Certified Finance and Accounting Professional Stage Examination

The Institute of Chartered Accountants of Pakistan

6 December 2022
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 Malik Consultancy Company Limited ('Malik') is a global management consultancy business registered and listed in Pakistan. The board is considering several acquisitions for the following year as part of the global expansion strategy.

One investment opportunity is to grow the business by establishing a new office in Turkey. Details relating to the investment are shown below.

Initial research and investment
Malik has already carried out initial market research to assess the viability of this investment opportunity in Turkey. The currency in Turkey is the Turkish Lira (TRY).

The cost of the initial market research was TRY 2 million. The research indicated that there is an 80% probability of achieving cash revenue of TRY 20 million and a 20% probability of achieving TRY 10 million in the first year of operation; the revenue figures are based on today's prices. The finance department has estimated that the cost of the senior management time spent on the project to date is Rs. 5 million.

The initial investment would comprise TRY 200 million for buildings and TRY 30 million for computer equipment and office furniture. Malik's policy is that buildings are not depreciated, and equipment is depreciated over five years on a straight line basis with zero scrap value.

Projects are evaluated over a five-year period and incorporate a final terminal value as a cash inflow in year five. The terminal value is estimated as the market value of fixed assets plus a multiple of eight times its pre-tax operating cash flows generated in year five. The building is expected to have a net of tax resale market value of TRY 272 million (at today's price) at the end of fifth year.

The company's current weighted average cost of capital is 18.5%. The board has suggested using this rate for simplicity to assess the viability of this investment opportunity in Turkey.

Operating profit
Malik anticipates that regardless of the year one revenue value, the revenue growth will be 10% per annum in year two and three before reducing to a more moderate 4% per year in year four and five.

The levels of inflation have been unusually high and so the expectation is to increase revenue prices by 15% per annum in the first three years. Thereafter prices would rise by 4% per annum for the duration of the investment project.

Local operating costs in Turkey are expected to comprise variable costs at 40% of the revenue value in that year, before the impact of inflation.

The estimated fixed costs will be TRY 5 million in year one and will repeat annually, subject to cost inflation. All costs are expected to inflate at 8% per annum for the foreseeable future.

All the after tax cash flows from the venture will be remitted back to Malik.

Taxation
In Turkey, the determination of taxable profits is very similar to that of Pakistan with the exception of tax depreciation. In Turkey, the company's own depreciation policy is used for tax depreciation.

There is no tax treaty between Turkey and Pakistan; however double tax relief is available in relation to profits remitted to Pakistan, such that an additional 6% tax will be due on the operating profit. Tax in both countries is paid in the year the liability arises. For simplicity ignore the impact of tax depreciation when calculating the additional Pakistan tax.

Finance
Historically, Malik has used existing finance to fund projects. However, for this project, the board has decided to use some new debt finance and have negotiated a five-year bank loan of Rs. 2,875 million. The interest rate for this new debt is 9% and tax deductible issue costs of 2% will be incurred when the loan is advanced. Issue cost would be financed from existing funds.

Malik's gearing ratio (market values measured as debt: debt plus equity) is currently 25%.

Market information

	Turkey	**Pakistan**
General inflation	8%	6%
Yield on five-year treasury bonds	9%	7%
Corporate tax	23%	29%
Exchange rate	TRY 1 :	PKR 12.5

Recent board meeting
The Turkey expansion was discussed at a recent board meeting and the new bank loan was mentioned.

Malik's Sales Director, Muhammad Hussain, was concerned that using local debt to finance an international expansion would introduce additional risk. He read an article in a business journal that outlined how currency SWAP agreements can be used to reduce currency risk when converting future foreign currency profit into Pakistan Rupees. However, Muhammad acknowledged during the meeting that he did not understand how these worked.

Muhammad has asked that you explain the additional risk that arises when using Pakistan Rupee dominated debt finance to fund a foreign investment and how Malik could use swap agreements to reduce risk when converting future cash flows in Turkish Lira into Pakistan Rupees.

Required:

(a) Recommend, with supporting calculations, if the board should proceed with the investment opportunity in Turkey. **(14)**

(b) Discuss whether it is appropriate to use the existing cost of capital to appraise an international project. **(05)**

(c) Explain the additional risk that arises when using local debt to fund the investment in Turkey and explain how Malik could use swap agreements to reduce risk when converting future cash flows in Turkish Lira into Pakistan Rupees. **(06)**

Note: Calculations for parts (b) and (c) are not required.

Q.2 NPP Limited ('NPP') is a company that manufactures artificial chemical fertilizers that are used in the farming industry in Pakistan. The company is listed on the Pakistan Stock Exchange.

NPP operates from three factories based in Lahore. There are two factories dedicated to the production of two intermediate compounds – ammonia and nitric acid – and a third factory that produces the final fertilizer products such as nitrogen phosphorous potassium, calcium ammonium nitrate and nitro phosphate.

Recently, NPP has struggled to produce sufficient volumes of ammonia to satisfy the internal requirements for final product production. A number of alternative solutions to the supply chain shortage have been considered and one option is to acquire a company that manufactures ammonia.

NPP has identified a smaller listed target company, NH Agrico Limited ('NH'). NH, which is also based in Lahore, manufactures ammonia and other compounds used in the production of fertilizer. The Production Director, Ali Hussain, has estimated that in addition to resolving the supply chain shortage, the acquisition would generate synergies of Rs. 1,500 million per year.

NPP is confident that its price to earnings ratio is suitable to value the combined business and would like to make an offer to the shareholders on that basis. To protect the current shareholders, NPP would like to structure the deal in such a way that the earnings per share (EPS) and price earnings (P/E) ratio of the new combined NPP group would remain the same as that of existing EPS and P/E ratio of NPP.

Initial discussions suggest that the board of NH is open to the idea of a takeover if the offer price is acceptable and is in the form of a share for share exchange for NPP shares.

Relevant financial information

	NPP	**NH**
EPS	Rs. 460	Rs. 620
Number of shares	22 million	5 million
P/E ratio	10	5

Required:

(a) Explain the meaning of synergy and suggest what might create synergies for NPP if the takeover of NH were to proceed. **(04)**

(b) Explain the purpose of due diligence and the steps that NPP should undertake prior to finalising the offer with NH. **(06)**

(c) Determine the terms of the share for share exchange assuming that NPP pays the maximum theoretical price for NH. **(05)**

(d) Advise whether the existing shareholders of NH and NPP are likely to approve the offer and quantify any gains that the respective shareholders would receive if NPP pays the maximum theoretical price for NH. **(07)**

Q.3 Multan Textiles Limited ('MTL') manufactures ready-made garments for export; the majority of exports are to Europe with contracts specified in euros. MTL is listed on the Pakistan Stock Exchange. Historically, the company has not hedged against exchange rate movement, however the recent volatility in currency markets and some exchange losses has led the board of MTL to revise its approach to risk management.

The board has ordered some specialist machinery for use in the Karachi factory. The new machinery was difficult to source and, after some deliberation, the contract was awarded to a supplier based in the US. The specialist machinery will cost USD 2.5 million and will be delivered at the end of May. The deposit of USD 0.5 million has already been paid, however the balance will be due at the beginning of June after the machinery has been installed.

MTL has prepared its cash flow forecast for the next six months and the board would like advice regarding several matters.

Firstly, the board would like to hedge against exchange rate risk on the payment for the new machinery, using the EUR receipts from exports. Typically, there are EUR 2 million receipts every month. **You should assume that the hedge will commence at the end of December.**

Information for forward contract, money market hedge and futures is as follows:

31 December 2022	
Spot rate USD/1 EUR	1.0790 – 1.0810
Forward premium cents/EUR	1.46 – 1.26
March Futures (EUR 20,000 contract size)	1.0825 USD/EUR
June Futures (EUR 20,000 contract size)	1.0894 USD/EUR
1 June 2023 (estimated)	
Spot rate USD/1 EUR	1.0682 – 1.0692
June Futures (EUR 20,000 contract size)	1.0699 USD/EUR
The tick size is USD/EUR 0.0001	
Interest rates	
EUR	6.0% – 6.5% per annum
USD	3.0% – 3.6% per annum

Secondly, the cash flow forecast has identified that the company will go overdrawn in six months' time for a period of six months. The overdraft is expected to be Rs. 200 million. The board is concerned that interest rates will rise above the current 7% and would like advice on how to hedge against the interest rate risk using an over-the-counter (OTC) interest rate option with a bank.

OTC interest rate option premium (quoted as annual percentage points)

Strike price	Exercise date	Call	Put
93.00	June	0.10	0.35
93.00	September	0.20	0.45

Required:

(a) Explain, with supporting calculations, how the company can hedge against exchange rate risk in five months' time. **(14)**

(b) Explain how the company can protect against an interest rate rise using OTC interest rate options. **(04)**

The board has also asked for your advice on whether MTL should pay a dividend in March 2023 in respect of the year ending 31 December 2022. This matter was discussed at a recent board meeting and the board was divided regarding the action to take.

Youssef Ahmed, the CFO, argued that MTL's policy has always been to pay out 30% of after tax profits as a dividend and it was important to maintain this policy. Ali Saad, the CEO, was concerned that paying a dividend would lead to a larger overdraft and this should be avoided.

Required:

(c) Advise the board on the practical matters that should be considered when deciding on whether a dividend should be paid. Recommend, with reasons, whether a dividend should be paid in March 2023. **(04)**

Q.4 Oakaan Limited ('OL') is a manufacturing company based in Lahore and is listed on the Pakistan Stock Exchange. OL produces pre-prepared ready meals that are sold to retailers. The product range is limited, and OL is keen to develop and expand the range of ready meals sold under the OL brand.

The board has been approached by a rival company, Koel Limited ('Koel'), to ascertain if OL would be interested in acquiring the business. Koel's owners are looking to retire and would like to sell the company as a going concern.

Prior to being approached by Koel, the board had commenced negotiations with a local farming company, Roller Limited ('Roller') with a view to making an offer to purchase the business to integrate with a key part of the supply chain.

OL does not have sufficient funds at the current time to invest in both Koel and Roller and must choose just one business. The investment is likely to be similar in financial terms at around Rs. 500 million. Neither Koel nor Roller have any debt finance.

The board is aware that there are financial models that evaluate the risk and return of combined businesses, portfolio theory and CAPM. However, the board is not sure which model should be used in respect of this decision and has asked for your advice.

You have been able to collate the following information for OL and the other two companies:

	Oakaan Limited	**Koel Limited**	**Roller Limited**
Expected return for shareholders	14%	13%	15%
Standard deviation	3%	2.5%	4%
Correlation coefficient with Oakaan	n/a	0.9	0.3
Equity beta	0.78	0.67	0.89
Market value of equity **(Rs. in million)**	2,000	500	500

OL would like to fund the acquisition by issuing some additional irredeemable debt finance. The existing debt of OL carries a coupon rate of 6% per annum and is trading at 75%. The new debt finance will have a coupon rate of 7% per annum. The debt is secured in a similar way to the existing debt such that investors will expect the same return. The return on the Pakistan Stock Exchange can be assumed to be 16% and risk free treasury bonds have a coupon rate of 7% per annum. The applicable rate of tax is 29%.

Required:

(a) Use both portfolio analysis and CAPM to determine the overall business risk and return of the enlarged business, assuming OL acquires just one of the target companies. Consider each acquisition separately. **(07)**

(b) Advise the board of OL which model is more suitable to its circumstances, and then recommend which investment the company should make. **(04)**

Note: Ignore the implications of the new debt for requirements (a) and (b).

(c) Explain, with supporting calculations, the amount of new debt that should be issued and the likely issue price. **(04)**

Q.5 Adventure Travel Limited ('AT') is an outdoor adventure company that operates on a global basis. AT is listed on the Pakistan Stock Exchange.

The board would like to diversify and are considering the acquisition of a small hotel, Kirthar View Hotel ('KVH') located close to Kirthar National Park. This would be a diversification from AT's usual business but would support the company's long-term plans to operate a package holiday to guests which would include staying at AT-owned hotels.

KVH is not a listed company, however the board has obtained some financial information of a similar listed company namely Bells Hotel Group. The respective beta values are shown below alongside other relevant information.

	Adventure Travel	**Bells Hotel Group**
Equity beta	1.5	1.2
Gearing (Debt: Debt + Equity)	20%	30%

AT's debt comprises a bank loan with an interest rate of 7%, the debt is secured on assets and is considered to be risk free. The return on the Pakistan Stock Exchange can be assumed to be 16%. Corporate tax is 29%.

The board has estimated the free cash flows of the KVH to be as follows:

	Year 0	**Year 1**	**Year 2**	**Year 3**	**Year 4**
	---------------- Rs. in million ----------------				
Investment	1,200				
After-tax operating cash flows		150	200	300	350

Operating cash flows are expected to grow at 3% each year from year four onwards.

AT has surplus funds and would not need to raise any new finance for the acquisition. However, the board is not sure if the cost of capital will change as this is a new business area for them.

Required:

(a) Determine the weighted average cost of capital which should be used to appraise the acquisition of KVH. **(06)**

(b) Estimate the value of KVH using shareholder value analysis. **(06)**

(c) Explain, with calculations, the sensitivity of the valuation in KVH determined in part (b) to AT's weighted average cost of capital. **(04)**

(THE END)