

DP09

# Investment

13 MAY 1999

- |   |   |
|---|---|
| 1. Time allowed   | : Three (3) hours   |
| 2. Total number of questions  | : Five (5) questions on 3 pages   |
| 3. Number of questions to be answered   | : All five (5) questions<br>Part A: One (1) question [20 marks]<br>Part B: Four (4) questions [20 marks each] |
| 4. Show details of workings, where appropriate. Silent, non-programmable calculators may be used. |   |
| 5. Begin each answer to a new question on a fresh page.   |   |
| 6. Answer <b>all</b> questions in <b>English</b> .  |   |

**PART A**

1. *Only brief answers are required in this question (a few words or a few sentences). Answer ALL parts of the question.*

- (a) Explain the difference between:
- (i) “ordinary shares” and “preference shares”. [2]
  - (ii) “convertible bonds” and “straight bonds”. [2]
- (b) Describe the following terms:
- (i) option contract [1]
  - (ii) futures contract [1]
  - (iii) warrant [1]
  - (iv) straddle [1]
  - (v) strip [1]
  - (vi) strap [1]
- (c) List **six** determinants of a warrant premium or the speculative potential of a warrant. [3]
- (d) The following are **two** investment yardsticks:
- Price-earnings (P/E) ratio
  - Dividend yield
- (i) What is the formula for each of the above? [3]
  - (ii) What does each of the above indicate? [4]

(Total:20 marks)

**PART B****ANSWER ALL QUESTIONS**

2. (a) You are given the following information:

Stock	Beta
A	1.7
B	1.0
C	0.4

- (i) Explain what the beta means for each of the above stocks. [2]
  - (ii) Which of the above stocks would be considered an “aggressive” stock? Explain your answer. [1]
  - (iii) Which of the above stocks would be considered a “defensive” stock? Explain your answer. [1]
- (b) In security analysis, there are **two** common methods namely “fundamental analysis” and “technical analysis”.
- Briefly describe these **two** methods. [4]

- (c) You are given the following information for NewCo Sdn Bhd as at December 1998:

Beta	1.5
Market price	RM25.00
Risk-free rate of return	5.0%
Expected market return	14.0%
Annual dividend per share	RM1.20

- (i) Based on the above information and the “Capital Asset Pricing Model (CAPM)”, calculate the required rate of return for NewCo Sdn Bhd. [2]
- (ii) The dividend growth for NewCo Sdn Bhd is as follows:

Period	Dividend growth
First <b>three</b> years	10%
Years thereafter	8%

What is the intrinsic value of NewCo Sdn Bhd using the above information and the required rate of return calculated in (i) above? Show your workings. [8]

- (iii) You are given the following information on OldCo Sdn Bhd as at December 1998:

Beta	1.5
Market price	RM45.00
Intrinsic value	RM62.00

As an investment analyst, recommend NewCo Sdn Bhd or OldCo Sdn Bhd for purchase by comparing both companies’ intrinsic values with their current market price. Show all workings. [2]

(Total:20 marks)

3. (a) What is the relationship between “bond prices” and “interest rates”? [4]
- (b) (i) What are “convertible bonds”? [2]
- (ii) State **six** advantages of convertible bonds. [6]
- (c) State **eight** obligations of the Kuala Lumpur Stock Exchange (KLSE). [8]
- (Total:20 marks)
4. (a) Which regulatory bodies supervise and manage the Malaysian securities industry? [2]
- (b) Name the regulatory bodies for the Malaysian financial futures and options industry and the statutes regulating this industry. [3]
- (c) Explain the following:
- (i) Delivery by the Central Depository System (CDS) [2]
- (ii) Odd lots or special lots [2]
- (iii) Buying-in [2]
- (d) List **six** actions available to a shareholder in a rights issue. [6]
- (e) State **two** benefits of the Central Depository System (CDS) to banks. [3]
- (Total:20 marks)

5. You are given the following data for XYZ Sdn Bhd:

**XYZ SDN BHD  
INCOME STATEMENT DATA**

Items	1998 (RM'000)	1995 (RM'000)
Sales	909	650
Operating profit	85	45
Depreciation	8	6
Interest expense	-	4
Pre-tax profit	70	32
Income tax	35	12
Net profit after tax	35	20

**XYZ SDN BHD  
BALANCE SHEET DATA**

Items	1998 (RM'000)	1995 (RM'000)
Fixed assets	80	45
Total assets	279	220
Working capital	162	125
Total debts	-	18
Total liabilities	20	35
Total shareholders' equity	250	160

- (a) Based on the above financial data, compute the following for the years 1995 and 1998:
- (i) Operating profit margin [1]
  - (ii) Interest coverage ratio [1]
  - (iii) Debt-to-equity ratio [1]
  - (iv) Total assets turnover ratio [1]
- (b) (i) Explain “interest coverage ratio” and “debt-to-equity ratio”. [4]
- (ii) What does a high “debt-to-equity ratio” indicate? [2]
- (c) Indicate whether the following will result in an **increase** or **decrease** in the return on equity (ROE) ratio:
- (i) a decrease in interest burden [1]
  - (ii) an increase in earnings before interest and tax (EBIT) margin [1]
  - (iii) a decrease in tax rate [1]
  - (iv) an increase in leverage [1]
  - (v) an increase in assets turnover [1]
- (d) Briefly explain the **five** types of bond yield. [5]

(Total:20 marks)

## OUTLINE ANSWERS

### PART A

#### Question 1

**Generally, this question was well-answered. However, some candidates were not able to describe the derivative terms, i.e. straddle, strip and strap. Another area of weakness was the inability to calculate the PE ratio and dividend yield formulae indicated.**

- (a) (i) **Ordinary shares** give their holders the right of ownership of the company, such as the right to a share of the company's profits by way of dividends, the right to vote in general meetings and to elect and dismiss directors.

**Preference shares** are another class of share capital that has a preferential position over ordinary shares, in regard to the payment of dividends and the division of the company's assets.

- (ii) A **convertible bond** pays the holder a regular fixed interest and also gives the holder the option to exchange the bond for shares in the company at a pre-determined price over a future period.

A **straight bond** has no convertible feature. It is often issued with warrants which are detachable and are traded separately in the market.

- (b) (i) An **option contract** gives the holder the right without the obligation to buy (call) or sell (put) a specific underlying instrument at a specific price, on or before a specific future date.

- (ii) A **futures contract** is a binding agreement between a seller and the buyer to respectively deliver and take delivery of a specific quantity of a commodity at an agreed price today at a specific future date.

- (iii) A **warrant** is an option to purchase a stated number of common stocks at a specified price at any time during the life of the warrant. It is a quoted right to buy into the equity of a company.

- (iv) A **straddle** is a combination of a put and a call option on the same stock with the same expiration date.

- (v) A **strip** is a combination of two puts and a call on the same security, same expiration date and exercise price.

- (vi) A **strap** is a combination of a put and two calls on the same security, same expiration date and exercise price.

- (c) (i) Remaining warrant life;  
 (ii) Leverage value;  
 (iii) Price volatility;  
 (iv) Dividend yield;  
 (v) Interest rates; and  
 (vi) Dilution.

- (d) (i)  $PE = \frac{\text{Market price per share}}{\text{Earnings per share}}$

whereby earnings per share =  $\frac{\text{Net profit after tax}}{\text{No. of issued ordinary shares outstanding}}$

$$\text{Dividend Yield} = \frac{\text{Gross dividend per share} \times 100}{\text{Market price per share}}$$

- (ii) PE Ratio is the number of times an investor is willing to pay for the earnings capacity of the company (as measured by the earnings per share) at the prevailing market price.

The dividend yield indicates the amount of a company's annual dividend expressed as a percentage of the current market price of the shares of that company.

## PART B

### Question 2

**Most candidates showed an understanding of basic investment concepts of risk and beta, and fundamental and technical analysis. However, many were not able to answer the question on equity valuation satisfactorily.**

- (a) (i) Stock A has a beta of 1.7 which means that for every 1% change in the market return, on average, stock A's return changes by 1.7%.

Stock B has a beta of 1.0 which means that for every 1% change in the market return, on average, security B's return changes by 1%.

Stock C has a beta of 0.4% which means that for every 1% change in the market return, on average, stock C's return changes by 0.4%.

- (ii) The average beta of all stocks is 1.0 because the beta of the overall market is 1.0. Therefore, Stock A is considered an aggressive stock as a beta of 1.7 means that it is more volatile than the overall market.
- (iii) The average beta of all stocks is 1.0 because the beta of the overall market is 1.0. Stock C is considered a defensive stock as a beta of 0.4 means that it is less volatile than the overall market.

- (b) **Fundamental Analysis** aims to arrive at the real (intrinsic) value of a stock. It involves the analysis of both positive and negative factors which have an impact on a company's future values, e.g. its business and earnings prospects, asset values, etc. Therefore, fundamental analysis typically includes the following analysis in a 'top-down' order:

- (i) aggregate stock market  
 (ii) industries  
 (iii) individual companies

The economic environment and the performance of a company's industry influences the value of the security and its rate of return. Company analysis aims to identify the best company in a promising industry and this involves examining not only the firm's past performances, but most importantly, its future prospects. The key source of information for company analysis is the financial accounts of the company and also those of the competitors in the industry where comparative studies are needed.

**Technical Analysis** involves the examination of past market data, such as prices and volume of trading, which lead to an estimate of future price and therefore, an investment decision. Technical analysis ignores the fundamental factors almost completely and is only concerned with the forces of demand and supply for the stock which is believed to be reflected in the price and volume patterns. Technical analysts develop technical rules from observing past price movements of the stock market and individual stocks. They believe that a change in the price trend may predict a forthcoming change in fundamental variables earlier than it is perceived or anticipated by most fundamental analysts.

- (c) (i) CAPM expresses the required rate of return of an asset as:

$$k_i = \text{RFR} + B_i(\text{MR} - \text{RFR})$$

where  $k_i$  = the required rate of return for asset i  
 RFR = the risk free rate of return  
 $B_i$  = the beta for security i  
 MR = the required rate of return on the stock market as a whole

Therefore the required rate of return for NewCo =  $5\% + 1.5(14\% - 5\%) = 18.5\%$

(ii) Using the Dividend Discount Model to estimate the intrinsic value of NewCo :

- Estimate of future dividends :

Year		
1999	$1.20 \times 1.10$	= RM1.32
2000	$1.32 \times 1.10$	= RM1.45
2001	$1.45 \times 1.10$	= RM1.60
2002	$1.60 \times 1.08$	= RM1.73

- Present value of the first 3 dividends :

Year		
1999	$1.32/1.185$	= RM1.11
2000	$1.45/(1.185 \times 1.185)$	= RM1.03
2001	$1.60/(1.185 \times 1.185 \times 1.185)$	= <u>RM0.96</u>
		<u>RM3.10</u>

- Using the Infinite Period Model, the price at the end of 2001 =  $D_{2002}/(k-g)$   
=  $1.73/(0.185 - 0.08) = RM16.48$
  - Present value of stock price at end 2001 =  $RM16.48/(1.185 \times 1.185 \times 1.185) = RM9.90$
  - Therefore NewCo's intrinsic value = Present value of the stock price at end 2001 + dividends receivable to 2001  
=  $RM9.90 + RM3.10 = RM13.00$
- (iii) NewCo: Intrinsic Value = RM13.00 compared to current market price = RM25.00  
OldCo: Intrinsic Value = RM62.00 compared to current market price = RM45.00

Hence to recommend purchasing OldCo as its intrinsic value exceeds its current market price whereas NewCo's intrinsic value is below its current market price. OldCo has a positive expected return whilst NewCo has a negative expected return.

### Question 3

**Quite a number of candidates could not explain the relationship between bond prices and interest rates as well as state the obligations of the Kuala Lumpur Stock Exchange (KLSE).**

- (a) Interest rates are the price for loanable funds and the interest rate security price determination process is derived from the effect of an increase or decrease in the demand for loanable funds. An increase in demand for loanable funds will lead to an increase in the supply of securities, a new lower equilibrium price for securities and a higher equilibrium interest rate on loanable funds.

An increase in the supply of loanable funds leads to an increase in the demand for securities, a new higher equilibrium price for securities, and a lower equilibrium interest rate on loanable funds.

- (b) (i) Convertible bonds are bonds that may be exchanged for (usually) common stock of the issuer. Convertible bonds pay an interest and have the principal characteristics of other bonds. The convertible feature is attached as a sweetener, thereby allowing the issuer to obtain a lower interest cost by offering investors a chance for future gains from the company stock.
- (ii) The advantages of convertible bonds are:
- By attaching the convertible feature, the issuer often gets a lower interest rate on its debt.

- Convertible bonds represent potential common stock. The common stock feature is desirable for an issuer which currently needs equity capital for an investment but does not want to issue common stock immediately because of the potential dilution before the investment begins generating earnings.
  - If the company performs well after the issuance of the convertible bonds, the bondholders will be able to gain by converting their bonds into the now-more-valuable stock.
  - Convertible bonds have an upside potential of a common stock because it contains an option to buy the stock by simply surrendering the bond. If the stock price increases, the convertible bond gains in value due to the increased value of the stock into which it can be converted.
  - Convertible bonds have a downside protection of a bond. Irrespective of what happens to the stock, the price of a bond will not decline below what it would be worth as a straight bond.
  - A convertible bond usually has a higher current yield than the underlying common stock.
- (c) The obligations of the Kuala Lumpur Stock Exchange include:
- (i) To provide, regulate and maintain facilities for conducting the business of a stock exchange in Malaysia;
  - (ii) To promote and protect the interests and welfare of the members of the Exchange;
  - (iii) To provide an authority for the interpretation and means for the enforcement of the rules relating to the member companies on the Stock Exchange and to undertake arbitration between the members by the Committee of the Exchange;
  - (iv) To establish just and equitable principles in the securities market;
  - (v) To make and amend from time to time rules relating to member companies, and for trading by member companies;
  - (vi) To provide investors' service and to promote interest in the securities market as a whole;
  - (vii) To provide and enact listing requirements and undertakings relating to listed companies and to enunciate and enforce the code for mergers, take-overs and acquisitions; and
  - (viii) To institute a policy of market surveillance and corporate disclosure.

#### Question 4

**Most candidates were able to answer this question fairly well.**

- (a) Regulatory bodies supervising and managing the Malaysian securities industry include:
- (i) Securities Commission
  - (ii) Registrar of Companies
  - (iii) Foreign Investment Committee
  - (iv) Kuala Lumpur Stock Exchange
  - (v) Bumiputra Stock Exchange
- (b) Regulatory bodies are :
- (i) The Ministry of Finance

- (ii) The Securities Commission

The industry is regulated by the Futures Industry Act 1993 and its amendments, Futures Industry (Amendment) Act 1995 which are administered by the Securities Commission.

- (c) (i) Under the CDS, there is no physical delivery of shares. The CDS uses a simple book entry system to keep track of the movement of shares from trades effected on the KLSE.
- (ii) Odd lots or special lots are any amount in excess of, or less than, the board lots. Shares are normally traded on the KLSE in specific amounts called board lots. One board lot normally equals 1,000 shares and for certain companies, 200 shares. These odd lots are not marketable parcels, however they can still be bought or sold but the broker's commission rate is higher than for board lots.
- (iii) Buying-in takes place if the selling-client fails to deliver to the stockbroking firm by the due date, and consequently the stockbroking firm is unable to deliver to the Securities Clearing Automated Network Services Sdn Bhd (SCAN), which is the central clearing house of the KLSE. The KLSE will institute automatic buying-in against the stockbroking firm concerned on the market day following the due date to SCANS. The buying-in price is fixed by adding 10 bids to the last recorded sale or last buying-in offer at the close of business on the previous day.
- (d) (i) Do nothing.  
 (ii) Subscribe fully to the rights entitlements.  
 (iii) Sell the rights entitlements.  
 (iv) Sell part of the rights entitlements to raise enough cash to pay for the shareholder's remaining rights entitlements.  
 (v) Sell some shares (ex-rights) to pay for the rights entitlements.  
 (vi) Sell all existing shares-cum-rights.
- (e) (i) Saving of manpower and space utilised in processing, tracking and storing scrips.  
 (ii) Offer better custodian services and pledging facilities to the customers through the CDS.

### Question 5

**Although candidates showed a good understanding of the types of bond yields, many candidates had difficulties in the financial analysis section.**

- (a) (i) Operating Profit Margin =  $\frac{\text{Operating profit (before interest \& tax)}}{\text{Net Sales}} \times 100$
- For 1995 :  $(45/650) \times 100 = 6.92\%$  For 1998 =  $(85/909) \times 100 = 9.35\%$
- (ii) Interest Coverage Ratio =  $\frac{\text{Earnings before interest \& tax}}{\text{Debt interest charges}}$
- For 1995 =  $(20 + 12 + 4)/4 = 9$  times For 1998 = – (no interest charges)
- (iii) Debt to Equity Ratio =  $\frac{\text{Current \& long-term liabilities}}{\text{Shareholders' equity}}$
- For 1995 =  $35/160 = 0.2188$  For 1998 =  $20/250 = 0.08$
- (iv) Total Assets Turnover = Sales/Total Assets
- For 1995 =  $650/220 = 2.95$  For 1998 =  $909/279 = 3.26$

- (b) (i) **Interest Coverage Ratio** indicates how many times the fixed interest charges are earned, based on the earnings available to pay expenses. It expresses the number of times interest payments are covered by a company's earnings and it measures the company's ability to pay interest.

**Debt to Equity Ratio** indicates what proportion of a company's capital is derived from debt compared to other sources of capital like ordinary share capital, preferred stocks and earnings.

- (ii) A higher proportion of debt capital compared to equity capital makes earnings more volatile and increases the probability that the company will not be able to meet the required interest payments and will default on the debt. Therefore, a higher proportion of debt to equity ratio indicates greater financial risk.
- (c) (i) A reduction in interest burden : increase  
(ii) An increase in Earnings Before Interest and Tax margin : increase  
(iii) An increase in tax rate : decrease  
(iv) An increase in leverage : increase  
(v) A reduction in assets turnover : decrease
- (d) (i) Nominal yield – coupon rate of the bond  
(ii) Current yield – current coupon payment as a percentage of its market price  
(iii) Yield-to-maturity – compounded rate of return from the date of purchase to the maturity of the bond  
(iv) Yield-to-call – expected rate of return for a bond held to its first call date  
(v) Realised yield – expected rate of return for a bond which is likely to be sold prior to maturity