Finance 513 - Spring 2018 *Professor Johnson*
UIUC - College of Business *tcj@illinois.edu*

Questions about Swap Spreads, 2010

Assignment: Please read the case `swap_spread_case.pdf` that is posted on the course Compass site.

Prepare a brief written report addressing each of the questions below. Please come to class prepared to discuss all aspects of the case.

You are welcome to refer to any other materials you may have come across that relate to this episode. (Be sure to cite all such sources appropriately).

- **Question 1.** Suppose GIC executes the bond/swap trade discussed in the case, and they negotiate a repo haircut of 1.5% for the bond position. If they hold all positions to maturity and the average realized LIBOR/OIS spread turns out to be 25bp, what would be the internal rate of return on the trade over 30 years. (If your calculation makes use of any other assumptions, be sure to state what they are).

- **Question 2.** Assume the swap is cleared and marked-to-market (e.g., via SwapClear). If the repo transaction financing the bond is also revalued every day, show that this hedges the fluctuations in the mark-to-market value of the swap. (To get the idea, show this first for the case of a simple two-period swap.) Does this mean that there is no funding risk in the trade?

- **Question 3.** Suppose that, instead of financing the bond position in the repo market, GIC raised the money by selling a 30-year US-dollar floating-rate bond contract on the open market, and used the Treasury bonds as collateral for this bond issue. If the floating-rate coupon were defined as LIBOR "plus x%", what spread x do you think GIC would have to promise in order to make the bonds sell for their face value? What value of the spread would make arbitrage profits possible?

- **Question 4.** Would you recommend that GIC do the bond/swap trade as described in Question 1? Why or why not?