GX15

Ollscoil na hÉireann, Gaillimh

National University of Ireland, Galway

Semester II Examinations 2002

Bachelor of Commerce Degree Examination

Business Finance II (AY 314)

Higher Diploma in Business Studies Examination

Financial Management II (AY 875)

Professor N. Garrod;
Professor S. Collins.

Time Allowed: Two Hours.

Answer both questions in Section A, and one question from Section B.

Separate answer books are not required for each section

Present Value tables and a table of Financial Formulae are attached.

Section A

(Answer BOTH Questions)

Question 1:

(a) Explain why the dividend decision is generally regarded as a 'financing decision' of a company. (5 Marks)

(b) Explain the 'home-made dividends' argument for the irrelevance of corporate dividend policy, and discuss whether transactions costs and inconvenience for investors should negate this conclusion of dividend irrelevance.

(15 Marks)

(c) Explain the following dividend strategies, and discuss (individually) their suitability as a dividend policy for a company listed on the stock exchange:

- Dividends as an annual residual;
- Dividend payout as a fixed percentage of annual profits;
- Stable, and growing, cash dividend per share.

(15 Marks)

(Total: 35 Marks)

Question 2 begins on the next page P.T.O ⇒

Question 2:

(a) Explain why the decision on whether or not to use a lease to finance the acquisition of a fixed asset should be regarded as two separate decisions, and discuss the nature of each of the two decisions involved. (10 Marks)

(b) **Dysert Industries Ltd.** has decided to acquire flexible production equipment in order to improve production quality and to provide a capacity to offer a high degree of customisation of its products to suit customer preferences. Siobhán, the company's Finance Director, approached the Claregalway Finance Company with a request to quote leasing terms for the equipment.

The following information is provided:

- The equipment costs €100,000 and it has an estimated life of four years. Depreciation for tax purposes is allowed using the straight line method at a rate of 25% of original cost each year over the life of the asset.
- The equipment has an estimated residual value of €10,000 at the end of its life. The terms of the proposed lease would require Claregalway Finance to remit 50% of the realised gross residual value of the equipment to Dysert Industries at the end of the lease period. If this occurs, Dysert Industries would be taxed on the remittance it receives at its normal corporate tax rate, while Claregalway Finance could deduct the cost of the remittance for tax purposes. You may assume that the residual value is reasonably certain, and that Claregalway Finance does not have an advantage over Dysert Industries in selling specialised used equipment.
- If it buys the equipment, Dysert Industries plans to take out a fixed-price maintenance contract at a cost of €8,000 per year. Claregalway Finance will include this maintenance service with the lease, but because of its special relationship with the maintenance contractor, the fixed price contract would cost Claregalway Finance only €5,000 per year.
- Dysert Industries pays taxes at a rate of 10% on its taxable profits, while Claregalway Finance pays taxes at a rate of 25%. Assume that taxes are payable at the end of the year in which the liability arises, and that Dysert Industries and Claregalway Finance have sufficient taxable profits to absorb any tax losses on this transaction.
- Dysert Industries Ltd. has a weighted average cost of capital of 16%, a cost of equity of 20%, and a pre-tax borrowing cost of 10% per year.

Required:

(i) Calculate the annual lease charge payable in advance for four years which would give Claregalway Finance its required rate of return of 10% on this lease. (10 Marks)

(ii) Assume that Claregalway's leasing charge is €34,000 per year. Prepare an analysis to show whether or not Siobhán should lease or buy the equipment. (15 Marks)

(Total: 35 Marks)

Section B begins on the next page ***P.T.O.*** ⇒

Section B

(Answer One Question)

Question 3:

The following data is available for two firms, **Upper Ltd.** and **Lower Ltd.,** which are identical in all respects except for leverage. Since both companies distribute all available earnings to investors each year, the expected operating income of each firm is constant in perpetuity at a level of €100,000 per year.

	Upper Ltd	Lower Ltd.
Net Operating Income (or EBIT)	€100,000	€100,000
Less: 10% Interest on Debt	-	€20,000
Net Income (paid as Dividends to Equity)	€100,000	€80,000
Cost of Debt (K_D)	-	10%
Market Value of Debt	-	€200,000
Cost of Equity (K_E)	20%	?

Required

(a) Identify the equilibrium cost of equity for Lower Ltd. assuming that Capital Markets are perfect in all respects, and explain why the cost of equity for Lower Ltd. differs from that of Upper Ltd.

(5 Marks)

(b) Calculate the degree of Financial Leverage (DFL) for both firms, and explain the implications of your results for equity shareholders.

(5 Marks)

(c) Assume perfect markets except that corporate taxes are levied at a rate of 50% on profits after charging interest. In addition, assume that the cost of equity for Upper Ltd. remains at 20%, and the cost of debt for Lower remains at 10%. In these new circumstances, calculate the equilibrium total values of the two companies, and the overall cost of capital (WACC) of Lower Ltd.

(10 Marks)

(d) Discuss the implications of your results at (c) for a company's optimal capital structure, and briefly outline the reasons why this may not be a good guide for capital structure decisions in the real world.

(10 Marks)

(Total: 30 Marks)

Question 4 begins on the next page ***P.T.O.*** ⇒

Question 4:

(a) When interest-rate parity is fully reflected in the "swap" rate (i.e. the forward-spot differential), a borrower who hedges all exchange risk should be indifferent to the currency in which short-term borrowing is denominated.

Use the following data to illustrate this fact for an Irish borrower who requires a loan of €100,000 for one year, and is considering borrowing either in Galway (€), or in New York ($) at the prevailing prime interest rates indicated below:

Spot Exchange Rate:
US$/€: $0.90 per €

Interest Rates: (Fixed for one year):
US$: 2% per annum; €: 4% per annum

(15 Marks)

(b) Give two examples of a contingent currency exposure, and discuss the reasons why currency options are superior to fixed forward contracts in hedging contingent exposures.

(15 Marks)
(Total: 30 Marks)

Question 5:

The following are the characteristics of four portfolios offered for investment:

	Investment Portfolios			
	W	X	Y	Z
Expected Returns	10%	20%	18%	14%
Standard Deviation	6%	14%	8%	7%

The expected return on the market portfolio is 20%, with a standard deviation of 10%. The risk-free rate is 4%.

(a) Using the Capital Market Line, determine whether these portfolios are efficient or inefficient, and explain the implications of your results for a potential investor.

(8 Marks)

(b) An investment intermediary is considering forming portfolio A by combining portfolios X and Y, with equal amounts of money invested in each. The correlation between returns on these portfolios is estimated as +0.5. Should diversification take place when these portfolios are combined in this way? Explain why or why not. (Note: Calculations are not required).

(4 Marks)

(c) Calculate the risk and expected returns of the combined portfolio A. Also, calculate the beta of portfolio A, given that the correlation between returns on portfolio A and returns on the market portfolio is estimated as +0.8.

(12 Marks)

(d) Explain why the beta of a security is a better indicator of risk for a well-diversified investor than the standard deviation of returns on that security.

(6 Marks)
(Total: 30 Marks)

End of Question Paper
