EE 431/ EE438 Economics of Financial Markets and Institution

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Assignment 2: Suggested Solutions

1. **ME Chapter 3 Quantitative Problems: 2**

   This is a simple present value problem. Using a financial calculator or Microsoft Excel with the following parameters:

   N = 20; PMT = 500,000; FV = 0; I = 6%; Pmts in BEGIN mode. Compute PV: PV = $6,079,058.25

   ME Chapter 3 Quantitative Problems: 3

Years to Maturity	Yield to Maturity	Current Price
3	5	$1,054.46
3	7	$1,000.00
6	7	$1,000.00
9	5	$1,142.16
9	9	$ 880.10

   When yield to maturity is above the coupon rate, the band's current price is below its face value. The opposite holds true when yield to maturity is below the coupon rate. For a given maturity, the bond's current price falls as yield to maturity rises. For a given yield to maturity, a bond's value rises as its maturity increases. When yield to maturity equals the coupon rate, a bond's current price equals its face value regardless of years to maturity.

   ME Chapter 3 Quantitative Problems: 8

   The required nominal rate would be: 2%+6% = 8%

   At this rate, you would expect to have $1,000 × 1.08, or $1,080 at the end of the year. Can you afford the stereo? In theory, the price of the stereo will increase with the rate of inflation. So, one year later, the stereo will cost $1,050 × 1.06, or $1,113. You will be short by $33.

2. **ME Chapter 4 Quantitative Problems: 5**

   The new demand equation is as follows, B^d: $Price = \frac{-2}{5} Quantity + 990$

   Now, solve the equations simultaneously:

$$P = \frac{-2}{5}Q + 990 \; set = Q + 500$$

$$0 = \frac{-7}{5}Q + 490 \; or \; Q = 350.$$

   This implies that *P = 850* and

$$i = \frac{1000 - 850}{850} = 17.65\%.$$

3. **ME Chapter 5 Questions: 3**

If yield curves on average were flat, this would suggest that the liquidity premium on long-term relative to short-term bonds would equal zero and we would be more willing to accept the pure expectations theory. However, it could also mean that the market expects lower interest rates in the future, with still positive liquidity premium. Either way, pure expectation theory can fit the observation well.

4. **ME Chapter 5 Quantitative Problems: 7**

3-year bond = [(3 + 4.5 + 6)]/(3) = 4.5%

6-year bond = [(3 + 4.5 + 6 + 7.5 + 9 + 10.5)]/(6) = 6.75%

9-year bond = [(3 + 4.5 + 6 + 7.5 + 9 + 10.5 + 13 + 14.5 + 16)]/(9) = 9.333%

5. **ME Chapter 5 Quantitative Problems: 8**

To solve this problem, you will need to use the following equation:

$$i_{nt} = l_{nt} + \frac{i_t + i^e_{t+1} + i^e_{t+2} + \cdots + i^e_{t+n-1}}{n}$$

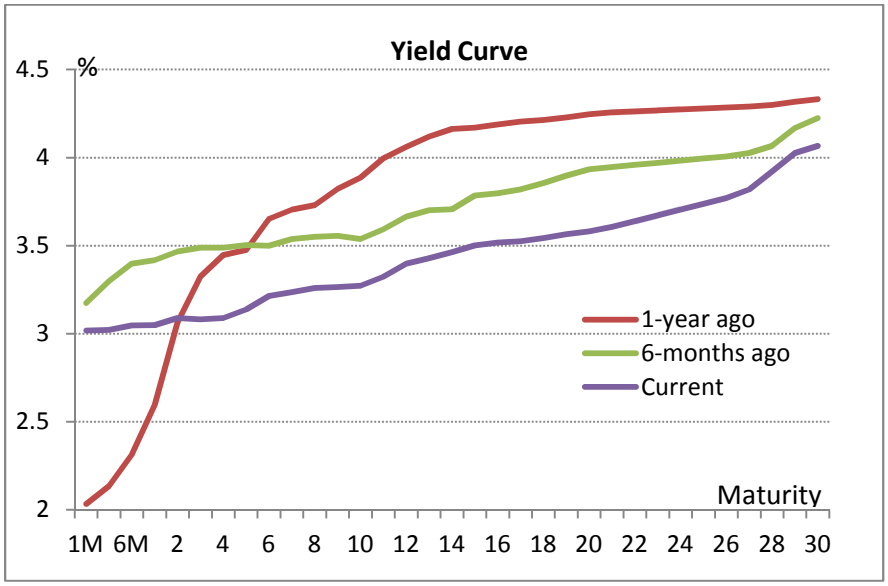
3-year bond = (0.30) + [(3 + 4.5 + 6)]/(3) = 4.8%

6-year bond = (0.60) + [(3 + 4.5 + 6 + 7.5 + 9 + 10.5)]/(6) = 7.35%

9-year bond = (0.90) + [(3 + 4.5 + 6 + 7.5 + 9 + 10.5 + 13 + 14.5 + 16)]/(9) = 10.233%

Now, I know there are confusions with the wording of questions in which students may assume flat 10 bps for each maturity. I will accept that as the answer.

6. **Graph Thai yield curves. Visit website for Thai Bond Market Associations, either (or both) at www.thaibma.or.th or www.thaibond.com to graph the most current yield curve 6 months ago and 1 year ago. Compare their shapes.**



You can see that 1-year ago, market anticipated steep rate increases, while only slightly some rate increase was expected 6-month ago. Currently, the yield curve is fairly flat and decrease almost parallel from 6-month ago, reflecting less inflation expectation and little rate increase.