

UNIVERSITY OF BOLTON

GREATER MANCHESTER BUSINESS SCHOOL

BA(HONS) ACCOUNTANCY

SEMESTER TWO EXAMINATIONS 2023/2024

FINANCIAL MANAGEMENT

MODULE NO: ACC6003

Date: Tuesday 14 May 2024

Time: 10.00 – 1.00

INSTRUCTIONS TO CANDIDATES:

There are 5 questions on this paper.

Answer 4 questions from SECTION A

Answer 1 question from

SECTION B

All questions carry equal marks.

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SECTION A – ANSWER ALL QUESTIONS

Question 1

Derby PLC is UK company and is currently assessing an investment opportunity in the USA. It is considering a machine cost of \$1,425,000 and a working capital requirement of \$90,000.00, which is anticipated to be recouped at the end of the contract. In terms of taxation, the corporation tax rate stands at 30%, while capital allowances are set at 25%. To finance the project, Derby PLC has the option of a \$500,000 loan at a 5% interest rate or equity worth \$925,000 at a 10% rate. The Exchange is £1 = \$1.30

The unit selling prices are as follows:

Sales Price	\$24.00,
Material Cost	\$6.25,
Labour Cost	\$4.50.

Year on Year inflation	Year 2	Year 3	Year 4
Sales Price	6%	8%	9%
Material Cost	5%	6%	7%
Labour Cost	3%	4%	6%

Sales units, associated probabilities

Scenario 1

	Year 1	Year 2	Year 3	Year 4
Sales (units)	175,000	160,000	150,000	150,000
Probability	0.3	0.3	0.2	0.2

Scenario 2

	Year 1	Year 2	Year 3	Year 4
Sales (units)	350,000	125,000	170,000	200,000
Probability	0.5	0.2	0.1	0.2

Question 1 continues over the page
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Question 1 continues

Required:

- a) Calculate the Net Present for Scenario A and Scenario B in £ GBP.
(14 Marks)
- b) Critically discuss the sensitivity of the Net Present Value (NPV) of the investment opportunity for Derby PLC to variations in key financial parameters such as discount rate, initial investment cost, and revenue projections?

(6 Marks)
Total 20 Marks

End of question 1
Questions continue over the page
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Question 2

As the Managing Director of Darlington Plc, I recognise the importance of understanding and accurately calculating our weighted average cost of capital (WACC). As we aim to make informed financial decisions to drive the growth and success of our company, it's imperative that we have a clear understanding of the cost of the funds invested in our business.

I'm reaching out to you, as our Management Accountant, to assist us in calculating the WACC for Darlington Plc. This calculation will provide us with valuable insights into the minimum rate of return we need to generate to satisfy both our equity and debt investors. By considering the cost of equity and debt in relation to their respective proportions in our capital structure, we can assess the overall cost of capital for the company.

Understanding our WACC will enable us to evaluate the profitability of potential investment opportunities and strategic initiatives. It will serve as a critical benchmark for assessing the financial viability of projects and determining whether they are expected to generate returns that exceed our cost of capital.

The following data is available:

Capital Structure:

Ordinary Shares:

Number: 7,000,000

Nominal Value: £1

Cum Div Market Price: £1.65

Proposed Dividend: £0.11 (compared to £0.09 paid five years ago)

Redeemable Notes:

Number: 0.75 million

Nominal Value: £1

Coupon Rate: 9%

Current Value Cum Interest: £106.20

Redemption Premium: 5%

Redemption Period: 5 years

Taxation: Corporation Tax Rate: 20%

Required:

- a) The Weighted Average Cost of Capital

(14 Marks)

Question 2 continues over the page
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Question 2 continued

- b) **Critically evaluate the Capital Asset Pricing Model (CAPM) regarding its ability to accurately capture the complexities and dynamics of real-world financial markets. Assess the model's strengths and limitations, considering its foundational assumptions such as rational investor behaviour, efficient markets, and the single-factor beta as a measure of risk.**

(6 Marks)

Total 20 Marks

**End of question 2
Questions continue over the page
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Question 3

Accrington Plc is currently focused on enhancing its treasury management practices to optimise its cash position and maximize returns. With a strategic emphasis on efficient cash utilisation, the company aims to minimize transaction costs while effectively managing excess cash. To achieve these objectives, the Managing Director has prioritized the implementation of robust cash management models such as the Baumol Model and the Miller Orr Model. These models offer systematic approaches to determining the optimal cash balance, transaction frequency, and transfer points, aligning with Accrington Plc's overarching goal of enhancing liquidity management and capital efficiency. By leveraging these financial tools and strategies, Accrington Plc seeks to strengthen its financial position, improve cash flow dynamics, and ultimately drive sustainable growth and profitability in the market.

The Managing Director has provided you with the following information and asked you to present your finding at the next board meeting.

Average excess cash balance of £12,000 per month, which it aims to invest to earn returns while ensuring liquidity for operational needs, with an **opportunity to earn returns on short-term investments at a rate of 0.06%**. The company incurs a transaction cost of £55 for each investment.

The company's minimum cash balance requirement is £25,000, with a transfer cost of £40 per transaction. The standard deviation of daily cash flows is £4,000, and the daily interest rate is 0.04%.

Required:

a)

- I. Calculate the optimum cash to be invested in each transaction to minimize total transaction costs. (2 Marks)
- II. Calculate how many transactions per year are required to manage excess cash effectively. (2 Marks)
- III. Calculate the total transaction cost per annum incurred by utilising the Baumol Model. (2 Marks)
- IV. Calculate the spread between the upper and lower limit set by the Miller Orr Model. (4 Marks)

Question 3 continues over the page

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Question 3 continues

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- V. Calculate the upper limit of the cash balance. (2 Marks)
- VI. Calculate the return point for transferring funds to maintain the desired cash balance. (2 Marks)
- b) Critically discuss the role of inventory management in optimising working capital levels and minimising carrying costs for a company. (6 Marks)
- Total 20 Marks**

End of question 3
Questions continue over the page
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Question 4

As the Managing Director of Aldred Plc, I am currently facing a critical decision regarding the potential divestment of our business operations. Recognising the complexity of this undertaking, I am reaching out to seek your support in calculating an accurate value for our business.

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In my capacity as Managing Director, I am entrusted with steering Aldred Plc through strategic challenges and opportunities. The decision to consider divestment weighs heavily on me, as I understand its profound implications for our company's future.

With this in mind, I am turning to your expertise for assistance. As a seasoned professional in financial analysis and strategic planning, your insights will be invaluable in determining the true value of Aldred Plc. By collaborating with you, I aim to gain a comprehensive understanding of our company's worth, enabling us to make informed decisions that maximize value for our stakeholders.

Given Data for Question

- Non-Current Assets (WDV): £2,400,000
- Net Current Assets: £400,000
- £0.50 Ordinary Shares: 1,600,000
- Reserves: £625,000
- 8% Loan Notes: £500,000
- Recent valuation expects above WDV: 35.00%
- Loans Notes Redeemable (premium): 12.00%
- Bad debt: £15,000
- Earnings: £1,300,000
- Similar Company as an Earning Yield: 11%
- Growth rate of earnings: 3%

Required:

- a) **Considering the company's financial structure and assets, calculate the value of a share in this company using Asset-Based Valuation.**

(8 Marks)

**Question 4 continues over the page
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Question 4 continues

- b) **Using the Earnings Yield Method determine the company's value without factoring in any growth, providing a conservative estimate of its worth based solely on its current earnings.**

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(6 Marks)

c) Using the Earnings Yield Method assess the company's value with growth considerations, considering the projected growth rate of earnings.

(6 Marks)

Total 20 Marks

End of question 4
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SECTION B- ANSWER ONE QUESTION ONLY

Question 5

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Durham, a UK company, is now due to receive €1,400,000 in 3 months' time and chooses to enter into a money market hedge to eliminate the transaction risk on the receipt.

Appropriate information is as follows:

Current spot rate:

- €1.153 - €1.158 = £1
-

Money market rates per year:

- Eurozone Borrowing: 3%
-
- Eurozone Lending: 2%
-
- UK Borrowing: 5%
-
- UK Lending: 3.5%
-

Required

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

(14 Marks)

b) Critically discuss the following statement:-

“Foreign exchange markets present both challenges and opportunities for multinational corporations in managing currency risk”

(6 Marks)

Total 20 Marks

**End of question 5
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Question 6

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a) Using book values for a company with the following long-term sources of finance:
Ordinary shares of £3 million (nominal value £1), reserves of £340,000, preference
shares of £0.6 million (nominal value £110), and current liabilities of £0.5 million.

Calculate the

1. **Capital Gearing**
2. **Equity Gearing**

(14 marks)

b) **Critically discuss how does the Efficient Market Hypothesis (EMH) impacts investment decision-making and market efficiency in financial markets?**

(6 marks)

**END OF QUESTIONS
FORMULAS OVER THE PAGE**

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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

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

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

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

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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	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
<hr/>											
(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

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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

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	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	10.37	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495	11
12	11.26	10.58	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814	12
13	12.13	11.35	10.63	9.986	9.394	8.853	8.358	7.904	7.487	7.103	13
14	13.00	12.11	11.30	10.56	9.899	9.295	8.745	8.244	7.786	7.367	14
15	13.87	12.85	11.94	11.12	10.38	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