

EE431 Economics of Financial Markets and Institutions
Problem Set 1 : Measuring the interest rates

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

Deadline of submission : September 4, 2015, before 15.00 hrs.

Late submission will not be accepted.

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

1. Describe the time value of money concept and how it affects your investment programs.
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2. The relationship between a bond's coupon rate, the yield required by the market and the bond's price relative to par value is as follows:
 - Coupon rate < yield required by market → price par value (>, <, ≤, ≥ or =), the bond is sold at
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3. Suppose the market interest rate is 10%, find the present value of the following securities
 - (a) Security A will pay \$1,100, one year from now (at year 1).
 - (b) Security B will pay \$1,210, two years from now (at year 2).
 - (c) Security C will pay \$1,331, three years from now (at year 3)......
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4. Repeat the calculation in question 1 for the interest rate of 7%
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5. Suppose the market interest rate is 7%. Find the present value of a 20 years fixed payment loan, which pays 20,000 Baht at the end of each year.

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6. Suppose the market interest rate is 8%. A 10 years fixed payment loan with present value \$1,342,016. The equal fixed payment is paid annually. Find the annual payment of this fixed payment loan.

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7. Consider a 5.5% coupon bond with the par value of 1,000 Baht, selling for 863.38505 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 5.5% coupon bond?

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8. Suppose an investor can buy any fraction of a bond. Stefan wants to invest his money for 5 years. He requires 7% rate of return. The following options are given. How should he invest?

- Bond A is a 10% coupon bond with the par value of 1,000 Baht, 5 years to maturity, selling at 1,216.478 Baht. The coupon payment is made annually.
- Bond B is a 7% coupon bond with the par value 1,000 Baht, 5 years to maturity. The bond is selling at 900 Baht. The coupon payment is made annually.

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- 9. When interest rates fall, the prices of outstanding bonds (rise or fall).
- 10. The market price of longer maturity bonds fluctuates (more or less) compared with shorter maturity bonds as interest rates change.