Certified Finance and Accounting Professional Stage Examination

The Institute of Chartered Accountants of Pakistan

8 December 2020
3 hours – 100 marks
Additional reading time – 15 minutes

Business Finance Decisions

Instructions to examinees:

(i) Answer all **FIVE** questions.
(ii) Answer in **black** pen only.

Q.1 Recent financial information at 30 November 2020 relating to KP Ltd (KPL), a company listed on the Pakistan Stock Exchange, is as follows:

Equity and Liabilities	Rs. in million	Assets	Rs. in million
Ordinary shares (Rs. 50 each)	150	Non-current assets	415
Retained earnings	100	Current assets	65
Total equity	**250**		
9% bank loan	50		
7% term finance certificates (TFCs)	150		
Current liabilities	30		
Total equity and liabilities	**480**	**Total assets**	**480**

Other relevant financial information:

Risk-free rate of return	4.25%
Average return on the stock market	9.5%
Tax rate applicable to KPL	28%

The current share price of KPL is Rs. 122 per share and KPL has an equity beta of 1.3.

TFCs are trading on an ex-interest basis at 96% of their nominal value. Each TFC has a nominal value of Rs. 100 and is redeemable at nominal value in seven years' time at 30 November 2027.

The KPL's finance director has explained that the weighted average after-tax cost of capital (WACC) is the minimum average rate of return, which KPL must achieve on all its existing and new operations to keep its investors happy.

Required:

(a) Calculate the WACC of KPL. **(06)**

(b) Explain the purpose of the Capital Asset Pricing Model (CAPM) and discuss the weaknesses of CAPM as a way of estimating KPL's required return to its shareholders. **(03)**

(c) Comment on the finance director's statement regarding the role of WACC as KPL's 'minimum average rate of return'. **(03)**

(d) Discuss the circumstances under which KPL's current WACC can be used as the discount rate for new project investment appraisal, and indicate other methods to determine a suitable discount rate that could be adopted when it is not appropriate to use the current WACC. **(05)**

The directors are considering diversifying into a new product area and have identified a similar company with an equity value of Rs. 540 million, debt value of Rs. 140 million and equity beta of 2.71. Also, KPL will need to borrow a further Rs. 25 million at the same interest rate as the current bank loan in order to develop and launch the new diversified product.

(e) Determine a suitable risk adjusted discount rate to evaluate the new diversified product. **(05)**

Q.2 Eco Energy (EE) is a large generator and provider of energy in Pakistan, which has a strategy of increasing its proportion of energy generation and supply from sustainable sources. EE's marketing team has recently completed extensive research in the energy market at a cost of Rs. 2 million. Based on the findings of this research, the marketing director has recommended to EE's board of directors that the retail division could significantly increase its consumer market share by adopting wireless energy monitoring technology and installing this in consumers' homes.

The technology allows consumers to monitor their energy usage through an energy monitor that links to an app via the consumer's home Wi-Fi. The marketing director believes introducing this technology will attract significant new consumers by providing information that can help to reduce energy consumption. The marketing director has asked the finance director to determine if contribution from forecast new retail energy consumers is sufficient to outweigh the cost of implementation of new energy monitor in consumers' homes. The project timeframe is expected to be five years and the marketing director has requested that the finance team apply the following assumptions in their analysis:

(i) Initial energy monitoring infrastructure costs of Rs. 125 million will be paid at the beginning of the project, of which Rs. 100 million is expected to be eligible for EE to claim capital allowances. Due to their nature, the entire infrastructure costs are not expected to have any residual value at the end of the project.

(ii) Existing electricity revenue is Rs. 500 million. Revenue from new consumers is expected to grow over the life of the project as follows:

Years	1	2	3	4	5
Percentage to be applied on existing electricity revenue	20%	40%	60%	80%	100%

Additionally, price inflation of 4% per annum is expected to apply to revenue in the first year and each year of the project thereafter.

(iii) New consumers are expected to generate a contribution of 35% each year over the life of the project.

(iv) For the new consumers, incremental fixed costs of Rs. 20 million are expected to be incurred in the first year of the project and each year thereafter. Cost inflation of 5% per annum is expected to apply each year.

(v) The project is expected to require additional working capital of 10% of the incremental project sales revenue for a given year, to be in place at the beginning of each year. Working capital is expected to be released at the end of the project.

(vi) EE pays tax on profits at the rate of 28%. Eligible capital expenditure is subject to initial and normal depreciation of 25% and 10% respectively under reducing balance method. EE earns sufficient profits to adjust the claim arising from depreciation. Assume tax is payable in the same year in which it arises.

(vii) EE is currently ungeared and has a cost of equity of 13%. The directors plan to finance the project through the sale of other subsidiary assets.

(viii) All project revenue and cost cashflows occur annually at the end of the year in which they arise except otherwise specified.

Required:

(a) Evaluate the proposed energy monitor implementation project by calculating the net present value of the new project and its modified internal rate of rate return. **(12)**

(b) Write a report to EE's board of directors which evaluates the energy monitoring project. Your report should also include consideration of non-financial factors and an explanation of the benefits of performing sensitivity analysis and simulation prior to making a final decision. **(08)**

Note: Calculations for part (b) are not required.

Q.3 The directors of Dynamic Ltd are considering a listing on the Pakistan Stock Exchange in order to raise Rs. 50 million in new equity capital from stock market investors. The directors need assistance to determine the company's value and a suitable issue price for the company's shares.

To evaluate a possible listing on the Pakistan Stock Exchange, the directors of Dynamic Ltd would like to assess the company's value using a range of methods.

Below is summary data extracted from the Dynamic Ltd management accounts for the year ended 30 September 2020:

Statement of profit or loss

	Rs. in '000
Revenue	51,870
Cost of sales	(30,440)
Gross profit	**21,430**
Overheads	(15,845)
Loan interest	(1,110)
Net profit before tax	**4,475**
Income tax	(1,253)
Net profit after tax	**3,222**
Dividend	(1,611)
Retained profit	**1,611**

Statement of financial position

Equity and Liabilities	Rs. in '000	Assets	Rs. in '000
Share capital	500	Property, plant and equipment	37,720
Retained earnings	15,900	Inventory	3,400
Total equity	**16,400**	Cash and bank	2,665
Loan (7.4% interest)	15,000		
Current liabilities	12,385		
Total equity and liabilities	**43,785**	**Total assets**	**43,785**

Dynamic Ltd's directors have provided the following assumptions to be used when applying the valuation methods required.

(i) Annual growth is estimated to be as follows:

- Revenue: 4% per annum for years 1 to 4
- Cost of sales: 3% per annum for years 1 to 4
- Overheads: 2% per annum for years 1 to 4
- For year 5 and each year thereafter, assume annual growth will be zero for revenue, cost of sales and overheads.

(ii) No increase in working capital is required as any increase in inventory will be funded by credit terms offered by suppliers.

(iii) Annual capital expenditure and depreciation will continue to be equal.

(iv) Loan amount and its interest rate would remain same in future.

(v) The directors estimate the brand value to be Rs. 10 million.

(vi) The average price to earnings ratio of a quoted company similar to Dynamic Ltd's operations is 12.5.

(vii) Once Dynamic Ltd is listed on the Pakistan Stock Exchange, investors are expected to require a return of 11%.

(viii) The current policy of distributing 50% of profit after tax as the annual dividend is expected to grow by 5% indefinitely and this commitment will be pledged to future potential investors.

(ix) Income tax is payable at 28% per annum and this rate is expected to continue for the foreseeable future.

Required:

(a) Prepare a range of valuations for the shares of Dynamic Ltd. All valuations should be prepared as at 30 September 2020 and use year-end discount factors, where applicable, presenting your answers to the nearest thousand rupees. **(15)**

(b) Comment on the suitability of the assumptions made by the directors of Dynamic Ltd for preparing the valuations in part (a). **(05)**

Q.4 Assume that the date today is 30 June 2020.

Peshawar Engineering Company Ltd (PEC) manufactures and sells high specification engineering components for use in industrial manufacturing. As the majority of its customers are international, the PEC board is considering whether the company should be hedging its exposure to foreign exchange risk. One of its key customers is QualChem, a chemical manufacturing company based in Bangladesh.

PEC and QualChem have recently agreed a contract for the supply of a large consignment of manufacturing machinery and components. PEC will start manufacturing these shortly and the contract is expected to be completed by 31 December 2020. PEC expects to receive the agreed contract price of 20 million Bangladeshi Taka (BDT) from QualChem on this date.

Following information has been compiled in this regard:

(i) The current spot rate (BDT/PKR) is 0.572 – 0.584.

(ii) Recent research produced by a market analysis employed by PEC has provided the following expected forecast spot rates for BDT/PKR at 31 December 2020:

BDT/PKR	Probability
0.525 – 0.545	20%
0.545 – 0.565	30%
0.565 – 0.585	25%
0.585 – 0.605	25%

(iii) Forward rates at 31 December 2020 offered by PEC's bank: BDT/PKR 0.022 – 0.032 premium.

(iv) Interest rates per annum in Pakistan and Bangladesh are currently as follows.

	Loan rate	Deposit rate
Pakistan	4.60%	3.70%
Bangladesh	3.20%	2.30%

(v) PEC's bank has quoted the following six month over-the-counter options with a premium of PKR 125,000 which expire on 31 December 2020:

- A put option on 20 million BDT at an exercise price (BDT/PKR) of 0.555
- A call option on 20 million BDT at an exercise price (BDT/PKR) of 0.535

Required:

(a) Calculate the PKR amount receivable by PEC on 31 December 2020 if it uses:

- no hedge, evaluate using the expected spot rate
- a forward contract with PEC's bank
- a money market hedge
- an over-the-counter option with PEC's bank **(11)**

(b) Discuss the issues that should be taken into account by the PEC board when it considers whether or not PEC should hedge the receipt of 20 million Bangladeshi Taka (BDT) at 31 December 2020.

Include results from part (a) in your discussion. **(07)**

Q.5 Super Cakes Ltd manufactures high quality cakes for sale across Pakistan for family and social events, with intricate decoration provided by skilled cake decorators. Although customised in terms of final design, each cake is the same size and has essentially the same ingredients with only very minor differences in flavour, colour and decoration. Each cake is sold as soon as it is produced. There are no opening or closing inventories and work in progress is negligible as the manufacturing process for each cake is quick.

The company operates a standard marginal costing system. The standard card for each cake unit is as follows:

		Rupees
Flour and sugar	0.25 kg at Rs. 152 per kg	38
Egg and butter	0.1 kg at Rs. 400 per kg	40
Filling and decoration	0.15 kg at Rs. 280 per kg	42
Total direct materials		120
Direct labour	2 hours at Rs. 480 per hour	960
Variable overheads	2 hours at Rs. 30 per hour	60
Standard variable cost		1,140
Standard contribution		860
Standing selling price		2,000

The budgeted output for the month of November 2020 was 5,100 cakes.

Actual results for November 2020 were as follows:

(i) Production of 4,850 cakes were sold for Rs. 9,628,500.
(ii) Materials purchased for production of cakes in November amounted to 2,300 kg at a total cost of Rs. 598,200 as follows:

	Purchases (kg)	**Cost (Rs.)**
Flour and sugar	1100	174,183
Egg and butter	485	200,607
Filling and decoration	715	223,410

(iii) Labour hours paid for amounted to 8,500 hours at a cost of Rs. 4,025,000.
(iv) Actual operating hours amounted to 8,150 hours.
(v) Actual variable overheads amounted to Rs. 250,000.
(vi) Actual fixed overhead for November 2020 were Rs. 2,200,000.

Required:
(a) Calculate the relevant sales, materials, labour and variable overhead variances for the month of November 2020. **(11)**
(b) Provide an operating statement reconciling budget contribution to actual contribution and actual profit for the month of November 2020. **(04)**
(c) Prepare a report which explains the impact of the November 2020 operating statement to the board of Super Cakes Ltd and actions the board should consider. **(05)**

(THE END)