

BFC2140 Corporate Finance - Revision -

Valuation of Bonds and Equities

1.1 Valuation of Bonds Chapter 8 Prescribed Text

1.1.1 Bond features:

Define the followings:

- Bond
- Coupon rate
- Coupon payment (= coupon rate x face value)
- Face value (or the par value)
- Maturity
- Yield to maturity (Two assumptions?)
- Bond issuer
- Bond holder

1.1.2 Types of bonds

- Coupon bond
- Zero coupon bond

Explain why long-term bonds with zero coupons are riskier than short-term bonds that pay coupon interest?

- Convertible bond

1.1.3 Bond valuation

- **Zero coupon bond (Formula No. 14)**

$$P_B = \frac{F}{(1+i)^n}$$

Where:

P_B : PV of zero coupon bond

F: Face value

i: Yield to maturity

n: Time to maturity

- **Coupon bond (Formula No. 15)**

$$P_B = \frac{C}{i} \left[1 - \frac{1}{(1+i)^n} \right] + \frac{F}{(1+i)^n}$$

Remember to convert the bond's yield (i), coupon rate (c) and the maturity (n) so that they are consistent with the bond's stated compounding period.

- **Define the followings:**
 - Par-value bonds

Project Evaluation Chapter 10 Prescribed Text

(Evaluate projects with equal lives)

2.1 Capital budgeting:

Select investments in real assets that will increase the value of the company

Discuss why capital budgeting decisions are the most important decision made by a company management?

2.2 Classification of investment projects: Define the followings:

- Independent projects
- Mutually exclusive projects
- Contingent projects

2.3 Project evaluation techniques

2.3.1 Discounted Cash Flow Methods

- **Net Present Value (NPV) : 5 steps in NPV analysis**

Summary of NPV method	
Decision rule: NPV>0 → Accept the project NPV<0 → Reject the project	
Advantages	Disadvantage
- Adjust for time value of money - Provide a direct dollar measure of how much a capital project will increase the value of the company - Consistent with the goal of maximising shareholder value	Difficult to understand without an accounting and finance background

- **Internal Rate of Return (IRR)**

Summary of IRR	
Decision rule: IRR> Cost of capital → Accept the project IRR< Cost of Capital → Reject the project	
Advantages	Disadvantages

1. Describe CAPM.

The CAPM is a model that describes the relation between systematic risk and the expected return. The model tells us that the expected return on an asset with no systematic risk equals the risk-free rate. As systematic risk increases, the expected return increases linearly with beta. The CAPM is written as $E(R_i) = R_{rf} + b_i(E(R_m) - R_{rf})$.

2. Describe how investing in more than one asset can reduce risk through diversification?

An investor can reduce the risk of his or her investments by investing in two or more assets whose values do not always move in the same direction at the same time. This is because the movements in the values of the different investments will partially cancel each other out.

3. What is SML?

SML is the line that shows the relationship between expected return and systematic risk, as measured by beta. When beta equal to zero and there is no systematic risk, the expected return equals the risk free rate. As systematic risk (beta) increases, the expected return increases. The SML shows that it is systematic risk that matters to investors.

4. Value of company vs value of equity

The value of the company can be described as either the total market value of all the assets owned by the company, or the total market value of all the claims of all the investors in the company. In that case, it means that we are valuing all of the equity claims (shares) in the company in addition to all of the debt claims (bonds, bank borrowing, etc.) of the company.

5. Three practical consideration when managers make capital structure decisions.

Financial flexibility: Managers must minimise the company's cost of capital while also ensuring that the company has the flexibility to raise new capital quickly to deal with unexpected problems or to take advantage of unexpected opportunities.

Profit Risk: Increasing the leverage of a company increases the risk associated with a company's profit, and the risk of default.

Earnings impact: When a project is financed with debt, the interest payments reduce the accounting *dollar value of net income*. However, when debt is used, no new shares of equity are issued, so the company's earnings per share would be expected to increase (given a positive-PV project). Although financial theory suggests that neither of these effects should matter, managers often take them into account when making financing decisions.