Professional - Module

Advanced Financial Management

Paper P4

Time allowed : 15 minutes for reading and planning

3 hours for writing

July 1 – 2025

Do not open this paper until instructed by the supervisor.

This question paper must not be removed from the examination hall.

The Accountancy & Audit Profession Org· Council - Sudan

AAPOC

Section A: This question is compulsory and MUST be attempted

Question 1:

SAVANNAH Co is a company operating in two main sectors: agribusiness logistics and renewable energy development. It owns and operates distribution infrastructure across Sub-Saharan Africa and has also invested in solar farm projects in emerging markets. It has a strong reputation for efficiency and has long-standing partnerships with governments and international agencies.

The board of directors (BoD) of SAVANNAH Co recently held a strategic retreat to address concerns that the company may be failing to maximize shareholder value due to a high weighted average cost of capital (WACC). It was agreed that the capital structure and risk profile of the company may be limiting investment opportunities.

After the retreat, three directors continued their discussion, and each submitted a proposal to improve the company's risk-return profile. The BoD has requested a report to evaluate the proposals of the first and second directors.

First Director's Proposal

The first director proposes divesting the renewable energy division and focusing solely on the agribusiness logistics sector, where the company has dominant market share. The sale would reduce non-current assets by 25% and current liabilities by 12%. The expected after-tax gain on disposal is 18%.

The funds from the divestment, along with available cash, will be used to repay 75% of the company's outstanding bonds. As a result, the company's credit rating is expected to improve from BBB to A.

Second Director's Proposal

The second director suggests diversification by investing in digital agricultural platforms to enhance long-term growth and resilience. She recommends issuing $60 million in 5-year debt (coupon: 5.8%) to fund the development of a tech subsidiary.

The new debt is expected to downgrade the company's credit rating to B−. The investment will increase non-current assets and increase current liabilities to $24 million.

Third Director's Proposal

The third director does not support either structural shift. Instead, she advocates a robust enterprise risk management (ERM) system to assess and actively manage all financial and operational risks. She argues that this approach could improve capital efficiency without major strategic shifts.

EXTRACT FROM FORECAST FINANCIAL POSITION

	$'000
Non-current assets	260,000
Current assets	10,000
Total assets	**270,000**
Equity and liabilities	
Share capital ($0.50/share)	40,000
Retained earnings	110,000
Total equity	**150,000**
Bonds (6% coupon, 5 years)	100,000
Current liabilities	20,000
Total liabilities	**120,000**
Total equity + liabilities	**270,000**

Other Financial Information

SAVANNAH Co's forecast after-tax earnings for the coming year are expected to be $24 million. Any increase in non-current assets is expected to yield 8.5% after tax return, and any reduction in non-current assets causes a 10% fall in after-tax earnings. SAVANNAH Co's current share price is $3.00 per share.

Following are addition estimates that provided by the finance department:

- Beta of SAVANNAH Co: 1.1
- Beta of renewable energy unit: 0.55
- Estimated beta of diversified firm including tech: 1.18
- Debt beta: 0
- 5-year credit spread over risk-free rate:
    - A-rated: 50 bps
    - BBB-rated: 100 bps
    - B-rated: 220 bps
- Risk-free rate: 3.6%
- Market risk premium: 6.5%
- Tax rate: 19%
- Bonds redeemable at par in 5 years

Required

(a) Explain the relationship between business risk and financial risk, and evaluate how risk mitigation and diversification strategies can influence a company's cost of capital.

(6 marks)

(b) Prepare a report to the BoD of SAVANNAH Co which:

i. Estimates the current cost of equity and WACC (using market values), and then re-estimates these after implementing the first and second directors' proposals.

(15 marks)

ii. Assesses the impact of each proposal on SAVANNAH Co's after-tax earnings and financial position.

(6 marks)

iii. Critically evaluates the implications of each proposal and recommends a course of action. Explain any key assumptions made.

(7 marks)

Professional marks will be awarded in part (b) for the structure, clarity, and presentation of your report.

(7 marks)

(c) Discuss why a company might implement an enterprise risk management system rather than make significant structural changes to reduce risk.

(6 marks)

Professional marks will be awarded in part (c) for the structure, clarity, and presentation of your report.

(3 marks)

(Total = 50 marks)

Section B: TWO questions ONLY to be attempted

Question 2:

Kordofan Co is a listed company operating in the hospitality and leisure industry. Kordofan Co's board of directors met recently to discuss a new strategy for the business. The proposal put forward was to sell all the hotel properties that Kordofan Co owns and rent them back on a long-term rental agreement. Kordofan Co would then focus solely on the provision of hotel services at these properties under its popular brand name. The proposal stated that the funds raised from the sale of the hotel properties would be used to pay off 70% of the outstanding non-current liabilities and the remaining funds would be retained for future investments.

The board of directors is of the opinion that reducing the level of debt in Kordofan Co will reduce the company's risk and therefore its cost of capital. If the proposal is undertaken and Kordofan Co focuses exclusively on the provision of hotel services, it can be assumed that the current market value of equity will remain unchanged after implementing the proposal.

Kordofan Co financial information

EXTRACT FROM THE MOST RECENT STATEMENT OF FINANCIAL POSITION

	$'000
Non-current assets (revalued recently)	42,560
Current assets	26,840
Total assets	**69,400**
Share capital (25c per share par value)	3,250
Reserves	21,780
Non-current liabilities (5.2% redeemable bonds)	42,000
Current liabilities	2,370
Total capital and liabilities	**69,400**

Kordofan Co's latest free cash flow to equity of $2,600,000 was estimated after considering taxation, interest and reinvestment in assets to continue with the current level of business. It can be assumed that the annual reinvestment in assets required to continue with the current level of business is equivalent to the annual amount of depreciation. Over the past few years, Kordofan Co has consistently used 40% of its free cash flow to equity on new investments while distributing the remaining 60%. The market value of equity calculated based on the free cash flow to equity model provides a reasonable estimate of the current market value of Kordofan Co.

The bonds are redeemable at par in three years and pay the coupon on an annual basis. Although the bonds are not traded, it is estimated that Kordofan Co's current debt credit rating is BBB but would improve to A+ if the non-current liabilities are reduced by 70%.

Other information

Kordofan Co's current equity beta is 1.1 and it can be assumed that debt beta is 0. The risk-free rate is estimated to be 4% and the market risk premium is estimated to be 6%.

There is no beta available for companies offering just hotel services, since most companies own their own buildings. The average asset beta for property companies has been estimated at 0.4. It has been estimated that the hotel services business accounts for approximately 60% of the current value of Kordofan Co and the property company business accounts for the remaining 40%.

Kordofan Co's corporation tax rate is 20%. The three-year borrowing credit spread on A+ rated bonds is 60 basis points and 90 basis points on BBB rated bonds, over the risk-free rate of interest.

Required

(a) Calculate, and comment on, Kordofan Co's cost of equity and weighted average cost of capital before and after implementing the proposal. Briefly explain any assumptions made.

(16 marks)

Professional marks will be awarded in part (a) for the clarity, sequence and professional presentation of the answer.

(5 marks)

(b) Discuss the validity of the assumption that the market value of equity will remain unchanged after the implementation of the proposal.

(4 marks)

(Total = 25 marks)

Question (3)

Zoraya Ltd is a UK-based multinational company involved in the import and distribution of medical equipment. It sources components from Europe and the United States and sells its products globally. The company has seen increasing volatility in its cash flows due to foreign exchange and interest rate fluctuations.

Zoraya Ltd has the following exposures:

- €10 million payment due in six months for equipment sourced from Germany.

- $12 million receivable due in four months from a major customer in the United States.
- £15 million floating-rate loan linked to 6-month SOFR (Secured Overnight Financing Rate), with interest due semi-annually. SOFR is currently at 3.5%, but market forecasts suggest it could rise to 5 % in the next six months.

The treasury team is considering several hedging options:

1) Use of forward contracts.
2) Currency and interest rate options.
3) Money market hedging.
4) Interest rate swaps.

You have access to the following market data:

Exchange Rates (Spot):

- GBP/EUR = 1.1700
- GBP/USD = 1.3000

6-month Forward Rates:

- GBP/EUR = 1.1500
- GBP/USD = 1.2700

Interest Rates (Annualized):

Currency	4-month Deposit	6-month Deposit	6-month Borrowing
GBP	3.0%	3.2%	3.8%
EUR	2.0%	2.5%	3.0%
USD	2.5%	2.7%	3.2%

Options Premiums (per unit of foreign currency):

- EUR put / GBP call (6 months, strike rate 1.1600) = GBP 0.0120
- USD call / GBP put (4 months, strike rate 1.2900) = GBP 0.0105

Required:

(a) **Evaluate and recommend the most appropriate hedging strategy for the euro payment, using both quantitative and qualitative analysis. Support your recommendation with relevant calculations.**

(10 marks)

Professional marks will be awarded in part (a) for the clarity, sequence and professional presentation of the answer.

(5 marks)

(b) Analyse the dollar receivable and recommend the best hedging approach. Show any necessary workings.

(4 marks)

(c) Discuss the interest rate risk exposure faced by Zoraya Ltd and evaluate the potential effectiveness of using an interest rate swap to manage this risk. Include both financial and strategic considerations.

(6 marks)

(Total = 25 marks)

Question 4

Verda plc is a UK-listed company specializing in sustainable building materials. With stable cash flows and strong market position in the UK, Verda is now considering expanding into high-growth technology-enabled construction products. To facilitate this, Verda is evaluating a potential acquisition of NovaTech Ltd, a fast-growing unlisted company that develops AI-based construction management tools.

You have been appointed as a financial consultant to Verda to assist with the valuation and strategic assessment of the proposed acquisition.

The key financial information for NovaTech is as follows:

Item	Value
Estimated maintainable earnings (post-tax)	£4.5 million
Current equity value (based on recent VC funding)	£40 million
Number of shares in issue	10 million
Estimated annual growth rate in earnings	10%
Equity beta (NovaTech)	1.6
Risk-free rate	3.5%
Market risk premium	6%
Cost of debt (pre-tax)	5%
Debt-to-equity ratio (target)	0.4
Corporation tax rate	19%

Verda plans to finance the acquisition through a combination of 60% equity and 40% debt.

Other information

Verda expects to achieve post-acquisition synergies of £1 million per year (after tax), indefinitely. Integration costs are expected to total £3 million, incurred at the end of year 1.

Two acquisition options are being considered:

1. All-share exchange based on a 1.2:1 share swap (NovaTech shareholders receive 1.2 Verda shares for each NovaTech share).
2. Cash offer of £48 million.

Current Verda share price is £6.00.

Required:

(a) Estimate the value of NovaTech using the Gordon Growth Model based on available information.

(4 marks)

(b) Calculate the weighted average cost of capital (WACC) for NovaTech assuming the target capital structure is applied post-acquisition.

(4 marks)

(c) Evaluate whether the proposed cash offer of £48 million is financially justifiable based on your valuation in (a), considering synergy benefits and integration costs. Support your answer with appropriate calculations.

(8 marks)

Professional marks will be awarded in part (c) for the clarity, sequence and professional presentation of the answer.

(5 marks)

(d) Discuss the strategic and financial considerations Verda should take into account when choosing between a cash offer and an all-share offer, including potential impacts on control and shareholder value.

(4 marks)

(Total = 25 marks)

Formulae

Modigliani and Miller Proposition 2 (with tax)

$$k_e = k_e^i + (1-T)(k_e^i - k_d)\frac{V_d}{V_e}$$

Or rearranged

$$k_e + (1-T)k_d\left(\frac{V_d}{V_e}\right) = k_e^i + (1-T)k_e^i\left(\frac{V_d}{V_e}\right)$$

The Capital Asset Pricing Model

$$E(r_i) = R_f + \beta_i(E(r_m) - R_f)$$

The asset beta formula

$$\beta_a = \left[\frac{V_e}{(V_e + V_d(1-T))}\beta_e\right] + \left[\frac{V_d(1-T)}{(V_e + V_d(1-T))}\beta_d\right]$$

The Growth Model

$$P_o = \frac{D_o(1+g)}{(r_e - g)}$$

Gordon's growth approximation

$$g = br_e$$

The weighted average cost of capital

$$WACC = \left[\frac{V_e}{V_e + V_d}\right]k_e + \left[\frac{V_d}{V_e + V_d}\right]k_d(1-T)$$

The Fisher formula

$$(1+i) = (1+r)(1+h)$$

Purchasing power parity and interest rate parity

$$S_1 = S_0 x \frac{(1+h_c)}{(1+h_b)} \qquad F_0 = S_0 x \frac{(1+i_c)}{(1+i_b)}$$

Modified Internal Rate of Return

$$MIRR = \left[\frac{PV_R}{PV_I} \right]^{\frac{1}{n}} (1 + r_e) - 1$$

The Black-Scholes option pricing model

$$c = P_a N(d_1) - P_e N(d_2) e^{-rt}$$

Present Value Table

Present value of 1 i.e. $(1 + r)^{-n}$

Where r = discount rate
n = number of periods until payment

Discount rate (r)

Periods (n)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	
1	0·990	0·980	0·971	0·962	0·952	0·943	0·935	0·926	0·917	0·909	1
2	0·980	0·961	0·943	0·925	0·907	0·890	0·873	0·857	0·842	0·826	2
3	0·971	0·942	0·915	0·889	0·864	0·840	0·816	0·794	0·772	0·751	3
4	0·961	0·924	0·888	0·855	0·823	0·792	0·763	0·735	0·708	0·683	4
5	0·951	0·906	0·863	0·822	0·784	0·747	0·713	0·681	0·650	0·621	5
6	0·942	0·888	0·837	0·790	0·746	0·705	0·666	0·630	0·596	0·564	6
7	0·933	0·871	0·813	0·760	0·711	0·665	0·623	0·583	0·547	0·513	7
8	0·923	0·853	0·789	0·731	0·677	0·627	0·582	0·540	0·502	0·467	8
9	0·914	0·837	0·766	0·703	0·645	0·592	0·544	0·500	0·460	0·424	9
10	0·905	0·820	0·744	0·676	0·614	0·558	0·508	0·463	0·422	0·386	10
11	0·896	0·804	0·722	0·650	0·585	0·527	0·475	0·429	0·388	0·350	11
12	0·887	0·788	0·701	0·625	0·557	0·497	0·444	0·397	0·356	0·319	12
13	0·879	0·773	0·681	0·601	0·530	0·469	0·415	0·368	0·326	0·290	13
14	0·870	0·758	0·661	0·577	0·505	0·442	0·388	0·340	0·299	0·263	14
15	0·861	0·743	0·642	0·555	0·481	0·417	0·362	0·315	0·275	0·239	15

(n)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	
1	0·901	0·893	0·885	0·877	0·870	0·862	0·855	0·847	0·840	0·833	1
2	0·812	0·797	0·783	0·769	0·756	0·743	0·731	0·718	0·706	0·694	2
3	0·731	0·712	0·693	0·675	0·658	0·641	0·624	0·609	0·593	0·579	3
4	0·659	0·636	0·613	0·592	0·572	0·552	0·534	0·516	0·499	0·482	4
5	0·593	0·567	0·543	0·519	0·497	0·476	0·456	0·437	0·419	0·402	5
6	0·535	0·507	0·480	0·456	0·432	0·410	0·390	0·370	0·352	0·335	6
7	0·482	0·452	0·425	0·400	0·376	0·354	0·333	0·314	0·296	0·279	7
8	0·434	0·404	0·376	0·351	0·327	0·305	0·285	0·266	0·249	0·233	8
9	0·391	0·361	0·333	0·308	0·284	0·263	0·243	0·225	0·209	0·194	9
10	0·352	0·322	0·295	0·270	0·247	0·227	0·208	0·191	0·176	0·162	10
11	0·317	0·287	0·261	0·237	0·215	0·195	0·178	0·162	0·148	0·135	11
12	0·286	0·257	0·231	0·208	0·187	0·168	0·152	0·137	0·124	0·112	12
13	0·258	0·229	0·204	0·182	0·163	0·145	0·130	0·116	0·104	0·093	13
14	0·232	0·205	0·181	0·160	0·141	0·125	0·111	0·099	0·088	0·078	14
15	0·209	0·183	0·160	0·140	0·123	0·108	0·095	0·084	0·074	0·065	15

Annuity Table

Present value of an annuity of 1 i.e. $\frac{1-(1+r)^{-n}}{r}$

Where r = discount rate
n = number of periods

Discount rate (r)

Periods (n)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	
1	0·990	0·980	0·971	0·962	0·952	0·943	0·935	0·926	0·917	0·909	1
2	1·970	1·942	1·913	1·886	1·859	1·833	1·808	1·783	1·759	1·736	2
3	2·941	2·884	2·829	2·775	2·723	2·673	2·624	2·577	2·531	2·487	3
4	3·902	3·808	3·717	3·630	3·546	3·465	3·387	3·312	3·240	3·170	4
5	4·853	4·713	4·580	4·452	4·329	4·212	4·100	3·993	3·890	3·791	5
6	5·795	5·601	5·417	5·242	5·076	4·917	4·767	4·623	4·486	4·355	6
7	6·728	6·472	6·230	6·002	5·786	5·582	5·389	5·206	5·033	4·868	7
8	7·652	7·325	7·020	6·733	6·463	6·210	5·971	5·747	5·535	5·335	8
9	8·566	8·162	7·786	7·435	7·108	6·802	6·515	6·247	5·995	5·759	9
10	9·471	8·983	8·530	8·111	7·722	7·360	7·024	6·710	6·418	6·145	10
11	10·368	9·787	9·253	8·760	8·306	7·887	7·499	7·139	6·805	6·495	11
12	11·255	10·575	9·954	9·385	8·863	8·384	7·943	7·536	7·161	6·814	12
13	12·134	11·348	10·635	9·986	9·394	8·853	8·358	7·904	7·487	7·103	13
14	13·004	12·106	11·296	10·563	9·899	9·295	8·745	8·244	7·786	7·367	14
15	13·865	12·849	11·938	11·118	10·380	9·712	9·108	8·559	8·061	7·606	15

(n)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	
1	0·901	0·893	0·885	0·877	0·870	0·862	0·855	0·847	0·840	0·833	1
2	1·713	1·690	1·668	1·647	1·626	1·605	1·585	1·566	1·547	1·528	2
3	2·444	2·402	2·361	2·322	2·283	2·246	2·210	2·174	2·140	2·106	3
4	3·102	3·037	2·974	2·914	2·855	2·798	2·743	2·690	2·639	2·589	4
5	3·696	3·605	3·517	3·433	3·352	3·274	3·199	3·127	3·058	2·991	5
6	4·231	4·111	3·998	3·889	3·784	3·685	3·589	3·498	3·410	3·326	6
7	4·712	4·564	4·423	4·288	4·160	4·039	3·922	3·812	3·706	3·605	7
8	5·146	4·968	4·799	4·639	4·487	4·344	4·207	4·078	3·954	3·837	8
9	5·537	5·328	5·132	4·946	4·772	4·607	4·451	4·303	4·163	4·031	9
10	5·889	5·650	5·426	5·216	5·019	4·833	4·659	4·494	4·339	4·192	10
11	6·207	5·938	5·687	5·453	5·234	5·029	4·836	4·656	4·486	4·327	11
12	6·492	6·194	5·918	5·660	5·421	5·197	4·988	4·793	4·611	4·439	12
13	6·750	6·424	6·122	5·842	5·583	5·342	5·118	4·910	4·715	4·533	13
14	6·982	6·628	6·302	6·002	5·724	5·468	5·229	5·008	4·802	4·611	14
15	7·191	6·811	6·462	6·142	5·847	5·575	5·324	5·092	4·876	4·675	15