Practice questions (Term structure of interest rates)

1. Government economists have forecasted one-year T-bill rates for the following five years as follows:

Year	1-year rate
1	4.25%
2	5.15%
3	5.50%
4	6.25%
5	7.10%

You have liquidity premium 0.25% for the next two years and 0.50% thereafter. Would you be willing to purchase a 4-year T-bond at a 5.75% interest rate?

2. 1-year T-bill rates are expected to steadily increase by 150 basis points per year over the next 6 years. Determine the required interest rate on a 3-year T-bond and a 6-year T-bond if the current 1-year interest rate is 7.5%. Assume that the Pure Expectations Hypothesis for interest rates holds.

3. The one-year interest rate over the next 10 years will be 3%, 4.5%, 6%, 7.5%, 9%, 10.5%, 13%, 14.5%, 16%, 17.5%. Using the pure expectations theory, what will be the interest rates on a 3- year bond, 6-year bond, and 9-year bond?

4. Using the information from the previous question, now assume that the investor prefers holding short-term bonds. A liquidity premium of 10 basis points is required for each year of a bond's maturity. What will be the interest rates on a 3-year bond, 6-year bond, and 9-year bond?

5. One-year T-bill rates over the next 4 years are expected to be 3%, 4%, 5%, & 5.5%. If 4-year Tbonds are yielding 4.5%, what is the liquidity premium on this bond?