

The Risk and Term Structure of Interest Rates
ECON 4673
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Problems

1. In the fall of 2008, AIG, the largest insurance company in the world at the time, was at risk of defaulting due to the severity of the global financial crisis. As a result, the U.S. government stepped in to support AIG with large capital injections and an ownership stake. How would this affect, if at all, the yield and risk premium on AIG corporate debt?
2. During 2008, the difference in yield (the yield spread) between three-month AA-rated financial commercial paper and three-month AA-rated nonfinancial commercial paper steadily increased from its usual level of close to zero, spiking to over a full percentage point at its peak in October 2008. What explains this sudden increase?
3. If the federal income tax exemption on the interest from municipal bonds were abolished, what would happen to the interest rates on both municipal bonds and U.S. Treasury securities?
4. What is the yield curve? What is meant by the phrase an inverted yield curve? Is it normal for the yield curve to be inverted?
5. What are the three main facts of the term structure of nominal interest rates.
6. If bond investors decide that 30-year bonds are no longer as desirable an investment as they were previously, predict what will happen to the yield curve, assuming (a) the expectations theory of the term structure holds; and (b) the segmented markets theory of the term structure holds.
7. If the yield curve suddenly became steeper, how would you revise your predictions of interest rates in the future?
8. Assuming the expectations theory is the correct theory of the term structure, calculate the interest rates in the term structure for maturities of one to five years given the following paths of one-year interest rates over the next five years:
 - a. 5%, 6%, 7%, 6%, 5%
 - b. 5%, 4%, 3%, 4%, 5%

How would your yield curves change if people preferred shorter-term bonds over longer-term bonds?

9. The table below shows current and expected future one-year interest rates, as well as current interest rates on multiyear bonds. Use the table to calculate the liquidity premium for each multiyear bond.

Year	One-Year Bond Rate	Multiyear Bond Rate
1	2%	2%
2	3%	3%
3	4%	5%
4	6%	6%
5	7%	8%