

**Ollscoil na hÉireann, Gaillimh**

**National University of Ireland, Galway**

**Spring Examinations 1999/2000**

**MBA Degree Examination**

**Advanced Financial Management (AY 513)**

**( Re-sit Paper )**

**Professor R. W. Scapens**

**Professor S. Collins**

**Time Allowed: Two Hours.**

Answer the Question in Section A, and Two Questions from Section B.  
(Separate answer books are not required for each section)

Present Value and Annuity Tables are attached.

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**Section A**  
**(This Question is Compulsory)**

**Question 1:**

- (a) In the evaluation of a finance lease, the relevant discount rate to apply is the after-tax cost of borrowing. Explain why this is the case.

(10 Marks)

- (b) The Munster Bank has recently been approached by **Dunmore Ltd.** with a request to quote leasing terms on processing equipment which the company has decided to acquire.

- The equipment costs £300,000 and has an estimated life of five years. It would be depreciated for tax purposes on a straight line basis at £60,000 per year. The estimated pre-tax residual value of the equipment is £30,000 at the end of its five-year life.
- Taxes are levied on the taxable profits of Dunmore Ltd. at a rate of 10%, and on the taxable profits of the Munster Bank at a rate of 30%. Taxes are payable at the end of the year in which the liability arises, and both the company and the bank have sufficient taxable profits to absorb any losses for tax purposes arising in connection with the leasing or the purchase of the equipment.
- Dunmore Ltd. has a weighted-average cost of capital of 20%, and a pre-tax borrowing cost of 10% per year. The managing director believes that a discount rate of 15% is appropriate to reflect the risk of the equipment's residual value if the company is obliged to dispose of it in five years time.
- The Bank has agreed that the leasing charge it quotes will include maintenance services, which would cost Dunmore £2,000 per year if it owned the equipment. The out-of-pocket cost of this maintenance service to Munster Bank would be £1,500 per year. Since a fixed-cost maintenance contract would be employed in either case, the maintenance costs are relatively certain, and are deemed of equivalent risk to debt-type cash flows.

**Required:**

- (i) Calculate the annual leasing charge payable in advance, for a five-year lease on the equipment, which would give the Munster Bank an after-tax rate of return of 10% on the lease.
- (ii) Assume the leasing charge quoted by the bank is £75,000 per year, payable in advance (not necessarily the answer to part (i)). Estimate the Net Advantage of Leasing (NAL) from the point of view of Dunmore Ltd. Should the company lease or buy the equipment?

(18 Marks)

**(Total: 40 Marks)**

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

**Section B**  
**(Answer TWO Questions)**

**Question 2:**

- (a) Explain the "home-made dividends" argument for the irrelevance of dividend policy, and consider the effect transactions costs may have on the validity of this argument. (15 Marks)
- (b) Explain the signalling effects of announcements of unexpected changes in dividends. Does this effect imply that dividend policy affects market value? (15 Marks)

**(Total: 30 Marks)**

**Question 3:**

**Columbia Inc.** is a US-based medium-sized import-export company. It is now 31<sup>st</sup> March, and this morning, the company signed a contract with Loughrea Ltd., an Irish exporter, for the supply of garden leprechauns. The contract is denominated in Dollars (\$). Deliveries of leprechauns will be spread over the six-month period to September 30<sup>th</sup>, and it is agreed that Columbia will pay Loughrea Ltd. the sum of \$100,000 on that date in full and final settlement of all amounts due.

The following market information is available:

- *\$/ £ Foreign Exchange Rates:*
- Spot: \$1.30 to the £;  
Forward 30<sup>th</sup> September: \$1.32 to the £.
- *Money Market Interest Rates:*
- £: 4 % per annum;  
\$: 6 % per annum.

**Required:**

- (a) Hedge Loughrea's foreign exchange risk exposure using the forward market. (6 Marks)
- (b) Hedge Loughrea's foreign exchange risk exposure using the money market. (9 Marks)
- (c) Ignoring transaction costs, but not the time value of money, compare the forward market hedge outcome to the money market hedge outcome. Which alternative would you recommend to Loughrea? (6 Marks)
- (d) Outline the main features of OTC Currency Options, and explain the potential benefits of a Currency Option in this case in comparison with the two hedging methods already considered. (9 Marks)

**(Total: 30 Marks)**

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

**Question 4:**

- (a) Explain the distinction between the Systematic Risk and the Total (Standard Deviation) Risk of an investment, and outline why the CAPM expresses Expected Returns as a function of Systematic Risk only. (8 Marks)
- (b) The management of **Liscannor plc.** has recently identified a new investment opportunity with the following returns distribution:

<u>% Return</u>	<u>Probability</u>
10%	0.3
15%	0.4
20%	0.3

The correlation between the returns on the new project and those of Liscannor Plc. is estimated as +0.2, and the new project will require an investment equal to one-third of the present net asset value of Liscannor. Following a review of quoted companies involved in a similar line of business, the financial manager estimates that the Beta (index of systematic risk) for the project is 1.2.

The following data relates to Liscannor plc. and to conditions in the market:

	<u>Liscannor Plc</u>	<u>Market Portfolio</u>
Expected Return	11%	15%
Standard Deviation of Returns	15%	20%
Beta	0.6	1.0
Risk Free Rate	-	5%

**Required:**

- (i) Using the CAPM, determine if Liscannor plc is properly valued at its present market price. (3 Marks)
- (ii) Calculate the expected return, and the standard deviation of returns for the proposed project. (4 Marks)
- (iii) Calculate the expected returns, the standard deviation of returns, and the revised Beta for Liscannor plc, assuming it goes ahead with the investment in the project. (7 Marks)
- (iv) Using the available data, consider whether or not each of the of the following rational risk-averse individuals would wish the company to invest in the new project:
- ☐ An efficiently diversified shareholder in Liscannor plc;
  - ☐ An undiversified shareholder in Liscannor plc;
  - ☐ The Financial Manager of Liscannor plc.

In each case, explain the reasons for your conclusions, and specify any assumptions you make.

(8 Marks)

(Total: 30 Marks)

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**(End of Question Paper)**