UNIVERSITY OF BOLTON

GREATER MANCHESTER BUSINESS SCHOOL

BA (HONS) ACCOUNTANCY

SEMESTER 2 RESIT EXAMINATIONS 2022/2023

FINANCIAL MANAGEMENT

MODULE NO: ACC6003

Date: **Tuesday 18 July 2023**   Time: **2pm – 5pm**

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INSTRUCTIONS TO CANDIDATES: There are **FOUR** questions on this paper.

You MUST Answer **ALL** question.

Silent non-programmable calculators may be used.

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Question 1

The Managing Director of Peterage plc, a UK company is keen to use the money markets to hedge against sales made in the EU.
The company is now due to **receive** €1,400,000 in 3 months' time. The Finance Manager has asked you to assist with a money market hedge to eliminate the transaction risk on the receipt.

The following information has been provided to you.

Current spot rate: €1.153 – €1.158 = £1

Money market rates per year:

Eurozone   Borrowing 3%, Lending 2%

UK   Borrowing 5%, Lending 3.5%

a) Calculate the £ that would be __received__ using the money market hedge.

(10 Marks)

On 1 October Peterage plc enters into a contract with a customer for which €100,000 is due to be received in 6 months. The exchange rate on the date the contract is entered into is €0.93 = £1.

b) Calculate the change in £ received compared to 1 October if the exchange rate moves to:

1) €0.97 = £1
2) €0.89 = £1

(10 Marks)

c) Critically discuss transaction, translation and economic risk.

(5 Marks)

(Total 25 Marks)

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Question 2

Stockton Limited is undertaking a large investment, which will require cash next year of £500,000 spread evenly throughout the year. At the moment, it holds most of its money in a short-term deposit account. In order to pay for the investment, it intends to move this money from the deposit account into the current account.

If the transaction fee every time money is transferred between the accounts is £29.50 and the deposit account earns interest of 2% per year,

a) Calculate how frequently (in weeks) the company should transfer cash from the deposit account and how much cash should be transferred each time.

(8 Marks)

The cash balance at Stockton Plc fluctuates over time with some months seeing a large positive cash balance and others showing an overdraft. The company wishes to control its cash more efficiently and take advantage of available short-term investments when it has surplus cash. It wishes to maintain a minimum cash balance of £10,000. The short-term investments earn interest at 0.04% per day.

If the transaction cost of switching cash between the current account and the company's short-term investments is $15 and the variance of the company's cash flows is £6 million per day.

Using the Miller Orr model.

b) Calculate the spread, the return point and the upper limit.

(10 Marks)

c) Critically discuss the motives for holding cash

(7) Marks)

(Total 25 Marks)

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Question 3

Burlington Plc has 6 million ordinary shares of £1 each nominal value and a cum div market price of £1.65. It is just about to pay out a dividend of £0.10. Five years ago, the dividend was £0.08.

The company also has 8% redeemable loan notes of £0.75m nominal value with a current market value cum interest of £105.20. The loan notes will be redeemed in 5 years at a 5% premium.

The corporation tax rate is 25%,

a. **Calculate by Market values the Weighted Average Cost of Capital (WACC)**

(15 marks)

b. **Critically discuss the theory of efficient market hypothesis (EMH).**

(10 Marks)

(Total 25 Marks)

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Question 4

Kingston Industries Plc is planning to undertake a project that requires an investment of £220,000 today and will bring in annual operating cash flows of £75,000. These are made up of sales volumes of 5,000 units each year for the four years of the project, a sales price of £50 per unit, variable costs per unit of £25 and annual incremental fixed costs of £50,000. The asset will have no value at the end of the project. There is no tax or inflation and the discount rate is 8%.

a) **Calculate the NPV of the project**.

(7 Marks)

b) **Calculate the sensitivity of the project to:**

(i) **initial investment**

(ii) **selling price per unit**

(iii) **variable cost per unit**

(iv) **sales volume**

(v) **fixed cost per unit**

(vi) **discount rate**

(12 Marks)

c) **Critically evaluate sensitivity analysis as a technique to forecast future cashflows**

(6 Marks)

(Total 25 Marks)

End of Questions

Please turn over for formulae and tables

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FORMULAE AND TABLES

Economic order quantity

$$= \sqrt{\frac{2C_oD}{C_H}}$$

Miller-Orr Model

$$\text{Return point} = \text{Lower limit} + \left(\frac{1}{3} \times \text{spread}\right)$$

$$\text{Spread} = 3 \left[\frac{\frac{3}{4} \times \text{transaction cost} \times \text{variance of cash flows}}{\text{interest rate}}\right]^{1/3}$$

The Capital Asset Pricing Model

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

The asset beta formula

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

The Growth Model

$$P_0 = \frac{D_0(1+g)}{(r_e - g)} \qquad r_e = \frac{D_0(1+g)}{(P_0)} + g$$

Gordon's growth approximation

$$g = br_e$$

The weighted average cost of capital

$$\text{WACC} = \left[\frac{V_e}{(V_e + V_d)}\right] K_e + \left[\frac{V_d}{V_e + V_d}\right] K_d (1-T)$$

The Fisher formula

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

Purchasing power parity and interest rate parity

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

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Present value table

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

Where   r = discount rate

       n = number of periods until payment

Periods (n)	Discount rate (r)									
	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	0.873	0.857	0.842	0.826
3	0.971	0.942	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751
4	0.961	0.924	0.888	0.855	0.823	0.792	0.763	0.735	0.708	0.683
5	0.951	0.906	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621
6	0.942	0.888	0.837	0.790	0.746	0.705	0.666	0.630	0.596	0.564
7	0.933	0.871	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513
8	0.923	0.853	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467
9	0.914	0.837	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386
11	0.896	0.804	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.350
12	0.887	0.788	0.701	0.625	0.557	0.497	0.444	0.397	0.356	0.319
13	0.879	0.773	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290
14	0.870	0.758	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263
15	0.861	0.743	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239

Periods (n)	Discount rate (r)									
	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	0.756	0.743	0.731	0.718	0.706	0.694
3	0.731	0.712	0.693	0.675	0.658	0.641	0.624	0.609	0.593	0.579
4	0.659	0.636	0.613	0.592	0.572	0.552	0.534	0.516	0.499	0.482
5	0.593	0.567	0.543	0.519	0.497	0.476	0.456	0.437	0.419	0.402
6	0.535	0.507	0.480	0.456	0.432	0.410	0.390	0.370	0.352	0.335
7	0.482	0.452	0.425	0.400	0.376	0.354	0.333	0.314	0.296	0.279
8	0.434	0.404	0.376	0.351	0.327	0.305	0.285	0.266	0.249	0.233
9	0.391	0.361	0.333	0.308	0.284	0.263	0.243	0.225	0.209	0.194
10	0.352	0.322	0.295	0.270	0.247	0.227	0.208	0.191	0.176	0.162
11	0.317	0.287	0.261	0.237	0.215	0.195	0.178	0.162	0.148	0.135
12	0.286	0.257	0.231	0.208	0.187	0.168	0.152	0.137	0.124	0.112
13	0.258	0.229	0.204	0.182	0.163	0.145	0.130	0.116	0.104	0.093
14	0.232	0.205	0.181	0.160	0.141	0.125	0.111	0.099	0.088	0.078
15	0.209	0.183	0.160	0.140	0.123	0.108	0.095	0.084	0.074	0.065

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Annuity table

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

Where   r = discount rate

n = number of periods until payment

Periods (n)	Discount rate (r)
	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	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868
8	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335
9	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145
11	10.368	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495
12	11.255	10.575	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814
13	12.134	11.348	10.635	9.986	9.394	8.853	8.358	7.904	7.487	7.103
14	13.004	12.106	11.296	10.563	9.899	9.295	8.745	8.244	7.786	7.367
15	13.865	12.849	11.938	11.118	10.380	9.712	9.108	8.559	8.061	7.606

Periods (n)	Discount rate (r)
	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	1.647	1.626	1.605	1.585	1.566	1.547	1.528
3	2.444	2.402	2.361	2.322	2.283	2.246	2.210	2.174	2.140	2.106
4	3.102	3.037	2.974	2.914	2.855	2.798	2.743	2.690	2.639	2.589
5	3.696	3.605	3.517	3.433	3.352	3.274	3.199	3.127	3.058	2.991
6	4.231	4.111	3.998	3.889	3.784	3.685	3.589	3.498	3.410	3.326
7	4.712	4.564	4.423	4.288	4.160	4.039	3.922	3.812	3.706	3.605
8	5.146	4.968	4.799	4.639	4.487	4.344	4.207	4.078	3.954	3.837
9	5.537	5.328	5.132	4.946	4.772	4.607	4.451	4.303	4.163	4.031
10	5.889	5.650	5.426	5.216	5.019	4.833	4.659	4.494	4.339	4.192
11	6.207	5.938	5.687	5.453	5.234	5.029	4.836	4.656	4.486	4.327
12	6.492	6.194	5.918	5.660	5.421	5.197	4.968	4.793	4.611	4.439
13	6.750	6.424	6.122	5.842	5.583	5.342	5.118	4.910	4.715	4.533
14	6.982	6.628	6.302	6.002	5.724	5.468	5.229	5.008	4.802	4.611
15	7.191	6.811	6.462	6.142	5.847	5.575	5.324	5.092	4.876	4.675

End of Exam