Fixed Income
Problem set on repo financing and shorting with STRIPS (for Quiz 3)

**Short Answer questions. Be concise, precise and direct.**

Today is Thursday, May 14, 2020. You see that the Nov 15, 2027 STRIPS trades at 79.25 (bid) – 79.32 (ask) (prices in % terms). You also see the 1-month repo rate is 2.25% (bid) – 2.35% (ask). Your fund uses 9% (continuously compounded) as its cost of firm capital.

1. Buy $25 million par value of this STRIPS, financing the purchase with 1-month repo. Assume a 0 haircut applies to this trade. You close the position on Friday, June 12 (to settle on Monday, June 15), when the market on the Nov 15, 2027 STRIPS is 79.00 bid – 79.08 ask. Describe all transactions and show all cash flows and the P&L for the trade. Provide an attribution analysis of the P&L.

2. Short $25 million par value of this STRIPS using 1-month repo. Assume a 0 haircut applies to this trade. You close the position on Friday, June 12 (to settle on Monday, June 15), when the market on the Nov 15, 2027 STRIPS is 79.00 bid – 79.08 ask. Describe all transactions and show all cash flows and the P&L for the trade. Provide an attribution analysis of the P&L.

3. Buy $25 million par value of this STRIPS, financing the purchase with 1-month repo. Assume a 2% haircut applies to this trade. You close the position on Friday, June 12 (to settle on Monday, June 15), when the market on the Nov 15, 2027 STRIPS is 79.00 bid – 79.08 ask. Describe all transactions and show all cash flows and the P&L for the trade. Provide an attribution analysis of the P&L.

4. Short $25 million par value of this STRIPS using 1-month repo. Assume a 2% haircut applies to this trade. You close the position on Friday, June 12 (to settle on Monday, June 15), when the market on the Nov 15, 2027 STRIPS is 79.00 bid – 79.08 ask. Describe all transactions and show all cash flows and the P&L for the trade. Provide an attribution analysis of the P&L.

5. Buy $25 million par value of this STRIPS, financing the purchase with 1-month repo. Assume a 0 haircut applies to this trade. You roll over the position on June 15, when the market on the Nov 15, 2027 STRIPS is 79.00 bid – 79.08 ask, and repo is trading at 2.50% bid, 2.65% ask. Close the position on Tuesday, July 14, 2020 (to settle on July 15). On this date the Nov 15, 2027 STRIPS is quoted at 78.45 bid – 78.55 ask. Describe all transactions and show all cash flows and the P&L for the trade. Provide an attribution analysis of the P&L.

6. Buy $25 million par value of this STRIPS, financing the purchase with 1-month repo. Assume a 2% haircut applies to this trade. You roll over the position on June 15, when the market on the Nov 15, 2027 STRIPS is 79.00 bid – 79.08 ask, and repo is trading at 2.50% bid, 2.65% ask. Close the position on Tuesday, July 14, 2020 (to settle on July 15). On this date the Nov 15, 2027 STRIPS is quoted at 78.45 bid – 78.55 ask. Describe all transactions and show all cash flows and the P&L for the trade. Provide an attribution analysis of the P&L.

7. (Short) sell $25 million par value of this STRIPS, using 1-month repo. Assume a 0 haircut applies to this trade. You roll over the position on June 15, when the market on the Nov 15, 2027 STRIPS is 79.00 bid – 79.08 ask, and repo is trading at 2.50% bid, 2.65% ask. Close the position on Tuesday, July 14, 2020 (to settle on July 15). On this date the Nov 15, 2027 STRIPS is quoted at 78.45 bid – 78.55 ask. Describe all transactions and show all cash flows and the P&L for the trade. Provide an attribution analysis of the P&L.

8. (Short) sell $25 million par value of this STRIPS, using 1-month repo. Assume a 2% haircut applies to this trade. You roll over the position on June 15, when the market on the Nov 15, 2027 STRIPS is 79.00 bid – 79.08 ask, and repo is trading at 2.50% bid, 2.65% ask. Close the position on Tuesday, July 14, 2020 (to settle on July 15). On this date the Nov 15, 2027 STRIPS is quoted at 78.45 bid – 78.55 ask. Describe all transactions and show all cash flows and the P&L for the trade. Provide an attribution analysis of the P&L.