



CIFA PART II SECTION 3

CORPORATE FINANCE

WEDNESDAY: 28 November 2018.

Time Allowed: 3 hours.

Answer ALL questions. Marks allocated to each question are shown at the end of the question. Show ALL your workings.

QUESTION ONE

- (a) (i) Explain the term “corporate governance” as applied in corporate finance. (2 marks)
- (ii) Highlight four indicators of the presence of good corporate governance practices in listed companies in your country. (4 marks)

- (b) Brian Olentutu, a financial analyst at Rich Consultancies has obtained the following cash flows on two mutually exclusive projects for Alego Limited:

Year	Project 1 Sh.“000”	Project 2 Sh.“000”
0	(750)	(2,100)
1	310	1,200
2	430	760
3	330	850

Both projects require an annual rate of return of 14%.

Required:

- (i) The incremental internal rate of return (IRR) for each project. (3 marks)
- (ii) Advise Alego Limited on which project to accept. (1 mark)
- (c) Lewis Munga, a financial analyst for Sigma Capital Securities Ltd. has been assigned the task of estimating the costs of capital for Ruwenzori Ltd.

Lewis has estimated the following information for Ruwenzori Ltd:

- The company has a beta of 1.35.
- The appropriate market risk premium is 7%.
- The current risk-free rate of return is 2%.
- The current market price per share (MPS) is Sh.35.
- The company currently pays a dividend of Sh.1 per share on Sh.4 per share earnings.
- The company’s return on equity (ROE) is 12%.
- Floatation cost to issue new shares are approximately 10%.
- Ruwenzori Ltd.’s preference shares pay an annual dividend of Sh.1.50 and each has a market price of Sh.18.75.
- The company’s cost of debt is 6%.
- Ruwenzori Ltd.’s current capital structure is 25% debt, 5% preference shares and 70% equity.
- Ruwenzori Ltd. has a tax rate of 30%.

Required:

- (i) Cost of retained earnings. (2 marks)
- (ii) Cost of new equity. (3 marks)
- (iii) Cost of preference shares. (2 marks)
- (iv) Weighted average cost of capital (WACC) assuming no new shares of equity need to be issued. (3 marks)

(Total: 20 marks)

## QUESTION TWO

- (a) (i) Analyse three essential elements of "sukuk" in relation to Islamic finance. (3 marks)
- (ii) Islamic banking is a banking activity that is consistent with the principle of Sharia (Islamic law). However, Islamic banking continues to face some challenges.

With respect to the above statement, assess four challenges facing Islamic banking operations in your country. (4 marks)

- (b) Horizon Limited forecasts that next year's sales will be Sh.6 million. Fixed operating costs are estimated to be Sh.800,000 and the variable cost ratio (that is, variable costs as a fraction of sales) is estimated to be 0.75. Fixed financing costs are estimated at Sh.200,000 each year. The company has 700,000 outstanding ordinary shares. Corporation tax rate is 30%.

### Required:

- (i) The forecasted earnings per share (EPS) for next year. (2 marks)
- (ii) The company's EPS assuming that the sales were 10% above the projected Sh.6 million level provided. (2 marks)
- (iii) Degrees of operating leverage, financial leverage and combined leverage based on the results obtained in (b) (i) and (b) (ii) above. (6 marks)
- (iv) Interpret the results obtained in (b) (iii) above. (3 marks)

(Total: 20 marks)

## QUESTION THREE

- (a) Explain the term "bootstrapping" as used in mergers and acquisitions. (2 marks)
- (b) (i) Distinguish between "drag on liquidity" and "pull on liquidity" as used in liquidity management. (2 marks)
- (ii) Propose three causes of a drag on liquidity. (3 marks)
- (c) Highlands Limited currently has an earnings per share (EPS) of Sh.2.00 but is determined to report an EPS of Sh.2.67 and therefore acquires Olympia Limited.

The relevant information is provided below:

	Highlands Limited	Olympia Limited
Earnings per share (EPS)	Sh.2.00	Sh.2.50
Market price per share (MPS)	Sh.40	Sh.25
Price to earnings (P/E) ratio	20	10
Number of shares	100,000	200,000
Total earnings	Sh.200,000	Sh.500,000
Total market value	Sh.4,000,000	Sh.5,000,000

### Required:

The cost of the merger to Highlands Limited. (6 marks)

- (d) Joppa Limited expects its cash flows to behave in a random manner as assumed by the Miller and Orr model.

It provides the following information:

- Annual yield on marketable securities is 10%.
- The fixed cost of effecting a marketable securities transaction is Sh.2,500.
- The standard deviation of the change in daily cash balance is Sh.10,000.
- The management expects to maintain a minimum cash balance of Sh.200,000.

### Required:

The company's upper control limit using Miller and Orr model. (4 marks)

- (e) Faridah enterprises sells on terms of 2/10 net 45 days. Annual sales are Sh.90 million. 30% of its customers pay on the 10<sup>th</sup> day and take the discount. The accounts receivable average Sh.12 million.

Assume a 360 days year.

### Required:

The average collection period (ACP) on non-discount sales.

(3 marks)

(Total: 20 marks)

#### QUESTION FOUR

- (a) In relation to capital structure, distinguish between “market timing theory” and “pecking order theory”. (2 marks)
- (b) Simba Limited is an all equity financed company with a cost of capital of 20%.

The company is considering the following one year investment projects:

Project	1	2	3	4	5
Initial cash outlay (Sh. “000”)	1,500	1,500	2,000	2,500	3,000
Annual cash flow (Sh. “000”)	1,800	2,100	2,400	3,000	3,200
Beta coefficient	0.4	0.8	1.0	1.5	2.0

The risk-free rate of return is 10% and probability distribution of the market return is given as follows:

Probability	Market return (%)
0.2	15
0.1	20
0.5	25
0.2	10

#### Required:

- (i) The firm’s overall beta coefficient. (2 marks)
- (ii) Using suitable computations, advise Simba Limited on which project(s) to undertake. (6 marks)
- (iii) The beta factor of the investment in the accepted projects. (2 marks)
- (c) Lovely Electrical Products Company Limited (LEPCL), an unlevered firm, generates operating profit, that is earnings before interest and tax (EBIT) of Sh.20 million in each year. The cost of equity of unlevered firm is 10%.

The company is considering use of Sh.40 million, 5% debt to finance an expansion programme.

In an extensive study on investors, Alpha Associates, an external consulting firm has estimated that the marginal personal tax rates on ordinary shares income for all investors is 25%. Dividend and capital gains are both included in this income. The firm has also estimated that the marginal personal tax rate on debt income is 30%.

Corporate tax rate is 30%.

#### Required:

Using Modigliani and Miller’s arguments, calculate:

- (i) The current value of unlevered firm. (2 marks)
- (ii) The current value of the firm with debt and its weighted average cost of capital (WACC) under assumption of corporate taxes but not personal income taxes. (4 marks)
- (iii) The current value of the firm with debt and both corporate and personal income taxes. (2 marks)
- (Total: 20 marks)**

#### QUESTION FIVE

- (a) Discuss three factors that could influence a firm’s target debt-to-equity ratio. (6 marks)
- (b) Evaluate three characteristics that leveraged buy out (LBO) lenders must consider in order to mitigate against risk of a significant value drop. (6 marks)
- (c) Examine three types of indirect financial cost that could be faced by firms experiencing financial distress. (3 marks)
- (d) Demco Limited is contemplating whether to replace an existing machine or to spend money overhauling it. The firm currently pays no taxes. The replacement machine costs Sh.90 million now and requires maintenance cost of Sh.10 million at the end of every year for eight years. At the end of eight years, it would have a salvage value of Sh.20 million and would be disposed. The existing machine requires an increasing amount of maintenance cost each year and its salvage value decreases each year as illustrated below:

Year	Maintenance cost Sh. “000”	Salvage value Sh. “000”
0	0	4,000
1	1,000	2,500
2	2,000	1,500
3	3,000	1,000
4	4,000	0

If the existing machine is sold in one year, the resale price will be Sh.2.5 million and Sh.1 million must be spent on maintenance during the year to keep it running. The maintenance costs are paid at the end of the year. The machine will last for four years before it ceases to operate. The firm has an opportunity cost of 15%.

**Required:**

Advise the management of Damco Limited on when to replace the machine.

(5 marks)

**(Total: 20 marks)**

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Present Value of 1 Received at the End of  $n$  Periods:

$$PVIF_{r,n} = 1/(1+r)^n = (1+r)^{-n}$$

Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%	36%
1	.9901	.9804	.9709	.9615	.9524	.9434	.9346	.9259	.9174	.9091	.8929	.8772	.8696	.8621	.8475	.8333	.8065	.7613	.7576	.7353
2	.9803	.9612	.9426	.9246	.9070	.8900	.8734	.8573	.8417	.8264	.7972	.7695	.7561	.7432	.7182	.6944	.6504	.6104	.5739	.5407
3	.9706	.9423	.9151	.8890	.8638	.8396	.8163	.7938	.7722	.7513	.7118	.6750	.6575	.6407	.6086	.5787	.5245	.4768	.4348	.3975
4	.9610	.9238	.8885	.8548	.8227	.7921	.7629	.7350	.7084	.6830	.6355	.5921	.5718	.5523	.5158	.4823	.4230	.3725	.3294	.2923
5	.9515	.9057	.8626	.8219	.7835	.7473	.7130	.6806	.6499	.6209	.5674	.5194	.4972	.4761	.4371	.4019	.3411	.2910	.2495	.2149
6	.9420	.8880	.8375	.7903	.7462	.7050	.6663	.6302	.5963	.5645	.5066	.4556	.4323	.4104	.3704	.3349	.2751	.2274	.1890	.1580
7	.9327	.8706	.8131	.7599	.7107	.6651	.6227	.5835	.5470	.5132	.4523	.3996	.3759	.3538	.3139	.2791	.2218	.1776	.1432	.1162
8	.9235	.8535	.7894	.7307	.6768	.6274	.5820	.5403	.5019	.4665	.4039	.3506	.3269	.3050	.2660	.2326	.1789	.1388	.1085	.0854
9	.9143	.8368	.7664	.7026	.6446	.5919	.5439	.5002	.4604	.4241	.3606	.3075	.2843	.2630	.2255	.1938	.1443	.1084	.0822	.0628
10	.9053	.8203	.7441	.6756	.6139	.5584	.5083	.4632	.4224	.3855	.3220	.2697	.2472	.2267	.1911	.1615	.1164	.0847	.0623	.0462
11	.8963	.8043	.7224	.6496	.5847	.5268	.4751	.4289	.3875	.3505	.2875	.2366	.2149	.1954	.1619	.1346	.0938	.0662	.0472	.0340
12	.8874	.7885	.7014	.6246	.5568	.4970	.4440	.3971	.3555	.3186	.2567	.2076	.1869	.1685	.1372	.1122	.0757	.0517	.0357	.0250
13	.8787	.7730	.6810	.6006	.5303	.4688	.4150	.3677	.3262	.2897	.2292	.1821	.1625	.1452	.1163	.0935	.0610	.0404	.0271	.0184
14	.8700	.7579	.6611	.5775	.5051	.4423	.3878	.3405	.2992	.2633	.2046	.1597	.1413	.1252	.0985	.0779	.0492	.0316	.0205	.0135
15	.8613	.7430	.6419	.5553	.4810	.4173	.3624	.3152	.2745	.2394	.1827	.1401	.1229	.1079	.0835	.0649	.0397	.0247	.0155	.0099
16	.8528	.7284	.6232	.5339	.4581	.3936	.3387	.2919	.2519	.2176	.1631	.1229	.1069	.0930	.0708	.0541	.0320	.0193	.0118	.0073
17	.8444	.7142	.6050	.5134	.4363	.3714	.3166	.2703	.2311	.1978	.1456	.1078	.0929	.0802	.0600	.0451	.0258	.0150	.0089	.0054
18	.8360	.7002	.5874	.4936	.4155	.3503	.2959	.2502	.2120	.1799	.1300	.0946	.0808	.0691	.0508	.0376	.0208	.0118	.0068	.0039
19	.8277	.6864	.5703	.4746	.3957	.3305	.2765	.2317	.1945	.1635	.1161	.0829	.0703	.0596	.0431	.0313	.0168	.0092	.0051	.0029
20	.8195	.6730	.5537	.4564	.3769	.3118	.2584	.2145	.1784	.1486	.1037	.0728	.0611	.0514	.0365	.0261	.0135	.0072	.0039	.0021
25	.7798	.6095	.4776	.3751	.2953	.2330	.1842	.1460	.1160	.0923	.0588	.0378	.0304	.0245	.0160	.0105	.0046	.0021	.0010	.0005
30	.7419	.5521	.4120	.3083	.2314	.1741	.1314	.0994	.0754	.0573	.0334	.0196	.0151	.0116	.0070	.0042	.0016	.0006	.0002	.0001
40	.6717	.4529	.3066	.2083	.1420	.0972	.0668	.0460	.0318	.0221	.0107	.0053	.0037	.0026	.0013	.0007	.0002	.0001		
50	.6080	.3715	.2281	.1407	.0872	.0543	.0339	.0213	.0134	.0085	.0035	.0014	.0009	.0006	.0003	.0001				
60	.5504	.3048	.1697	.0951	.0535	.0303	.0173	.0099	.0057	.0033	.0011	.0004	.0002	.0001						

\* The factor is zero to four decimal places

Present Value of an Annuity of 1 Per Period for  $n$  Periods:

$$PVIF_{r,n} = \sum_{t=1}^n \frac{1}{(1+r)^t} = \frac{1 - \frac{1}{(1+r)^n}}{r}$$

Number of Payments	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	12%	14%	15%	16%	18%	20%	24%	28%	32%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.8929	0.8772	0.8696	0.8621	0.8475	0.8333	0.8065	0.7813	0.7576
2	1.9704	1.9416	1.9135	1.8861	1.8594	1.8334	1.8080	1.7833	1.7591	1.7355	1.6901	1.6467	1.6257	1.6052	1.5656	1.5278	1.4568	1.3916	1.3315
3	2.9410	2.8839	2.8286	2.7751	2.7232	2.6730	2.6243	2.5771	2.5313	2.4869	2.4018	2.3216	2.2832	2.2459	2.1743	2.1065	1.9813	1.8684	1.7663
4	3.9020	3.8077	3.7171	3.6299	3.5460	3.4651	3.3872	3.3121	3.2397	3.1699	3.0373	2.9137	2.8550	2.7982	2.6901	2.5887	2.4043	2.2410	2.0957
5	4.8534	4.7135	4.5797	4.4518	4.3295	4.2124	4.1002	3.9927	3.8897	3.7908	3.6048	3.4331	3.3522	3.2743	3.1272	2.9906	2.7454	2.5320	2.3452
6	5.7955	5.6014	5.4172	5.2421	5.0757	4.9173	4.7665	4.6229	4.4859	4.3553	4.1114	3.8887	3.7845	3.6847	3.4976	3.3255	3.0205	2.7594	2.5342
7	6.7282	6.4720	6.2303	6.0021	5.7864	5.5824	5.3893	5.2064	5.0330	4.8684	4.5638	4.2883	4.1604	4.0386	3.8115	3.6046	3.2423	2.9370	2.6775
8	7.6517	7.3255	7.0197	6.7327	6.4632	6.2098	5.9713	5.7466	5.5348	5.3349	4.9676	4.6389	4.4873	4.3436	4.0776	3.8372	3.4212	3.0758	2.7860
9	8.5660	8.1622	7.7861	7.4353	7.1078	6.8017	6.5152	6.2469	5.9952	5.7590	5.3282	4.9464	4.7716	4.6065	4.3030	4.0310	3.5655	3.1842	2.8681
10	9.4713	8.9826	8.5302	8.1109	7.7217	7.3601	7.0236	6.7101	6.4177	6.1446	5.6502	5.2161	5.0188	4.8332	4.4941	4.1925	3.6819	3.2689	2.9304
11	10.3676	9.7868	9.2526	8.7605	8.3064	7.8869	7.4987	7.1390	6.8052	6.4951	5.9377	5.4527	5.2337	5.0286	4.6560	4.3271	3.7757	3.3351	2.9776
12	11.2551	10.5753	9.9540	9.3851	8.8633	8.3838	7.9427	7.5361	7.1607	6.8137	6.1944	5.6603	5.4206	5.1971	4.7932	4.4392	3.8514	3.3868	3.0133
13	12.1337	11.3484	10.6350	9.9856	9.3936	8.8527	8.3577	7.9038	7.4869	7.1034	6.4235	5.8424	5.5831	5.3423	4.9095	4.5327	3.9124	3.4272	3.0404
14	13.0037	12.1062	11.2961	10.5631	9.8986	9.2950	8.7455	8.2442	7.7862	7.3667	6.6282	6.0021	5.7245	5.4675	5.0081	4.6106	3.9616	3.4587	3.0609
15	13.8651	12.8493	11.9379	11.1184	10.3797	9.7122	9.1079	8.5595	8.0607	7.6061	6.8109	6.1422	5.8474	5.5755	5.0916	4.6755	4.0013	3.4834	3.0764
16	14.7179	13.5777	12.5611	11.6523	10.8378	10.1059	9.4466	8.8514	8.3126	7.8237	6.9740	6.2651	5.9542	5.6685	5.1624	4.7296	4.0333	3.5026	3.0882
17	15.5623	14.2919	13.1661	12.1657	11.2741	10.4773	9.7632	9.1216	8.5436	8.0216	7.1196	6.3729	6.0472	5.7487	5.2223	4.7746	4.0591	3.5177	3.0971
18	16.3983	14.9920	13.7535	12.6593	11.6896	10.8276	10.0591	9.3719	8.7556	8.2014	7.2497	6.4674	6.1280	5.8178	5.2732	4.8122	4.0799	3.5294	3.1039
19	17.2260	15.6785	14.3238	13.1339	12.0853	11.1581	10.3356	9.6036	9.0501	8.3649	7.3658	6.5504	6.1982	5.8775	5.3162	4.8435	4.0967	3.5386	3.1090
20	18.0456	16.3514	14.8775	13.5903	12.4622	11.4699	10.5940	9.8181	9.1285	8.5136	7.4694	6.6231	6.2593	5.9288	5.3527	4.8696	4.1103	3.5458	3.1129
25	22.0232	19.5235	17.4131	15.6221	14.0939	12.7834	11.6536	10.6748	9.8226	9.0770	7.8431	6.8729	6.4641	6.0971	5.4669	4.9476	4.1474	3.5640	3.1220
30	25.8077	22.3965	19.6004	17.2920	15.3725	13.7648	12.4090	11.2578	10.2737	9.4269	8.0552	7.0027	6.5660	6.1772	5.5168	4.9789	4.1601	3.5693	3.1242
40	32.8347	27.3555	23.1148	19.7928	17.1591	15.0463	13.3317	11.9246	10.7574	9.7791	8.2438	7.1050	6.6418	6.2335	5.5482	4.9366	4.1659	3.5712	3.1250
50	39.1961	31.4236	25.7298	21.4822	18.2559	15.7619	13.8007	12.2335	10.9617	9.9148	8.3045	7.1327	6.6605	6.2463	5.5541	4.9395	4.1666	3.5714	3.1250
60	44.9550	34.7609	27.6756	22.6235	18.9293	16.1614	14.0392	12.3766	11.0480	9.9672	8.3240	7.1401	6.6651	6.2402	5.5553	4.9399	4.1667	3.5714	3.1250