This paper is not to be removed from the Examination Halls

UNIVERSITY OF LONDON 279 0024 ZB

BSc degrees and Diplomas for Graduates in Economics, Management, Finance and the Social Sciences, the Diploma in Economics and Access Route for Students in the External Programme

Principles of Banking and Finance

Thursday, 25 May 2006 : 10.00am to 1.00pm

Candidates should answer **FOUR** of the following **TEN** questions: **ONE** from Section A, **ONE** from Section B and **TWO** further questions from either section. All questions carry equal marks.

A hand held calculator may be used when answering questions on this paper but it must not be pre-programmed or able to display graphics, text or algebraic equations. The make and type of machine must be stated clearly on the front cover of the answer book.

PLEASE TURN OVER

UL06/36

SECTION A

Answer **one** question from this section and **not more than** a further **two** questions. You are reminded that **four** questions in total are to be attempted with at least **one** question from Section B.

1. (a) Compare and contrast the main features of the financial systems of the US and Germany. **(15 marks)**

   (b) Discuss the reasons for the Internet bubble of the late 1990s. **(10 marks)**

2. (a) Explain the adverse selection problem in financial markets and discuss the solutions to this problem. **(12 marks)**

   (b) Critically examine the view that banking is in decline. **(13 marks)**

3. (a) Discuss the arguments for and against free (unregulated) banking. **(13 marks)**

   (b) Explain how banks are regulated in New Zealand. **(12 marks)**

4. (a) Explain interest rate risk and market risk as they affect banks. **(12 marks)**

   (b) Explain how a bank can use income gap analysis to manage interest rate risk and discuss the problems with this technique. **(13 marks)**

5. (a) Explain how the capital adequacy of banks will be assessed under Basel 2. **(12 marks)**

   (b) Discuss the problems of implementing a system of deposit insurance. **(13 marks)**

PLEASE TURN OVER

SECTION B

Answer **one** question from this section and **not more than** a further **two** questions. You are reminded that **four** questions in total are to be attempted with at least **one** question from Section A.

6. Consider the following two stocks:

- Stock First is expected to pay a dividend of $15 forever;
- Stock Second is expected to pay a dividend of $11 next year with dividend growth expected to be 3% per annum thereafter.

(a) If the required return on similar equities is 11%, calculate the value of each stock. **(6 marks)**

(b) Compare and contrast the methods used in the pricing of bonds and common stocks. **(6 marks)**

(c) Why are capital gains and losses apparently absent from the dividend discount model used for the valuation of common stocks? **(9 marks)**

(d) In the dividend discount model, what is the present value of the terminal price at infinity? **(4 marks)**

7. Consider the two following mutually exclusive projects (B and C):

Project	**Cash flows (£)**			
	C_0	C_1	C_2	C_3
B	-10,000	+5,000	+4,000	+2,000
C	-10,000	0	+1,500	+9,500

(a) Assuming an opportunity cost of capital of 7%, what is the NPV of the two projects? Which project would you choose? **(6 marks)**

(b) What is the IRR of the two projects? Which project would you choose if the hurdle rate is equal to the opportunity cost of capital (7%)? **(7 marks)**

(c) What is the discount rate in the IRR method and in the NPV method? Discuss the underlying assumption. **(6 marks)**

(d) Discuss the limits of the evaluation of mutually exclusive projects by using the IRR method. **(6 marks)**

8. At the end of June 2006 a UK corporate bond has a coupon rate of 2.5%, par (face) value of £1,000 and will mature in June 2009. Similar US government bonds have an interest rate of approximately 3%.

(a) Using the data given above and assuming semi-annual coupons and a semi-annual discount rate equal to 1.5%, calculate the value of the corporate bond. **(6 marks)**

(b) Calculate the duration of the UK corporate bond assuming annual coupons and annual discount rate. **(7 marks)**

(c) Assume annual interest rates rise by 1% from 3% to 4%. What will be the approximate percentage change in the value of the UK bond assuming annual coupons and annual discount rate? **(4 marks)**

(d) How can duration gap analysis help banks manage interest rate risk? What is the interest rate risk exposure? **(8 marks)**

9. The following balance sheet is available (amounts in $ millions and duration in years) for XYZ Bank:

	Amount	**Duration**
Loans	3,550	5.0
T-bonds	700	3.3
Deposits	3,750	2.6
Equity	500	

(a) What is the average duration of all the assets? What is the average duration of all the liabilities? **(4 marks)**

(b) What is the duration gap for XYZ Bank? **(8 marks)**

(c) What is the forecast impact on the market value of equity caused by a 0.50% decrease in interest rates from 3.5% to 3%? **(4 marks)**

(d) How can income gap analysis help banks manage interest rate risk? What are some of the weaknesses of this model? What is runoff cash flow, and how does this amount affect the income gap analysis? **(9 marks)**

PLEASE TURN OVER

10. Consider the following information about two stocks, Alfa and Omega:

Stock	Expected return	Standard deviation
A	10%	18%
B	4%	7%

The correlation between the two securities returns is 0.14

(a) Calculate the expected return and standard deviation of the following four portfolios:

	Portfolio proportions (%)	
Portfolio	**Alfa**	**Omega**
1	0	100
2	25	75
3	75	25
4	100	0

(8 marks)

(b) How can investors identify the best set of efficient portfolios of common stocks? What does best mean? **(9 marks)**

(c) Under the CAPM framework, what is the tangency portfolio? What is the security market line? Support your answer with graphical evidence. **(4 marks)**

(d) In general, what does the mean-standard deviation frontier look like when the correlation coefficient is between –1 and +1? **(4 marks)**

END OF PAPER