

EE431 (1/2020 Section 046401): Quiz 1

Answer all questions.

1. [70 marks] Use the following information and answer all parts of this question.

- Bond A is a 5% coupon bond with the par value 1,000 Baht, 10 years to maturity. The bond is selling for 1,000 Baht. The coupon payment is made annually.
- Bond B is a 5.5% coupon bond with the par value of 1,000 Baht, 10 years to maturity, selling at 894.6469 Baht. The coupon payment is made annually.

(a) [40 marks] Suppose that an investor requires 5.5% rate of return on Bond A and Bond B. What is your economic advice to an investor's bond decision? Explain.

Ans.

The investor's required rate of return is 5.5%.

- For Bond A, the bond price is equal to its par value. Therefore, its YTM is equal to its coupon rate, which is equal to 5%.
 - $\text{YTM} = 5\% < \text{the required rate of return} = 5.5\%$.
 - At the 5.5% discount rate, the present value of cashflow received from the bond will be less than the bond price.
Bond price $>$ the present value of cashflow received from the bond.

The investor should not buy Bond A. If the investor has already hold it, the investor should sell it out.

- For Bond B, the bond price is lower than its par value. Therefore, its YTM is greater than its coupon rate, which is equal to 5%.
 - $\text{YTM} > 5.5\% > \text{the required rate of return} = 5.5\%$.
 - At the 5.5% discount rate, the present value of cashflow received from the bond will be greater than the bond price.
Bond price $<$ the present value of cashflow received from the bond.

The investor should buy Bond B.

(b) [30 marks] Suppose financial investors are fear of an increase in level of risk in the bond market. They require a higher rate of return from investing in bonds. How does this situation affect of the price Bond A and Bond B? How does this situation affect of the interest rate of Bond A and Bond B? Explain.

Ans.

- The market applies a higher discount rate on bonds.
- Bond price will increase and this reflectd that interest rate is increased.

2. [30 marks] Consider a 10% coupon bond with the par value of 1000 Baht. The bond will mature in 5 years. You bought the bond at par value. You hold it for a year and then you sell it at 980 Baht. Calculate the actual rate of return you get from investing in the bond. Show your step clearly.

$$\begin{aligned}
 \text{Actual rate of return} &= \text{intial current yield} + \text{rate of capital gain} \\
 &= \frac{\text{coupon}}{\text{purchase price}} + \frac{\text{sell price} - \text{purchase price}}{\text{purchase price}} \\
 &= \frac{10\% \times 1000}{1000} + \frac{980 - 1000}{1000} \\
 &= 0.1 + (-0.02) \\
 &= 0.08 \\
 &= 8\%
 \end{aligned}$$