



QQI

BA (Hons) Accounting and Finance

SUMMER 2024 EXAMINATIONS

Module Code: **B8AF106**
Module Description: **Advanced Financial Management**
Examiner: **Mr. Paul Lydon**
Internal Moderator: **Ms. Mazlinda Hussin**
External Examiner: **Mr. Eoin Langan**

INSTRUCTIONS TO CANDIDATES

Time allowed is THREE (3) Hours

Answer any FOUR (4) Questions

All Questions carry 25 MARKS

Show All Workings.

Answer all theoretical questions in your own word's and using appropriate examples

Formulae and Mathematical Tables Attached

Question 1

Blue Shame is an established electronics business.

As operating costs rise as a consequence of global inflation, the company is considering a project to expand their range into the personal protection security market.

Recently undertaken market research for the project predicted the following sales units for the coming years.

The following information is relevant to year 1:

Unit sales in year 1	30,183
Selling price per unit in year 1	€16
Components cost per unit in year 1	€1.60
Production cost per unit in year 1	€1.20

The following information is also relevant:

Unit sales P.A. growth after year 1	9%
Selling price per unit inflation after year 1	2%
Components cost per unit inflation after year 1	7.50%
Production cost per unit inflation after year 1	11%
Incremental fixed cost P.A. and is not subject to inflation	€75,000

Machinery is required for the project will be purchased at the start of the project for €925,000.

Additional working capital of €410,000 is required at the start of the project, this will remain

constant during the life of the project, and will be released at the end of the project in year 5.

Tax is payable on profits at the rate of 25% and is paid in the year in which cash flows arise.

The company has a nominal cost of capital of 11%.

Capital allowances are applied at 20% on a reducing balance basis

Required:

- (a) Assess – on an NPV basis - whether this project should be undertaken.

(17 Marks)

- (b) Calculate the I.R.R. of this project.

(5 Marks)

- (c) Briefly discuss your findings in each section of (a) above and advise whether the investment is financially acceptable.

(3 Marks)

(Total: 25 Marks)

Question 2

Prima plc is expecting a receipt of US\$900,000 in 6 months' time.
In your role of finance manager, you have determined the following:

Current spot and forward rates are as follows	US\$/1 Euro
Spot rate	1.8530-1.8574
3-months forward	1.8423-1.8469
6-months forward	1.8273-1.8322

Here the rates quoted are in annual rates.	Borrowing	Deposit
US\$	7.09%	5.45%
€	8.18%	6.54%

Identify with reasons whether a forward contract hedge or a money market hedge should be undertaken by Prima on this occasion.

Ensure to show all your working clearly

(Total: 25 Marks)

Question 3

- (a) The recent balance sheet of Enya plc. discloses that the company is financed as follows:

	Book Value
	€m
Ordinary shares (10,000,000 @ €2.50)	25
8% Debenture redeemable loan (200,000 @ €75)	15
10% Preference share (5,000,000 @ €2.50)	12.50
Revenue reserves	10.217

Additional Information:

- The market price per ordinary shares is currently €15.10. A dividend of 12c has recently been paid.
- The market value per preference share is currently €6

- The company's Corporation Tax rate is 12.5%.
- Debenture market value is €250.00
- Enya plc equity beta is estimated to be 1.3.
- The risk-free rate is 4% and the return on the market 11%.

Required

Calculate the Weighted Average Cost of Capital of Enya plc.

(15 Marks)

- (b) Aertrack plc is involved in the aviation sector whose equity to debt ratio is 7:3 and seeking expansion project. It is considering a new venture in railway projects.

The risk-free rate is 11% and the return on the market 16%.

Aertrack's equity beta value is 1.1 and the corporation tax rate is 30%.

Railtrax is a rail company that can be used to calculate a suitable risk adjusted cost of equity to apply to the expansion project. Railtrax's has an equity beta of 1.59 and an equity: debt ratio of 2:1.

Required

Calculate a suitable risk adjusted cost of equity to apply to the project.

(10 marks)

(Total: 25 marks)

Question 4

Molly is looking to acquire Pugh. You have been supplied with the following financial information for Pugh.

Extract from Income statement for current year	€
Profits	209,000
Statement of Financial Position	
Non-Current Assets	2,640,000
Current assets	1,848,000
Total Assets	4,488,000
Represented by	
Ordinary shares €2	1,056,000
Reserves	1,605,120
5% Debenture	1,320,000
Current Liabilities	506,880
	4,488,000

The following information has come to light:

	€
The Fixed assets are half - depreciated and have a replacement value of	4,620,000
Inventory book value in current asset due to be written off	1,584,000
Inventory realisable value	316,800
Current Share price of Pugh Ltd	9.76
Pugh current P/E ratio	9
Pugh projected dividend	0.76
N years ago Pugh paid a dividend of	0.60
N	5
Pugh Ltd Beta Factor	1.09
Risk free rate return (RF)	35%
Average market return (RM)	11%
Ordinary shares	528,000

Required:

(a) Advise Molly company on a value that they should offer Pugh company for the purchase of the company using:

- i. Asset Based Valuation method
- ii. Market Capitalisation
- iii. P/E method
- iv. Dividend Valuation model

(16 Marks)

(c) Comment on the range of values calculated in Part (a).

(3 Marks)

(d) Comment with examples on corporate issues arising on acquisition.

(6 Marks)

(Total: 25 Marks)

Question 5

You have recently been appointed as CFO of a start-up fintech company and your CEO has asked for a briefing on the most appropriate growth strategy to be pursued by the company. In particular, your CEO is seeking guidance on whether the company should focus on acquisitions or organic growth.

- (i) Describe the objectives of growth for a company and differentiate between organic and external growth.

(5 Marks)

- (ii) Detail the benefits of pursuing a strategy focused on organic growth.

(10 Marks)

- (iii) Describe the advantages of adopting an acquisitive growth strategy.

(10 Marks)

(Total: 25 Marks)

Question 6

You are the Finance Director of **VOLTUP plc**, a long established public company involved in the energy sector. You have become aware that an overseas competitor company is looking at entering your domestic market and may be considering a takeover bid for your company.

Required:

Explain and discuss the standard pre-bid defences commonly used in such circumstances.

(10 marks)

If the expected bid does materialise, explain and discuss the usual post-bid defences which could be employed by Voltup plc.

(15 marks)

(Total: 25 marks)

END OF EXAMINATION

Formula and TablesHOLDING PERIOD RETURN

$$r = \frac{DV_1 + (PV_1 - PV_0)}{PV_0}$$

INTERNAL RATE OF RETURN

$$IRR = DCF(A) + \left[\frac{NPV(A)}{NPV(A) - NPV(B)} \times (DCF(B) - DCF(A)) \right]$$

PRESENT VALUE OF A SHARE

$$PV_0 = \frac{DV_0 \times (1+g)}{(k_e - g)}$$

CAPITAL ASSET PRICING MODEL

$$K_e = r_f + [E(r_m) - r_f] \times \beta_j$$

MODIGLIANI AND MILLER PROPOSITION 2 WITH TAX

$$K_{eg} = K_{eu} + [(1-t) \times (K_{eu} - K_d) \times D \div E]$$

COST OF EQUITY CAPITAL

$$K_e = \frac{DV_0 \times (1+g)}{PV_0} + g$$

GORDON'S GROWTH APPROXIMATION

$$g = b r_e$$

WEIGHTED AVERAGE COST OF CAPITAL

$$K_o = K_e \times \frac{E}{E + D} + K_d (1-t) \times \frac{D}{E + D}$$

ASSET BETA FORMULA

$$\beta_a = \beta_e \times \frac{E}{E + D(1-t)} + \beta_d \times \frac{D(1-t)}{E + D(1-t)}$$

VALUE OF A GEARED COMPANY

$$V_g = V_u + \text{PV tax shield}$$

TOTAL PRESENT VALUE MODEL

$$PV_0 = \frac{\text{Free cash flows} \times (1+g)}{WACC - g}$$

FREE CASH FLOW

$$\text{PBIT} \times (1-t) + \text{depreciation} - \text{capital spending} +/\text{- working capital}$$

COST OF IRREDEEMABLE DEBT CAPITAL

$$K_d = \frac{\text{Annual interest} (1-t) \times 100\%}{\text{Market value of debt}}$$

PERPETUITY GROWTH FORMULA

$$PV_0 = \frac{C_n}{r - g}$$

STANDARD DEVIATION OF RETURNS OF A TWO ASSET PORTFOLIO

$$\sigma_{AB} = \sqrt{y^2 \sigma_A^2 + (1-y)^2 \sigma_B^2 + 2 \times y \times (1-y) \times \rho_{AB} \times \sigma_A \times \sigma_B}$$

THE FISHER FORMULA

$$1 + r_{\text{nominal}} = (1 + r_{\text{real}}) \times (1 + \text{inflation})$$

INTEREST RATE PARITY FORMULA

$$F_0 = S_0 \times \frac{(1+ic)}{(1+ib)}$$

PURCHASING POWER PARITY FORMULA

$$S_1 = S_0 \times \frac{(1+hc)}{(1+hb)}$$

PRESENT VALUE TABLES

Periods	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
2	0.980	0.961	0.943	0.925	0.907	0.890	0.874	0.857	0.841	0.826
3	0.970	0.942	0.916	0.889	0.864	0.840	0.817	0.794	0.772	0.751
4	0.960	0.924	0.889	0.855	0.823	0.792	0.764	0.735	0.708	0.683
5	0.950	0.906	0.863	0.822	0.784	0.747	0.714	0.681	0.650	0.621
6	0.941	0.888	0.838	0.790	0.747	0.705	0.667	0.631	0.596	0.565
7	0.932	0.871	0.814	0.760	0.711	0.665	0.623	0.584	0.547	0.514
8	0.923	0.854	0.790	0.731	0.677	0.627	0.582	0.541	0.502	0.467
9	0.914	0.837	0.767	0.703	0.645	0.592	0.544	0.501	0.461	0.425
10	0.905	0.821	0.745	0.676	0.614	0.558	0.508	0.464	0.423	0.386
11	0.896	0.805	0.723	0.650	0.585	0.526	0.475	0.430	0.388	0.351
12	0.887	0.789	0.702	0.625	0.557	0.496	0.444	0.398	0.356	0.319
13	0.878	0.774	0.682	0.601	0.530	0.468	0.415	0.369	0.327	0.290
14	0.869	0.759	0.662	0.578	0.505	0.442	0.388	0.342	0.300	0.264
15	0.860	0.744	0.643	0.556	0.481	0.417	0.363	0.317	0.275	0.240
16	0.851	0.729	0.624	0.535	0.458	0.393	0.339	0.294	0.252	0.218
17	0.843	0.715	0.606	0.514	0.436	0.371	0.317	0.272	0.231	0.198
18	0.835	0.701	0.588	0.494	0.415	0.350	0.296	0.252	0.212	0.180
19	0.827	0.687	0.571	0.475	0.395	0.330	0.277	0.233	0.194	0.164
20	0.819	0.674	0.554	0.457	0.376	0.311	0.259	0.216	0.178	0.149
Periods	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
2	0.812	0.797	0.783	0.769	0.757	0.743	0.731	0.718	0.706	0.694
3	0.732	0.712	0.693	0.675	0.658	0.641	0.625	0.608	0.593	0.578
4	0.659	0.636	0.613	0.592	0.572	0.553	0.534	0.515	0.498	0.482
5	0.594	0.568	0.542	0.519	0.497	0.477	0.456	0.436	0.418	0.402
6	0.535	0.507	0.480	0.455	0.432	0.411	0.390	0.369	0.351	0.335
7	0.482	0.453	0.425	0.399	0.376	0.354	0.333	0.313	0.295	0.279
8	0.434	0.404	0.376	0.350	0.327	0.305	0.285	0.265	0.248	0.233
9	0.391	0.361	0.333	0.307	0.284	0.263	0.244	0.225	0.208	0.194
10	0.352	0.322	0.295	0.269	0.247	0.227	0.209	0.191	0.175	0.162
11	0.317	0.288	0.261	0.236	0.215	0.196	0.179	0.162	0.147	0.135
12	0.286	0.257	0.231	0.207	0.187	0.169	0.153	0.137	0.124	0.113
13	0.258	0.229	0.204	0.182	0.163	0.146	0.131	0.116	0.104	0.094
14	0.232	0.204	0.181	0.160	0.142	0.126	0.112	0.098	0.087	0.078
15	0.209	0.182	0.160	0.140	0.123	0.109	0.096	0.083	0.073	0.065
16	0.188	0.163	0.142	0.123	0.107	0.094	0.082	0.070	0.061	0.054
17	0.169	0.146	0.126	0.108	0.093	0.081	0.070	0.059	0.051	0.045
18	0.152	0.130	0.112	0.095	0.081	0.070	0.060	0.050	0.043	0.038
19	0.137	0.116	0.099	0.083	0.070	0.060	0.051	0.042	0.036	0.032
20	0.123	0.104	0.088	0.073	0.061	0.052	0.044	0.036	0.030	0.027

PRESENT VALUE TABLES

Periods	21%	22%	23%	24%	25%	26%	27%	28%	29%	30%
1	0.826	0.820	0.813	0.806	0.800	0.794	0.787	0.781	0.775	0.769
2	0.683	0.672	0.661	0.650	0.640	0.630	0.620	0.610	0.601	0.592
3	0.564	0.551	0.537	0.525	0.512	0.500	0.488	0.477	0.466	0.455
4	0.466	0.451	0.437	0.423	0.410	0.397	0.384	0.373	0.361	0.350
5	0.386	0.370	0.355	0.341	0.328	0.315	0.303	0.291	0.280	0.269
6	0.319	0.303	0.289	0.275	0.262	0.250	0.239	0.227	0.217	0.207
7	0.263	0.249	0.235	0.222	0.210	0.198	0.188	0.178	0.168	0.159
8	0.218	0.204	0.191	0.179	0.168	0.157	0.148	0.139	0.130	0.123
9	0.180	0.167	0.155	0.144	0.134	0.125	0.116	0.108	0.101	0.094
10	0.149	0.137	0.126	0.116	0.107	0.099	0.092	0.085	0.078	0.073
11	0.123	0.112	0.103	0.094	0.086	0.079	0.072	0.066	0.061	0.056
12	0.102	0.092	0.083	0.076	0.069	0.062	0.057	0.052	0.047	0.043
13	0.084	0.075	0.068	0.061	0.055	0.050	0.045	0.040	0.037	0.033
14	0.069	0.062	0.055	0.049	0.044	0.039	0.035	0.032	0.028	0.025
15	0.057	0.051	0.045	0.040	0.035	0.031	0.028	0.025	0.022	0.020
16	0.047	0.042	0.036	0.032	0.028	0.025	0.022	0.019	0.017	0.015
17	0.039	0.034	0.030	0.026	0.023	0.020	0.017	0.015	0.013	0.012
18	0.032	0.028	0.024	0.021	0.018	0.016	0.013	0.012	0.010	0.009
19	0.027	0.023	0.020	0.017	0.014	0.012	0.011	0.009	0.008	0.007
20	0.022	0.019	0.016	0.014	0.012	0.009	0.008	0.007	0.006	0.005

ANNUITY TABLES

Periods	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
2	1.970	1.941	1.914	1.887	1.859	1.833	1.808	1.783	1.759	1.735
3	2.941	2.883	2.829	2.776	2.723	2.673	2.624	2.577	2.531	2.486
4	3.902	3.807	3.717	3.631	3.546	3.465	3.387	3.312	3.239	3.169
5	4.853	4.713	4.580	4.453	4.330	4.212	4.100	3.993	3.889	3.790
6	5.795	5.601	5.417	5.243	5.076	4.917	4.766	4.623	4.485	4.354
7	6.728	6.472	6.230	6.003	5.787	5.582	5.389	5.206	5.032	4.867
8	7.651	7.325	7.019	6.734	6.464	6.209	5.971	5.746	5.534	5.334
9	8.565	8.162	7.785	7.437	7.109	6.801	6.515	6.246	5.994	5.758
10	9.470	8.982	8.529	8.113	7.723	7.359	7.023	6.709	6.416	6.144
11	10.37	9.786	9.251	8.763	8.308	7.886	7.498	7.138	6.804	6.494
12	11.26	10.57	9.952	9.388	8.865	8.383	7.942	7.535	7.160	6.813
13	12.14	11.34	10.63	9.989	9.395	8.852	8.357	7.903	7.486	7.103
14	13.01	12.10	11.29	10.57	9.900	9.294	8.745	8.243	7.785	7.366
15	13.87	12.84	11.93	11.13	10.38	9.711	9.107	8.558	8.060	7.605
16	14.72	13.57	12.55	11.66	10.84	10.10	9.446	8.850	8.312	7.823
17	15.56	14.28	13.16	12.17	11.28	10.47	9.763	9.120	8.543	8.021
18	16.40	14.98	13.75	12.66	11.70	10.82	10.06	9.370	8.755	8.201
19	17.23	15.67	14.32	13.13	12.10	11.15	10.34	9.602	8.949	8.365
20	18.05	16.34	14.87	13.59	12.48	11.46	10.60	9.817	9.127	8.514
Periods	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
2	1.713	1.690	1.668	1.646	1.626	1.605	1.586	1.565	1.546	1.527
3	2.444	2.402	2.361	2.321	2.284	2.246	2.210	2.174	2.139	2.106
4	3.103	3.038	2.974	2.913	2.856	2.798	2.744	2.690	2.638	2.588
5	3.696	3.605	3.517	3.432	3.353	3.274	3.200	3.127	3.057	2.990
6	4.231	4.112	3.997	3.888	3.785	3.684	3.590	3.497	3.409	3.325
7	4.713	4.564	4.422	4.288	4.161	4.038	3.923	3.811	3.705	3.604
8	5.147	4.968	4.798	4.639	4.488	4.343	4.208	4.077	3.954	3.837
9	5.538	5.329	5.131	4.947	4.772	4.606	4.451	4.302	4.163	4.031
10	5.890	5.651	5.426	5.217	5.019	4.833	4.659	4.493	4.339	4.193
11	6.207	5.938	5.687	5.454	5.234	5.028	4.837	4.655	4.487	4.328
12	6.493	6.195	5.918	5.662	5.421	5.196	4.989	4.792	4.611	4.440
13	6.751	6.424	6.122	5.844	5.584	5.341	5.119	4.908	4.715	4.533
14	6.983	6.629	6.303	6.004	5.725	5.466	5.230	5.007	4.803	4.611
15	7.192	6.812	6.463	6.144	5.848	5.574	5.325	5.091	4.877	4.676
16	7.380	6.975	6.604	6.267	5.955	5.667	5.406	5.162	4.939	4.730
17	7.550	7.121	6.729	6.375	6.048	5.747	5.475	5.222	4.991	4.775
18	7.703	7.251	6.840	6.470	6.129	5.816	5.534	5.273	5.035	4.813
19	7.841	7.367	6.938	6.553	6.199	5.876	5.585	5.316	5.072	4.844
20	7.965	7.471	7.025	6.626	6.260	5.927	5.628	5.353	5.103	4.870

ANNUITY TABLES

Periods	21%	22%	23%	24%	25%	26%	27%	28%	29%	30%
1	0.826	0.820	0.813	0.807	0.800	0.794	0.787	0.781	0.775	0.770
2	1.509	1.492	1.474	1.457	1.440	1.424	1.407	1.392	1.376	1.361
3	2.074	2.042	2.011	1.981	1.952	1.923	1.896	1.868	1.842	1.816
4	2.540	2.494	2.448	2.404	2.362	2.320	2.280	2.241	2.203	2.166
5	2.926	2.864	2.804	2.745	2.689	2.635	2.583	2.532	2.483	2.436
6	3.245	3.167	3.092	3.021	2.951	2.885	2.821	2.750	2.700	2.643
7	3.508	3.416	3.327	3.242	3.161	3.083	3.009	2.937	2.868	2.802
8	3.726	3.619	3.518	3.421	3.329	3.241	3.156	3.076	2.999	2.925
9	3.905	3.786	3.673	3.566	3.463	3.366	3.273	3.184	3.099	3.092
10	4.054	3.923	3.800	3.682	3.571	3.465	3.364	3.269	3.178	3.109
11	4.177	4.035	3.902	3.776	3.656	3.544	3.437	3.335	3.239	3.147
12	4.279	4.127	3.985	3.851	3.725	3.606	3.493	3.387	3.286	3.190
13	4.362	4.203	4.053	3.912	3.780	3.656	3.538	3.427	3.322	3.223
14	4.432	4.265	4.108	3.962	3.824	3.695	3.573	3.459	3.351	3.249
15	4.489	4.315	4.153	4.001	3.859	3.726	3.601	3.483	3.373	3.268
16	4.536	4.357	4.189	4.033	3.887	3.751	3.623	3.503	3.390	3.283
17	4.576	4.391	4.219	4.059	3.910	3.771	3.640	3.518	3.403	3.295
18	4.608	4.419	4.243	4.080	3.930	3.786	3.654	3.529	3.413	3.304
19	4.635	4.442	4.263	4.097	3.942	3.799	3.664	3.539	3.421	3.312
20	4.657	4.460	4.279	4.110	3.954	3.808	3.673	3.546	3.427	3.316