

# EXAMINATION

24 September 2004 (am)

## Subject 305 — Finance and Investment

*Time allowed: Three hours*

### **INSTRUCTIONS TO THE CANDIDATE**

1. *Enter all the candidate and examination details as requested on the front of your answer booklet.*
2. *You have 15 minutes at the start of the examination in which to read the questions. You are strongly encouraged to use this time for reading only, but notes may be made. You then have three hours to complete the paper.*
3. *You must not start writing your answers in the booklet until instructed to do so by the supervisor.*
4. *Mark allocations are shown in brackets.*
5. *Attempt all 12 questions, beginning your answer to each question on a separate sheet.*

### **AT THE END OF THE EXAMINATION**

*Hand in BOTH your answer booklet, with any additional sheets firmly attached, and this question paper.*

*In addition to this paper you should have available Actuarial Tables and your own electronic calculator.*

**1** Outline the features of a Statement of Investment Principles that might be adopted for a UK pension fund. [6]

**2** For 3 stocks the beta of each stock relative to the FTSE100 index is:

	$\beta$
Stock 1	0.95
Stock 2	0.10
Stock 3	-0.60

- (i) (a) Explain which stock you would expect to outperform the FTSE100 index if the FTSE100 index fell by 10%. [2]
- (b) Calculate the expected outperformance. [2]
- (ii) State the primary responsibility of the listing authority. [1]
- (iii) List the issues that a listing authority is likely to be concerned with during a listing. [3]
- (iv) State one advantage and one disadvantage of obtaining a listing. [2]
- [Total 8]

**3** ABC Co., a BB rated company, would like to borrow £15m from their bank to buy a freehold office building for £20m.

- (a) Discuss the issues that should be taken into account when deciding upon the security for the loan.
- (b) Discuss the issues that should be taken into account when deciding upon the term of the loan. [9]

**4** You work for a company that measures the performance of a number of investment funds and publishes the results for its clients each quarter.

- (i) Describe the most likely way that your company analyses both portfolio risk and portfolio return from time to time. [2]
- (ii) Over the past two years one manager has been regularly in the bottom quartile of performers according to your surveys. In each of the most recent two surveys all of the funds operated by this manager have moved into the top position in the survey. Outline the points you would make in a letter to your company's clients describing the issues which they should consider when interpreting these results. [5]
- [Total 7]

5 A shipping company is considering buying a new ship. Compare and contrast the option of entering into a bank-funded operational lease with the alternative of buying the ship for cash. [6]

- 6 (i) State what type of takeover has occurred and give possible reasons for the acquisition in each of the examples below.
- (a) a diamond mining company has taken over a luxury goods distributor
  - (b) a brewer (a company that brews beer) has taken over another brewer [4]
- (ii) List six motives for a conglomerate merger. [3]
- [Total 7]

7 A venture capital fund is considering investing in a start up company to be run by four individuals. The future gross profitability of the company is relatively uncertain. The gross profit forecast before either debt or equity injection is as follows.

<i>Year</i>	<i>Gross Profit in £</i>
1	-120,000
2	50,000
3	200,000
4	300,000
5	400,000

The individuals propose to inject jointly £400,000 paid-up equity capital into the new company at inception. The venture capital fund is considering committing to inject a further £400,000 into the company. The venture capital fund is considering making its investment as a combination of debt and equity.

- (i) List the issues that the venture capital fund should take into account prior to deciding on the ratio of debt to equity capital for its investment. [6]
- (ii) Calculate the average annual return on equity (ROE) over the 5-year period. You should assume that:
- the new company pays tax at 30% of gross profits
  - the debt rate is 10% per annum
  - the fund's debt investment is £200,000
  - the fund's equity investment is £200,000
  - ROE equals net profit divided by average shareholders' funds
  - no interest is earned on the moneys held by the new company

State any other assumptions that you make. [4]

[Total 10]

- 8** (i) State the principal function of a custodian. [1]
- (ii) Explain the difference between a custodian and a custodian trustee. [2]
- (iii) An investment manager has employed the services of a global custodian for many years. The global custodian has announced its intention to withdraw its services at the next renewal of the service agreement. State the issues that the investment manager must consider when interviewing potential replacement custodians. [4]
- [Total 7]

**9** The Government has announced that it will increase value added tax (VAT) from 17.5% to 25% with immediate effect. It has said that the moneys raised will be used to reduce public sector debt. VAT is an indirect tax levied on certain goods and services at the point of sale.

Explain the potential effects of this change on each of the public, business and personal sectors of the economy. [6]

- 10** (i) Define the term “risk budgeting”. [1]
- (ii) Describe the risk budgeting process within the context of an institutional investment portfolio. [4]
- [Total 5]

- 11** As at 31 December 2001, ABC Co. reported a net loss for the second year in succession. As a consequence the board hired a new managing director. Following a review of the company's operations, the managing director closed a number of factories and 30% of the workforce was made redundant. As a result the company returned to profit in 2002. Demand for the company's products grew above expectations in 2003. The company was unable to fully satisfy the demand and business was lost to competitors. As a result in 2003/04 the company has embarked on a large and expensive growth phase including hiring new staff and building new factories. The company was profitable in 2003 but will not be so after expansion costs are taken into account in 2004.

At the annual general meeting in 2004, the managing director made a speech citing the rapid return to profit in 2002 and the increased demand for the company's products in 2003 as major personal and corporate achievements. He has asked the shareholders to support the company's expansion plans and has advised them that it may be necessary for the company to hold a rights issue in the future.

You are an investment manager. Your fund is a major shareholder in ABC Co. You disagree wholly with the managing director's interpretation of events and would like to see him replaced.

- (i) Draft a letter to the chairman of the board of ABC Co. calling for the managing director's resignation and citing the reasons why he should go. [6]
- (ii) List the data that you would require and outline the analysis that you would conduct to substantiate your assertions. [5]
- (iii) Describe the managing director's view of his own performance to date in terms of Behavioural Finance Theory. [4]

[Total 15]

**12** Two years ago ABC Co. issued a 7-year floating rate note (“FRN”) to a wealthy private investor based in country X. Short-term interest rates in country X have historically been very volatile and this is expected to continue in the future. The FRN pays interest annually, has just paid interest and has five years remaining to maturity. The FRN pays interest at a rate equivalent to 12-month LIBOR in country X. Market conditions and the investor’s circumstances have changed over the past two years. An investment banker has suggested that the investor purchases a tailor-made product from the investment bank, which will, in combination with the FRN, reduce the fluctuation in income received by the investor over the remaining term of the FRN. Under the combined contract the investor will receive a coupon equivalent of no less than 5% and no greater than 6% per annum until maturity.

- (i) Outline a set of plausible changes in market conditions and circumstances which could have resulted in the investor being interested in the investment bank product. [2]
  - (ii) List with reasons the derivatives, bond positions and/or cash holdings that the investment banker has or will in the future have and could combine to manufacture the investment product. [4]
  - (iii) State the formulae which you would use to price the investment product. Define any symbols that you use. [4]
  - (iv) Outline the main business issues that the investment bank faced when it designed and priced the product. [4]
- [Total 14]

**END OF PAPER**