

FINANCIAL MANAGEMENT

July-August 2023

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) Bijli Aluminum Limited's management are contemplating a strategy of diversification in order to spread the risk inherent in the aluminum industry. They have employed a firm of management consultants to research the financial viability of investing in shares of companies in the cement industry. They have received a report from the management consultants containing the following executive summary:

"Portfolio theory indicates that your ability to spread the unsystematic risk by developing a portfolio of shares of companies in two industries can only benefit the risk profile of your business. However, the concern is in relation to the extent to which risk can be diversified, as the coefficient of correlation between the aluminum and cement industries stands at plus (+.8)."

Requirement:

Assist as a Finance Manager to Bijli Alumunium Limited's management by preparing a briefing note which explains the following terms:

- i) Portfolio Theory
- ii) Systematic Risk and Unsystematic Risk
- iii) Co-efficient of Correlation (as it relates to the two stock/investment portfolio)

- b) The statement shown below have been made in respect of the Dhaka Stock Exchange or of particular securities traded in that market. Critically comment on each of the following three statements, clearly explaining any technical terms contained within them or used by you.

- i) 'In view of the fact that the market is efficient in the semi-strong form, financial information released by companies is of no value to investors, because the information is already included in share prices before it is released'.
- ii) 'If an investor holds shares in about 20 different companies all of the risk is eliminated and the portfolio will give a return equal to the risk-free rate'.
- iii) 'A graph of the daily price of a share looks similar to that which would be obtained by plotting a series of cumulative random numbers. This shows clearly that share prices move randomly at the whim of investors, indicating that the market is not price efficient'.

2. The directors of ABC limited are considering opening a factory to manufacture a new product. Detailed forecast of the product's expected cash flows have been made, and it is estimated that an initial capital investment of Tk. 2.5 million is required. The company's current (31 December 2022) authorized share capital consists of 4 million ordinary shares, each with a nominal value of Tk. 0.25. During the last five years the number of shares in issue has remained constant at 3 million, and the market price per share at 31 December 2022 is Tk. 1.35 ex-dividend.

The company pays only one dividend each year (on 31 December) and dividends for the last five years have been as follows:

Year	2018	2019	2020	2021	2022
Dividend per share	Tk. 10.0	Tk. 10.8	Tk. 11.6	Tk. 13.6	Tk. 13.6

ABC Limited currently has in issue of Tk. 800,000 8% debentures redeemable at on 31 December 2026. The current market price of these debentures is Tk. 82.50 ex-interest, and the interest is payable in one amount each year on 31 December. The company also has outstanding a Tk. 900,000 bank loan repayable on 31 December 2030. The rate of interest on this loan is variable, being fixed at 1.5% above the bank's base rate. Assume that the current bank's base rate is 15%.

Requirements:

- a) Calculate the weighted average cost of capital (WACC) for ABC Limited as at 31 December 2022
- b) Explain briefly to the directors of ABC Limited what assumptions they are making if the WACC calculation in (a) above is used to discount the expected cash flows of the project.
- c) Describe the practical problems that might be encountered when attempting to compute the WACC for a large Bangladeshi listed company.

3. Dhaka Limited is a small manufacturing company which has recently completed a major contract in Europe, as a result of which it will receive €5 million in three months' time. Its directors are worried that the euro will weaken relative to Taka, and hence affect the company's cash flow. Four possible approaches have been suggested to deal with the foreign currency exposure.

- (1) Do nothing now and convert the €5 million at the spot rate prevailing in three months' time.
- (2) Use the forward market to sell €5 million for Tks at today's three month forward rate.
- (3) Buy today a three month €5 million put option at a strike price equal to the three month forward rate. The option will cost Tk. 125,000, which will be paid from the company's surplus cash currently in a bank deposit account.
- (4) Use the money market to cover the position.

The following relevant information has been collected:

- (i) The spot rate is Tk. 1/€1.5575 - 1.5625
- (ii) The three month forward premium is €0.0047 - €0.0015
- (iii) The current bank interest rates per annum are:

	Eurozone	Bangladesh
Prime lending rate	3.2%	9.0%
Three month deposit rate	2.8%	6.0%

Requirement:

Calculate the effects of each of the four approaches, assuming that the spot rate prevailing in three months' time is Tk. 1/€1.50 and Tk. 1/€1.70

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4. Jamil Ahmed invested Tk. 100,000 to set up the following portfolio one year ago.

Asset	Cost	Beta at purchase	Yearly income	Value today
A	Tk. 20,000	0.80	Tk. 1,600	Tk. 20,000
B	35,000	0.95	1,400	36,000
C	30,000	1.50	-	34,500
D	15,000	1.25	375	16,500

Requirements:

- a) Calculate the portfolio beta on the basis of the original cost figures. 4
- b) Calculate the percentage return of each asset in the portfolio for the year. 4
- c) Calculate the percentage return of the portfolio on the basis of original cost, using income and gains during the year. 2
- d) At the time Jamil made his investments, investors were estimating that the market return for the coming year would be 10%. The estimate of the risk-free rate of return averaged 4% for the year. Calculate an expected rate of return for each stock on the basis of its beta and the expectations of market and risk-free returns. 4
- e) On the basis of the actual results, explain how each stock in the portfolio performed relative to those CAPM-generated expectations of performance. What factors could explain these differences? 4

5. Affordable Housing Limited (AHL) is a Bangladeshi Company that builds affordable housing for sale and for rent. It currently owns and collects rent from 20,000 rental properties.

AHL is now willing to invest in a project of 2,000 flats at Gazipur. In this regard, an MoU was signed with Trusted Builders, a reputed builders Company to construct these houses over next 2 years. Following are details of the projects:

- Land filling and clearance will cost BDT 20 million, payable on 30 June 2023;
- The total contract price for the 2,000 flats is BDT 2.25 billion, which will be payable to Trust Builders in three equal annual instalments starting on 30 June 2023.
- Out of 2,000 flats 800 will be sold and 1,200 will be rented out (flats are rented out after the year of construction). Schedule of construction and forecast about sell and renting out is given below:

Year to 30 June

	2023	2024	2025
Flats constructed in year	800	1,200	0
Flats sold in year	300	500	0
Flats rented in year ((500+700)) in 2025)	0	500	1,200

- Only the construction costs relating to the flats for sale are an allowable expense for tax purposes. Those construction costs are allowable for tax in the year of sale.
- The rent per property will be BDT 120,000 pa. As per past practice, bad debt is estimated to 3% of rental income.
- The selling price of a flat will be BDT 2,500,000.
- AHL will need to employ 8 new full-time employees to manage the additional rented houses in the year 2025 and then 10 more employees will be employed in the year 2026. The average salary per employee will be BDT 500,000 pa.
- It is estimated that the new flats for rent will lead to an increase in general costs equal to 4% of their rental income before bad debts.
- AHL will need to purchase specialist equipment to ensure the environmental safety and green energy of the new flats. This will be purchased on 2024 at a cost of BDT 20 million. Because this equipment has a high rate of obsolescence, it is estimated that it will be sold on 30 June 2026 for BDT 2 million. The equipment attracts 20% (reducing balance) capital allowances in the year of expenditure and in every subsequent year of ownership by the company, except the final year. In the final year, the difference between the equipment's written down value for tax purposes and its disposal proceeds will be treated by the company either as a:
 - ✓ balancing allowance, if the disposal proceeds are less than the tax written down value, or
 - ✓ balancing charge, if the disposal proceeds are more than the tax written down value.

Assumptions to be used in calculations:

- Corporation tax will be payable at the rate of 22.5% for the foreseeable future and tax will be payable in the same year as the cash flows to which it relates.
- All income will be liable to corporation tax.
- Unless indicated otherwise, all costs will be allowable for corporation tax.
- Inflation can be ignored throughout.
- Cost of capital of AHL is 9%.
[PV Factors: Year 1 = 0.917; Year 2 = 0.842; Year 3 = 0.772 & Year 4 - 20 = 6.597]
- All cash flows occur at the end of the relevant financial year.

Investment appraisal:

AHL appraises its capital investments using the net present value approach. For new developments AHL discounts its future income and costs over a 20-year period.

Requirements:

- a) Calculate the net present value of the new flats development project at 30 June 2023 and recommend whether the company should go for this project. 16
 - b) Calculate the sensitivity of the decision made in the above case a) to changes in the selling price per house sold and hence the minimum selling price per house sold that AHL should accept for the project development to proceed. 4
 - c) Determine the impact on your advice in a) above if Trust Builders offers to accept a revised contract price of BDT 2.10 billion payable in full on 30 June 2023. 4
6. a) You are a member of ICAB and working as Strategic Finance Manager in Your Breakfast Friend (YBF) Limited, a breakfast cereal manufacturer. Currently the Company sells its products through supermarket and distributor. It's a listed Company in DSE and CSE. The Capital structure of the Company is: Ordinary Share, 7% Preference Share, 6% Irredeemable debenture and 4% Redeemable debenture.
- You have received an e-mail from CFO which is read as below:
- Board of Directors is considering to open a number of retail outlets to sell Company's products across the country which will need BDT 200 million. The BDT 200 million required for this investment would be raised in such a way as not to alter the company's existing gearing ratio (equity: debt). Our bank is willing to lend the required debt amount at an interest rate of 8.5% pa.
- As you know, we always use a discount rate of 7% when assessing potential investments. However, the following comments made by directors in last meeting:
- Chairman: "Let's carry on using 7% as the discount rate. We're being prudent here, as 7% represents the costliest source of finance that we have, i.e. preference shares. At least that's a fixed cost, unlike the ordinary shares."

Finance Director: "I don't think we can ignore the ordinary shares. Can't we average out the costs of the various types of capital and use that?"

Marketing Director: "We should use 8.5% as our discount rate as that's what L&E would charge us for funding the retail expansion."

Please be very careful who you share this information as this proposal is likely to have an impact on Company's share price.

Requirement:

Discuss the points raised by directors about the discount rate to be used for project appraisal. Make your recommendations with justification. Explain the ethical implications of CFO's email for you, as a member of ICAB.

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- b) Padma & Meghna Plc is a venture capitalist having investment in many Companies of Bangladesh in different manufacturing business related to real estate. Recently the Company has decided that it will divest itself from its steel manufacturing subsidiary, Bulbul Steel Mills Limited (BSML) either by any of the following 3 options:

Option 1: To downsize operations over a period of three years and then shut it down

- Sales revenue for the year to 30 June 2023 was BDT 600 million. For the three years to 30 June 2026 sales volumes are expected to decrease by 12% pa compound. Selling prices will not change and contribution is expected to be 75% of the selling price.
- The amount invested in working capital on 30 June 2023 was BDT 50 million. This amount will reduce at the end of each year in line with the reduction in sales volumes. On 30 June 2026 all remaining working capital will be recovered in full.
- On 30 June 2023 BSML's plant and equipment has a tax written down value of BDT 50 million.
- On 30 June 2026 BSML's plant and equipment will be sold for an estimated BDT 55 million (at 30 June 2026 prices).
- The plant and equipment attracts 20% (reducing balance) capital allowances in the year of expenditure and in every subsequent year of ownership by the company, except the final year. In the final year, the difference between the plant and equipment's written down value for tax purposes and its disposal proceeds will be treated by the company either as a:
 - balancing allowance, if the disposal proceeds are less than the tax written down value, or
 - balancing charge, if the disposal proceeds are more than the tax written down value.
- Redundancy payments on 30 June 2026 will amount to BDT 5 million (at 30 June 2026 prices). This amount is fully allowable for tax.

Option 2: To sell BSML to another company

All the shares in BSML will be sold for BDT 1 billion million before taxation on 30 June 2023. Assume that this amount is fully taxable.

Option 3: Management Buy Out

The management team will buy the shares of BSML for BDT 1,100 million which will be paid in three instalments as follows:

- On 30 June 2023 BDT 300 million
- On 30 June 2024 BDT 300 million
- On 30 June 2025 BDT 500 million.

Following information are pertinent to the Padma & Meghna Plc:

- Discount rate used for investment appraisal is 9%
[PV Factors: Year 1 = 0.917; Year 2 = 0.842 & Year 3 = 0.772]
- Corporate tax rate is 22.5%
- Tax is payable in the same year as the cash flows to which it relates

Requirement:

Calculate the present value at 30 June 2023 of each of the three proposed options in which Padma & Meghna plc could divest itself of BSML. Advise the board of Padma and Meghna plc as to which of the three divestment options should be chosen.

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---The End---