

Seminar 2

A. Multiple Choice Questions

For each question pick the most reasonable response based on the information provided. Each question is worth 3 marks.

A1. OZ Ltd draws \$1,000,000 in 90 day Bank Accepted Bills (BAB) at the current market interest rate of 8.0% p.a. If the bank's accepted fee is 1%, the amount OZ Ltd receives from discounting the BABs is closest to:

- a. \$925,926 b. \$970,656 c. \$978,190 d. \$980,656

Questions B2 – B4 are based in the following information

Bond	Coupon rate	Time to maturity	Price per \$100 Face Value
A	8.0%	1 year	\$93.91
B	12.0%	15 years	\$82.46

A2. The yield to maturity of the 1-year bond is closest to:

- a. 6.5% b. 8.0% c. 12.0% d. 15.0%

A3. The yield to maturity of the 15-year bond is closest to:

- a. 10.0% b. 12.0% c. 15.0% d. 16.0%

A4. If interest rates in all maturities increase by one percent what will happen to the price of these bonds?

- a. The price of shorter maturity bond and the long maturity bond will fall by the same percentage.
- b. The price of the shorter maturity bond and the longer maturity bond will rise by the same percentage.
- c. The price of shorter maturity bond will fall by a smaller percentage than the fall in price of the longer maturity bond.
- d. The price of the shorter maturity bond will rise by a smaller percentage than the rise in price of the longer maturity bond.

B. Problems

B1. A zero coupon bond maturing in four years with a face value of \$5,000 is currently trading at \$3,415. Based on this information, compute the bond's yield to maturity.

B2. Sunn Co.'s bonds, maturing in 7 years, pay 8 percent interest on a \$1,000 face value. However, interest is paid semiannually. If your required rate of return is 10 percent, what is the value of the bond? How would your answer change if the interest were paid annually?

B3. Trico Bonds have a coupon rate of 8 percent and a par value of \$1,000, and will mature in 20 years. If you require a return of 7 percent, what price would be willing to pay for the bond? What happens if you pay *more* for the bond? What happens if you pay *less* for the bond?

B4. A government bond has an 8 percent coupon rate and a \$1,000 face value. Interest is paid semi-annually, and the bond has 10 years to maturity. If investors require a 10 percent yield, what is the bond's value?

B5. A government bond has a 10 percent coupon rate and a \$1,000 face value. Interest is paid semi-annually, and the bond has 20 years to maturity. If investors require a 12 percent yield, what is the bond's value? What is the effective annual yield on the bond?

B6. A Macrohard Corp. Bond carries an 8 percent coupon paid semi-annually. The par value is \$1,000, and the bond matures in six years. If the bond currently sell for \$911.37, what is its yield to maturity? What is the effective annual yield?

B7. Describe some of the risks associated with investing in bonds, in particular:

- a. Interest-rate risk or market risk,
- b. Call Risk, and,
- c. Liquidity Risk.

B8. Consider the following prices for zero coupon bonds with \$100 face value:

Maturity	Price
1	\$95.2381
2	\$88.9996
3	\$82.7849

What is the yield to maturity of these bonds if the yield is compounded annually?

B9.

A 5 year bond has a face value of \$100 and pays an annual coupon of 4.0%. At the time of issue, the yield to maturity is 3%.

a. What is the bond price at the time of issue?

b. What is the price of this bond one year later assuming the yield is unchanged at 3%?

c. What is the price of this bond one year later if instead of the yield being unchanged the yield increases to 3.5%?

d. Explain how the price of a bond changes as the bond approaches its maturity date and compute the change in value that is attributable to the passage of time.

e. Explain how the yield level impacts the interest rate risk of a bond.