Introductory Finance
Problem Set 2 for Quiz 4 Material

Problems. Show all work! For the purpose of this problem set you may assume that all 3-month periods are exactly one-fourth of a year, and all 6-month periods are exactly one-half of a year. All prices are reported in decimals.

1. Consider that today is Tuesday, May 14, 2020. The November 15, 2020 STRIPS is quoted at 96.6615 bid and 96.6940 ask. The November 15, 2020 5% note is quoted at 100.125 bid and 100.15625 ask. The November 15, 2020 9.5% bond is quoted at 101.00 bid and 101.03125 ask.

   (a) What is the 6-month discount factor?

   (b) What is the 6-month spot rate on a continuously-compounded basis?

   (c) What is the 6-month spot rate on a bond-equivalent basis?

   (d) Is the November 15, 2020 5% note trading cheap or rich (relative to the STRIPS)? Explain thoroughly.

   (e) Show an arbitrage trade to profit from the mispricing in the November 15, 2020 5% note. Ignore costs of shorting and financing. Show all cash flows from the trade on all relevant dates.

   (f) Is the November 15, 2020 9.5% bond trading cheap or rich (relative to the STRIPS)? Explain thoroughly.

   (g) Show an arbitrage trade to profit from the mispricing in the November 15, 2020 9.5% bond. Ignore costs of shorting and financing. Show all cash flows from the trade on all relevant dates.

2. Today is Wednesday, November 14, 2018. You see the following 2 securities on Bloomberg:

Security	Maturity	Coupon	Bid	Ask
Bond 1	May 15, 2019	8.5%	103.125	103.15625
Note 2	May 15, 2019	3%	99.875	99.90625

   (a) What are the continuously-compounded yields to maturity on these 2 securities?

   (b) Do these yields suggest that an arb may be possible?

   (c) Demonstrate the arb trade to profit from these relative prices.