FINANCIAL MANAGEMENT

Nov-Dec 2024

Time allowed- 3:30 hours
Total marks- 100

[N.B. - The figures in the margin indicate full marks. Questions must be answered in English. Examiner will take account of the quality of language and of the manner in which the answers are presented. Different parts, if any, of the same question must be answered in one place in order of sequence.]

Marks

1. a) After paying Tk. 150,000 for a preliminary investigation, the costing department of BD Ltd was able to calculate cash flows for the following investment projects:

Net cash flows	**t0** Immediate outlay	**t1**	**t2**	**t3**	**t4**
	Tk. '000	**Tk. '000**	**Tk. '000**	**Tk. '000**	**Tk. '000**
Project A	(15,000)	(5,000)	12,000	6,000	3,000
Project B	(20,000)	(10,000)	25,000	25,000	25,000
Project C	(17,500)	5,000	11,000	14,000	10,000
Project D	(25,000)	7,000	9,000	13,000	3,000
Project E	(16,000)	(5,000)	2,000	28,000	23,000

You have only just taken up the appointment of financial analyst. The cash flows from the various projects, as shown above, have been given to you with a memorandum from the Managing Director outlining your first task.

Requirements:

i) The company's cost of capital has been calculated as 15%. Cash is freely available and all projects are independent and divisible. Prepare calculations showing which projects should be accepted. 3

ii) The amount of cash available for investment at time 0 has been limited to Tk. 30 million and non of the projects can be delayed. Which projects should be accepted? 2

iii) The amount of cash available for investment at time 1 has been limited to Tk. 2 million and non of the projects can be delayed. There is now no rationing at time 0. Which projects should be accepted? 4

iv) The situation is as in part (b) except that now all projects are independent but indivisible, and Tk. 35 million is available. Which projects should now be accepted? 3

b) The Chief Executive Officer (CEO) of Kaboni Holdings Uganda Ltd. (KHU Ltd) attended a workshop hosted by the Institute of Certified Financial Professionals-Uganda (ICFP-U) on strategies for effective financial management to maximize shareholders wealth. During the workshop, the presenter highlighted diversification as a key method for minimizing risk and enhancing shareholders value. The CEO was intrigued by the concepts but found some terms like systematic risk, portfolio, diversification, and market return unfamiliar.

Following the workshop, the CEO organized a meeting with the senior management team and tasked the Finance Manager to identify an optimal investment portfolio to enhance company value. The team identified two potential projects, which, if implemented, could increase shareholders wealth. The probability of returns for each project is as follows:

Probability	**Return (Project X)**	**Probability**	**Return (Project Y)**
0.2	12%	0.1	-12%
0.3	-6%	0.3	18%
0.3	22%	0.4	24%
0.2	14%	0.2	10%

KHU Ltd. plans to allocate **55% of its investment to Project X** and **45% to Project Y**. The systematic risk (beta) for Project X is **1.7** and for Project Y is **1.4**. The **risk-free rate** is **7%**, and the **expected market return is 11%**.

Requirements:

i) Using the Capital Asset Pricing Model (CAPM), advise the management of Kaboni Holdings Uganda Ltd. on the expected return of the portfolio. 8

ii) Discuss any three applications of CAPM in finance theory. 3

2. XYZ Limited, a publicly traded company listed on the Dhaka Stock Exchange, has been a prominent player in the pharmaceutical industry in Bangladesh for over a decade. The company has shown consistent profitability over the past five years, with stable cash flows and a growing market presence. Currently, the company has a net income of BDT 700,000,000 and a total of 25,000,000 shares outstanding. The company follows a conservative dividend payout ratio, which ensures stable dividends to shareholders while retaining a substantial portion of earnings for reinvestment. The company also has substantial retained earnings and a market price per share of BDT 120.

   The board proposes two significant changes to the dividend policy. First, they suggest increasing the dividend payout ratio to 50%, which would provide higher immediate returns to shareholders. Second, they propose implementing a 20% stock dividend instead of a cash dividend. This move aims to preserve cash for reinvestment while still rewarding shareholders. The company is planning a major expansion project requiring an investment of BDT 600,000,000. This project is expected to increase production capacity by 25% and generate additional annual revenue of BDT 250,000,000. The company has an outstanding debt of BDT 350,000,000 with an annual interest rate of 7%. The board is evaluating whether to use retained earnings or take on additional debt to finance the expansion.

   The company's current Return on Equity (ROE) stands at 16%, surpassing the industry average of 13%. The board is keen on preserving this competitive edge while making adjustments to the dividend policy. They are evaluating how these changes could affect the company's financial stability and long-term strategic objectives. Furthermore, the board is mindful of the potential influence on market perception and the company's attractiveness to new investors.

   Requirements:

   a) Calculate the total dividends paid and the dividend per share (DPS) under the current dividend payout ratio of 35%. Discuss how the current payout ratio aligns with the company's growth strategy and financial stability. 2

   b) If the dividend payout ratio is increased to 50%, calculate the new total dividends paid and the new DPS. Analyze the potential impact of this increased payout ratio on the company's retained earnings and its ability to finance the expansion project. 2

   c) If a 20% stock dividend is implemented, calculate the number of new shares to be issued, the new total number of shares outstanding, and the adjusted market price per share. Evaluate how this stock dividend might affect the company's share price and investor perception. 5

   d) Discuss the ethical considerations of changing the dividend policy, especially in terms of balancing shareholders interests with the company's long-term strategic goals, the well-being of employees, and the broader community. Consider the implications of increased leverage and potential financial instability. 3

3. London Textile Limited, a textile manufacturer based in the UK, has substantial operations that involve significant exposure to interest rate fluctuations. The company's operations are heavily reliant on short-term financing to meet working capital requirements. Historically, fluctuations in exchange rates have exceeded projections. Given the volatility in interest rates, it is exploring the use of over-the-counter Forward Rate Agreements (FRAs) to manage its interest rate risk. Currently the company has a GBP 50 million short-term loan that is subject to 3-month LIBOR rates. It plans to roll over this loan every three months for the next year.

   Current 3-month LIBOR: 5.0%
   Projected 3-month LIBOR rates for the next four quarters: Q1: 5.2%, Q2: 5.5%, Q3: 5.7%, Q4: 6.0%
   FRA rates for 3x6, 6x9, and 9x12 months: 3x6: 5.4%, 6x9: 5.8%, 9x12: 6.1%

   The company is considering entering into a series of over-the-counter FRAs to hedge against potential increases in 3-month LIBOR rates over the next year. The company would enter into three separate FRAs:

   A 3x6 FRA to hedge the Q2 rollover
   A 6x9 FRA to hedge the Q3 rollover
   A 9x12 FRA to hedge the Q4 rollover

   Requirements:

   a) Calculate the potential interest payments London Textile would face under the projected 3-month LIBOR rates without any hedging. Calculate the interest payments if the company uses the proposed FRAs, excluding the initial and maintenance margin requirements. Compare the outcomes and evaluate the effectiveness of the hedging strategy. 5

b) Consider a scenario where the actual 3-month LIBOR rates deviate from the projections: Q1: 5.0%, Q2: 5.8%, Q3: 6.0%, Q4: 6.3%. Calculate the interest payments for the company without hedging and with the proposed FRAs under this new scenario. Determine the net financial impact and assess how well the hedging strategy mitigates the interest rate risk. 6

c) Evaluate the strategic benefits and potential risks of using over-the-counter FRAs to hedge interest rate exposure. Compare FRAs with interest rate swaps and provide recommendations based on your analysis. 4

4. a) Calculate how much Taka exporters would receive or how much Taka importers would pay, ignoring the bank's commission, in each of the following situations, if they were to exchange the overseas currency and Taka at the spot rate.

i) A Bangladeshi exporter receives a payment from Korean customer of 15 million won 2

ii) A Bangladeshi importer buys goods from an Indonesian supplier and pays 100 million Rupiah 2

Spot rates are as follows:	Bank sells (offer)	Bank Buys (bid)
Korean won / Tk.	11.63	12.25
Indonesian Rupiah / Tk.	131.18	133.56

b) JK Limited is expecting to receive 20 million Argentine Peso in one month's time. The current spot rate is Peso / Tk. 8.24 - 8.36.

Requirements:

Compare the results of the following actions.

i) The receipt is hedged using a forward contract at the rate 8.30. 1

ii) The receipt is hedged by buying an over-the-counter option from the bank, exercise price Peso/Tk. 8.28, premium cost of Tk. 24,000 4

iii) The receipt is not hedged. 3

In each case compute the results if, in one month, the exchange rate moves to:

(1) Peso 9.00 / Tk.
(2) Peso 7.60 / Tk.

c) Dhaka Limited has entered a transaction that will involve Vietnamise Dongs (VND) payment exposure arising in six months' time. The company's treasurer decides to cover the exposure by means of foreign currency options, and buys a six-month VND call / Taka put option.

Forward exchange rate	210 VND = Tk. 1
Option strike price	210 VND = Tk. 1
Option premium	1.2%

Requirement:

What is the worst case exchange rate that the company will have to pay, and what would it do in six-months' time if the spot rate is 215 VND/Taka? 3

5. Chittagong Steel Limited is planning a significant investment in a high-efficiency steel production facility to expand operations, enhance competitiveness, and cut costs. This project involves advanced technology to boost productivity and reduce environmental impact. The initial investment is BDT 120 million. The facility is projected to last 5 years, with a potential resale value of BDT 20 million. The company's required rate of return is 14%, considering both the cost of equity and debt. Initially, the company invested BDT 5 million in feasibility studies.

The project requires an initial working capital investment of BDT 15 million, recoverable at the end of its lifespan and a one-time environmental compliance cost of BDT 10 million initially to receive regulatory approval. Additionally, the project is eligible for a BDT 5 million government grant in the second year to promote energy-efficient technology. An additional BDT 8 million is allocated over the project's lifespan for contingency costs. Depreciation will be calculated on a straight-line basis, and the corporate tax rate is 25%.

Annual revenue from the new facility is projected to increase by BDT 90 million in the first year, BDT 140 million in the next two years, and BDT 120 million in the remaining years. Annual operating costs are expected to be BDT 45 million in the first year, BDT 65 million in the next two years, and BDT 50 million in the final years. Maintenance costs will be BDT 5 million in the first year and BDT 4 million in the remaining years. Additionally, investing in this project means forgoing alternative

investments that could yield BDT 6 million annually. The new facility might generate opportunity revenues from new market segments and increased market share, estimated at BDT 10 million annually, which are not directly included in the projected cash flows.

The project will be financed with 60% debt at an interest rate of 6% and 40% equity. A 5% annual inflation rate is projected, impacting both revenue and costs. The company faces an exchange rate risk with an expected annual depreciation of 2% in the local currency when evaluating foreign currency obligations. The economic scenario projects moderate growth, affecting market demand and pricing. Revenue fluctuations are expected due to market conditions: a 3% increase in Year 2 from market expansion, a 10% drop in Year 3 from an economic downturn, and a 7% increase in Year 4 from new market opportunities. Operating costs will be impacted by a 3% annual increase in raw material costs and a 2% annual decrease in labor costs due to automation.

Additionally, the company anticipates several other financial impacts. The facility's advanced machinery will require upgrades costing BDT 2 million in Year 2 and BDT 3 million in Year 4. Furthermore, Chittagong Steel Limited plans a marketing campaign costing BDT 3 million in Year 1 to boost initial sales and market presence. The company is also entitled to a 10% tax incentive on operating income for the first three years due to the project's location in an economically disadvantaged area.

Requirements:

a) Calculate the Net Present Value (NPV) of the project using the given information. Explain the importance of the NPV method in capital budgeting, including its advantages and limitations. How does NPV help in making investment decisions? 11

b) Calculate the Internal Rate of Return (IRR) of the project and compare it to the company's required rate of return. Describe the IRR method, its application in evaluating investment projects, and its strengths and weaknesses. Why is IRR useful in financial decision-making? 4

c) Perform a sensitivity analysis on the NPV by varying the discount rate by +/- 4%. Is the project sensitive to these changes? Explain the purpose of sensitivity analysis and how does sensitivity analysis contribute to more informed investment decisions? 3

6. BD Ltd has an issued share capital of 1 million ordinary shares Tk. 1 each and has no fixed interest securities. It has just paid a dividend of Tk. 0.60 per share. Dividends have recently been increased at the rate of 5% per annum, and shareholders generally believe that this rate of dividend growth will continue indefinitely. The market price is Tk. 6.30 per share.

The company is now considering an investment proposal which would require an initial outlay of Tk. 600,000 and would generate net cash receipts for the following three years of Tk. 300,000, Tk. 500,000 and Tk. 300,000 respectively. These additional receipts will be used to increase dividends.

The cash for the initial outlay will be raised my means of rights issue with issue cost of Tk. 20,000. Assume that if the project were accepted the firm's expectations of future results would be discovered and believed by the stock market.

Requirements:

a) Estimate the market capitalization of BD Ltd.'s ordinary shares once the rights issue has been made and the project has been accepted. 3

b) Calculate the gain made by the shareholders in total as a result of accepting the project. 2

c) Calculate the net present value of the project after subtracting the issue cost. 3

d) The rights issue in the above situation will take place one of the form - A1 for 10 issue at Tk. 6.20 or A1 for 5 issue at Tk. 3.10. In each case, calculate the gain made by the holder of 100 shares who takes up his rights. Assume issue costs are the same under both options. 4

e) i) If the rights issue were 1 for 5 at Tk. 3.10, at which price should a shareholder who does not wish to take up the offer hope to sell his rights. If he is still to make his full share of the gain on the project? 1

ii) Calculate the gain made by the holder of 100 shares who sells his rights at this price? 2

f) What is the minimum price at which the shareholder should sell his rights if he is not to make a loss? 2

---The End---