

EE431/438 Economics of Financial Markets and Institutions

Exercise 1: Measuring the interest rates

Please submit at the BE office, 5th floor department of Economics building.

Deadline of submission : Friday, February 1st, 2013, before 15.00 hrs.

Late submission will not be accepted.

Instructions : Do all questions by using the present value tables.

- 1. Calculate the present value of 1000 Baht zero coupon bond with 10 years to maturity, if the required annual interest rate is 5%

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- 2. Repeat the calculation in question 1 for the interest rate of 8%

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- 3. Consider a 7.5% coupon bond with the par value of 1,000 Baht, selling for 879.09175 Baht. The bond will mature in 15 years. The coupon payment is made annually.

- (a) Calculate the yield to maturity.

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- (b) Later in the same year, the bond interest rate is fallen to 5%. What is the price of the 7.5% coupon bond?

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4. Suppose an investor who has 1,000 Baht is considering buying one of 10 years bonds:

- Bond A has 1,000 Baht face value, 12% annual coupon, 10% yield to maturity.
- Bond B has 100 Baht face value, 10% annual coupon, 12% yield to maturity.

Assume that the investor can buy fractions of a bond. If the investor plans to hold the bond until its maturity, which bond the investor should buy to get more returns? Explain the reason.

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5. **Assume that the investor can buy fractions of a bond.** Suppose you expect the interest rate to decrease in the future. You are considering to buy one of these bonds, hold it for a year and then sell it out. Which bond you will buy in order to get the highest returns? Explain the reason.

- Bond A, 10 years bond with 1,000 Baht face value, 10% annual coupon, 10% yield to maturity.
- Bond B, 3 years bond 100 Baht face value, 10% annual coupon, 10% yield to maturity.

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6. Consider a 5% coupon bond with the par value of 2,000 Baht, selling for 2,228.46372 Baht. The bond will mature in 4 years. Find the modified duration of the coupon bond and explain its meaning.

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