral repo rate is 5%. The August 15, 2030 7.5% Treasury note sells for 101-13 bid, 101-13+ ask (clean quotes). The haircut on this note in repo is 0, and the note trades on special in repo by 400 basis points. You believe that over the next 2 weeks this note will cheapen dramatically in price. Build a spreadsheet that shows what the cash flows will be on a trade where you short $100 million par of this note and finance with repo over a 2-week period for three scenarios:

(a) The clean quotes of the note do not change over the 2-week holding period, repo remains at 5%, and the note's specialness does not change.

(b) The clean quotes of the note rise to 104-11, 104-12, and the overnight general collateral repo rate drops to 4.6% after one week, where it stays for that week. This note's specialness does not change.

(c) The clean quotes of the note drop to 98-30, 98-31, and the overnight repo rate rises to 5.2% after one week, where it stays for that week. This note's specialness does not change.