

Unit 6 Bond Valuation

QN 1 What is corporate bond? What are its features?

Bonds are financial securities issued by business firm and government to raise debt capital. So it is a long term debt instrument issued by a firm which obligates the firm to make periodic interest payment to the holder of the bond as well as to repay the principal of the bond at its maturity date. The bondholders have the priority to receive income and principal amount than preferred stockholders and common stockholders.

Features of Bonds

- 1) **Par Value:** The par value also known as the face value or maturity value of a bond is always Rs1000 unless otherwise specified. The par value or principal generally represents the amount of money the firm borrows and promises to repay at maturity date. Interest on bond is calculated on the basis of par value.
- 2) **Coupon Interest:** The bond requires the issuer to pay a fixed amount of interest at the end of each period. This amount is called coupon payment.
- 3) **Maturity date:** A specified date on which the par value of bond must be repaid is called maturity date. The period between issue and maturity date is known as maturity period. However perpetual bonds have no finite maturity.
- 4) **Call provision:** A provision on a bond contract that gives the issuer the right to redeem the bond under specified terms prior to the maturity date is called call provision. If company calls the bond before maturity, company pays an amount greater than par value, which is known as call price.
- 5) **Convertibility:** Convertibility is the bond's special feature which permits bondholders to change their debt into equity at a certain predetermined price and within specified period.
- 6) **Indenture:** It is a document of written agreement between the corporation and the lender detailing the terms of the debt issue. Terms and conditions are clearly specified in this document.
- 7) **Trustee:** A trustee is the representative of the bondholders who deals with the issuing company. Usually financial company is appointed as a trustee. They are responsible for taking appropriate action on behalf of the bondholders if the corporation defaults on payment of interest or principal.

QN2 Write short notes on:

a. Yield to maturity

YTM is the discount rate that equals the present value of the bonds expected future cash flow with the current market price of the bond. It considers both coupon interest and price appreciation. YTM is computed under several assumptions-

- a) The bond will be held up to maturity.
- b) Coupons are immediately reinvested at the rate equals to YTM.
- c) The bond will not be called before maturity.
- d) All cash flows will occur as indicated in the indenture.

b. Yield to call

Some bonds may have call provision. Under this provision, company call the bond before maturity. If current interest rate falls below an outstanding bond's coupon rate then a callable bond is likely to be called. Investor receives coupon interest till call period and call price at the end of call period. Several assumptions are made under YTC-

- a) The issuer call the bond before maturity
- b) The bond will be held up to call date.
- c) Coupon interest amount are reinvested at the rate equal to YTC.

QN3 How different bonds are valued? Explain.

Value of bond is simply present value of future cash flows. i.e. Coupon interest and principle. On the basis of cash flow, there are three types of bond- perpetual bond, zero coupon bond, and redeemable bond with coupon.

1) Perpetual bond/ irredeemable bond

A bond without finite maturity is called perpetual bond. Value of such bond can be calculated as,

$$B_0 = \frac{I}{Kd} \text{ Where, } I = \text{Coupon interest, } Kd = \text{Required rate of return}$$

2) Zero coupon bond / pure discount bond

A bond without coupon interest is called zero coupon bond. It is always issued on discount and has specified maturity period. Investor gets maturity value at the end of maturity date. Value of such bond can be calculated as;

$$B_0 = \frac{M}{(1+Kd)^n} \text{ where } M = \text{maturity value, } Kd = \text{Required rate of return, } n = \text{No. of periods}$$

3) Redeemable bond with coupon interest/ Regular bond

It is a bond with fixed coupon rate with specified maturity period. Investors get periodic interest during maturity period and principle at the end of maturity period. Value of such bond can be calculated as: $V_0 = I \times PVIFA_{i,n} + M \times PVIF_{i,n}$