

Problem Set #2 (due at 11:00 AM on August 23, 2007)

1. Suppose that the annual interest rate this year is 5% and financial market participants expect the annual interest rate to increase to 5.5% next year, to 6% two years from now and to 6.5% three years from now. Determine the yield to maturity on **(20 points)**:
 - a) A one-year bond
 - b) A two-year bond
 - c) A three-year bond
 - d) Plot the yield curve.

2. Explain why an inverted (downward-sloping) yield curve may indicate that a recession is coming. **(25 points)**

3. A consumer has nonhuman wealth equal to \$100,000. She earns \$40,000 this year, and expects her salary to rise by 5% in real terms each year for the following two years. She will then retire. The real interest rate is equal to 0% and is expected to remain at 0% in the future. Labor income is taxed at a rate of 25%. **(30 points)**
 - a) What is this consumer's human wealth?
 - b) What is her total wealth?
 - c) If she expects to live for seven more years after retiring and wants her consumption to remain the same (in real terms) every year from now on, how much can she consume this year?
 - d) If she received a bonus of \$20,000 in the current year only, with all future salary payments remaining as stated earlier, by how much could she increase consumption now and in the future?

4. Let's consider the two-period Fisher model. Suppose the interest rate, r , rises. What happens to his current consumption and future consumption when he is a borrower in the first period? Discuss the income and substitution effects on consumption in both periods. **(25 points)**