CA THE INSTITUTE OF CHARTERED ACCOUNTANTS OF SRI LANKA

No. of pages: 10

Instructions to candidates

(1) Time allowed: Reading and planning - 15 minutes
Writing - 3 hours

(2) Total: 100 marks

(3) **Answer all questions**

(4) This paper consists of two sections.
Section 1 : 2 questions
Section 2 : 1 question (Common pre-seen case study provided prior to the examination is in relation to this question)

(5) This is a **closed book** examination.

(6) Answers should be in the **English Language**, in the answer booklet/s given to you.

(7) Begin each answer on a separate page in the answer booklet. Submit all workings.

(8) Answers written on the answer booklets, graph papers and any other stationery, distributed at the examination hall, only are considered in marking of the answer scripts. Any other attached documents are not taken into account at the time of marking the answer scripts.

S L 2

June 2023

Model Paper 01

SAMIRA ANTHONY

Question 01

Anchorage Retail Company is a large high street and on-line retailer that has lost its position as the premier quality clothes, household goods and food chain in the European market. Five years previously there had been speculation that the company would be a takeover target for any one of a number of private equity firms. However, a newly appointed and flamboyant Chief Executive Officer, John Bear, initiated a major capital reconstruction and a highly aggressive turnaround strategy.

The reaction to that turnaround strategy was an improvement in the company's share price from \$3 to \$7 per share over the subsequent three years. The private equity firms who had been interested in acquiring the company were deterred for two principal reasons. First, John Bear had a reputation for his aggressive style and his history of defending his companies against takeover. Second, the share price of Anchorage had reached a record high.

In recent months a belief in the investment community had become widespread that the revival of the company's performance had more to do with the reorganisation of the firm's capital than the success of John Bear's turnaround strategy. John Bear insisted, however, that the improvements in the reported 'bottom line' reflected a sustainable improvement in the performance of the business. However, the recession in the European retail market following the 'credit crunch' led to a sharp reduction in Anchorage's share price reinforced by concerns in the financial markets that John Bear has become too dominant in the board of the company.

The most recent accounts for Anchorage Retail, in summary form, are as follows:

Anchorage Retail Company

	20X9	*20X8*
	\$m	\$m
Profit / loss statement		
Revenue	9,000	8,500
Cost of sales	5,500	5,250
Gross profit	3,500	3,250
Less other operating costs	2,250	2,220
Operating profit	1,250	1,030
Finance costs	80	110
Profit before tax	1,170	920
Income tax expense (at 30%)	310	270
Profit for the period	860	650

	20X9
	\$m
Summary cash flow statement	
Operating cash flow	1,610
Less interest	(110)
Less taxation	(270)
Free cash flow before reinvestment	1,230
Dividend paid	(270)
CAPEX	(740)
Financing	(70)
Net cash flow	150

Statement of financial position	2009 $m	2008 $m
Assets		
Non-current assets	4,980	4,540
Current assets	1,220	850
Total assets	6,200	5,390
Equity and liabilities		
Ordinary share capital (25c)	400	425
Share premium	230	200
Capital redemption reserve	2,300	2,300
Other reserves	(6,540)	(6,500)
Retained earnings	5,990	5,400
Dividends payable	(350)	(270)
Total equity	2,030	1,555
Non-current liabilities	1,900	1,865
Current liabilities	2,270	1,970
Total equity and liabilities	6,200	5,390

The management of Polar Finance, a large private equity investment fund, has begun a review following the sale of a substantial part of its investment portfolio. It is now considering Anchorage as a potential target for acquisition.

They have contacted you and asked if you would provide a brief report on the financial performance of Anchorage Retail and give an independent view on a bid the company is considering for the business. The suggested bid would be in the form of a cash offer of $3.20 a share which would represent a 60¢ premium on the current share price.

Reviewing the fund's existing business portfolio prior to acquisition you estimate that its asset beta is 0.285. Polar Finance has equity funds under management of $1,125 million and a market based gearing ratio (debt as a proportion of total capital employed) of 0.85. This acquisition would be financed from additional cash resources and by additional borrowing of $2.5 billion. It is expected that Anchorage's proportion of the total post-acquisition cash flows will be 20%. Polar Finance does not pay tax on its income.

During your investigations you discover the following:

1 The equity beta for Anchorage is 0.75. The current risk free rate is 5%. In order to estimate the rate of return on the market using the dividend growth model you note that the current dividend yield on a broadly based market index is 3.1% and the growth in GDP is 4% nominal. The growth of the firms in the index is fairly represented by growth in GDP.

2 Anchorage has a gearing ratio based upon market capitalisation of 24%. You estimate that its current cost of debt capital is 6.2%. You may assume that Anchorage's cost of finance has been constant over the last twelve months.

You may use year-end statement of financial position values when calculating performance ratios.

Required

(a) Outline the principal risks that Polar Finance should consider when assessing an acquisition of this size. (6 marks)

(b) Summarise the performance of Anchorage in 20X9 compared with 20X8 using ratios you consider appropriate. (6 marks)

(c) Estimate the impact of this acquisition upon the required rate of return of equity investors in Polar Finance. (7 marks)

(d) Evaluate the argument that this company may have been systematically undervalued by the market and is therefore a suitable target for acquisition. (6 marks)

(Total = 25 marks)

Question 02

Following a collapse in credit confidence in the banking sector globally, there have been high levels of volatility in the financial markets around the world. Phobos Co is a UK listed company and has a borrowing requirement of £30 million arising in two months' time on 1 March and expects to be able to make repayment of the full amount six months from now. The governor of the central bank has suggested that interest rates are now at their peak and could fall over the next quarter. However, the chairman of the Federal Reserve in the United States has suggested that monetary conditions may need to be tightened, which could lead to interest rate rises throughout the major economies. In your judgement there is now an equal likelihood that rates will rise or fall by as much as 100 basis points depending upon economic conditions over the next quarter.

LIBOR is currently 6.00% and Phobos can borrow at a fixed rate of LIBOR plus 50 basis points on the short term money market but the company treasurer would like to keep the maximum borrowing rate at or below 6.6%.

Short term sterling index futures have a contract size of £500,000 and a tick size of £12.50. The open and settlement prices of three month futures contracts are shown below (settlement at the end of the month):

	Open	Settlement
March	93.800	93.880
June	93.870	93.940
September	93.890	93.970

You may assume that basis diminishes to zero at contract maturity at a constant rate over time and that time intervals can be counted in months.

Options on short sterling futures have a contract size of £500,000 and the premiums (shown as an annual percentage) available against a range of exercise prices are as follows:

	Calls			Puts		
Exercise	March	June	September	March	June	September
93750	0.155	0.260	0.320	0.045	0.070	0.100
94000	0.038	0.110	0.175	0.168	0.170	0.205
94250	0.010	0.040	0.080	0.300	0.350	0.360

Required

(a) Estimate the effective interest rate cost if the anticipated interest rate exposure is hedged:

(i) Using the sterling interest rate futures

(ii) Using the options on short sterling futures (14 marks)

(b) Outline the benefits and dangers to Phobos of using derivative agreements in the management of interest rate risk. (6 marks)

(c) In addition, Phobos has long-term variable rate borrowing, which is due for repayment in six years. Phobos previously did not consider the risk great enough to hedge the interest rate risk, but with an expectation that interest rates will rise, they are now considering a swap arrangement. The Finance Director's assistant has suggested that the company should investigate the use of alternatives to a swap, such as forward rate agreements or interest rate options. The Finance Director has stated that there is very little point in such an investigation because the alternatives to swaps tend to be designed to deal with short term interest rate movements and so they would offer very little protection against the movements that could occur over the next six years. The Finance Director does not believe that there is any point in purchasing a sequence of short-term instruments over the next six years.

Required

Required

Evaluate the Finance Director's statement that there is no point in purchasing a sequence of short-term instruments to lower exposure to interest rate risks over the remaining six years of the loan. (5 marks)

(Total = 25 marks)

Question 03

The Seal Island Nuclear Power Company has received initial planning consent for an Advanced Boiling Water Reactor. This project is one of a number that has been commissioned by the Government of Roseland to help solve the energy needs of its expanding population of 60 million and meet its treaty obligations by cutting CO_2 emissions to 50% of their 2010 levels by 2030.

The project proposal is now moving to the detailed planning stage which will include a full investment appraisal within the financial plan. The financial plan so far developed has been based upon experience of this reactor design in Japan, the US and South Korea.

The core macro-economic assumptions are that Roseland GDP will grow at an annual rate of 4% (nominal) and inflation will be maintained at the 2% target set by the Government.

The construction programme is expected to cost $1 billion over three years, with construction commencing in January 20X2. These capital expenditures have been projected, including expected future cost increases, as follows:

Year end	*20X2*	*20X3*	*20X4*
Construction costs ($ million)	300	600	100

Generation of electricity will commence in 20X5 and the annual operating surplus in cash terms is expected to be $100 million per annum (at 1 January 20X5 price and cost levels). This value has been well validated by preliminary studies and includes the cost of fuel reprocessing, ongoing maintenance and systems replacement as well as the growth. The plant is expected to have an operating life of 30 years.

Decommissioning costs at the end of the project have been estimated at $600 million at current (20X2) costs.

Decommissioning costs are expected to rise in line with nominal GDP growth.

The company's nominal cost of capital is 10% per annum. All estimates, unless otherwise stated, are at 1 January 20X2 price and cost levels.

Required

(a) Produce a report for the board of directors which includes:

(i) An estimate of the net present value for this project as at the commencement of construction in 20X2. **(11 marks)**

(ii) A discussion of the principal uncertainties associated with this project. **(7 marks)**

(iii) A sensitivity of the project's net present value (in percentage and in $), to changes in the construction cost, the annual operating surplus and the decommissioning cost. (Assume that the increase in construction costs would be proportional to the initial investment for each year.) **(6 marks)**

(iv) An explanation of how simulations, such as the Monte Carlo simulation, could be used to assess the volatility of the net present value of this project. **(4 marks)**

Professional marks for format, structure and presentation of report **(4 marks)**

(b) Discuss the merits and potential problems of using each of the weighted average cost of capital and adjusted present value to aid the evaluation of proposed capital investments. **(9 marks)**

Seal Island is considering the possible effect on its cost of capital if conversion of a convertible loan stock occurs. Stock market prices have recently been very volatile, and could easily rise or fall by 10% or more during the next two months. The convertible is a $20 million 8% loan stock with four years to maturity, which was originally issued at its par value (face value) of $100. The loan stock may be converted into 20 ordinary shares during the next two months only. The loan stock's current market price is $110. Redemption in four years' time would be at the par value of $100. Seal Island currently has other debts with a market value of $23 million.

Seal Island could currently issue straight debt at par of $100 with a redemption yield of 9%.

Seal Island's current share price is 520 cents, the market value of ordinary shares is $180 million, and financial gearing 80% equity to 20% debt (by market values).

The systematic risk of the company's equity is similar to that of the market, and is thought to be unlikely to change in the near future.

The market return is 15%.

The corporate tax rate is 30%.

Required

Assuming that no major changes in interest rates occur during the next two months, estimate the impact on the company's cost of capital if:

(i) Seal Island's share price in two months' time is 470 cents, and no conversion takes place.

(ii) Seal Island's share price in two months' time is 570 cents, and conversion takes place.

State clearly any other assumptions that you make.

Comment on your findings. **(9 marks)**

(Total = 50 marks)