

**DP09**

# **Investment**

**9 MAY 2002**

1. Time allowed : Three (3) hours
2. Total number of questions : Five (5) questions
3. Number of questions to be answered : All five (5) questions  
Part A : One (1) question [20 marks]  
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 **all** questions in **English**.
7. A blank page is provided at the end of the question paper for rough work.

## 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) Briefly explain the following terms used for equities:
- (i) cum-dividend [1]
  - (ii) ex-dividend [1]
  - (iii) market capitalisation [1]
  - (iv) share premium [1]
  - (v) par value [1]
- (b) In evaluating a bond as a potential investment, state **five** factors that an investor should consider. [5]
- (c) Briefly explain how the following types of corporate bonds are different from each other:
- (i) subordinated bonds [2]
  - (ii) convertible bonds [2]
  - (iii) zero coupon bonds [2]
- (d) For unit trust funds, briefly explain what the following means:
- (i) balanced funds [2]
  - (ii) growth funds [2]
- (Total:20 marks)

## PART B

### ANSWER ALL QUESTIONS

2. (a) A local bond rating agency has announced that the bond rating of XYZ Bhd has just been upgraded one notch from "A" to "AA".
- State whether the following bond parameters would "increase", "decrease", or "remain unchanged", assuming all other things remain unchanged. You are also required to briefly explain your answers.
- (i) Bond's market price [2]
  - (ii) Bond's yield-to-maturity [2]
- (b) Bank Negara Malaysia has just reduced interest rates by 0.25% or 25 basis points.
- State whether the following bond parameters would "increase", "decrease", or "remain unchanged", assuming all other things remain unchanged. You are also required to briefly explain your answers.
- (i) Bond's market price [2]
  - (ii) Bond's yield-to-maturity [2]
- (c) As a treasury executive, you notice that the yield curve is now quite flat. That is, a **one**-year government bond has a yield-to-maturity of 3.00% while a **ten**-year government bond has a yield-to-maturity of 3.40%. You have both bonds in your portfolio. However, you believe that in the next few months, this will change and that the yield curve will be rising. That is, you expect

a **one**-year government bond to have a yield-to-maturity of 3.20% while a **ten**-year government bond is expected to have a yield-to-maturity of 4.50%.

Your manager has now asked you to sell the **one**-year government bond because it has a yield-to-maturity of only 3.00% while a **ten**-year government bond has a higher yield-to-maturity of 3.40%.

Do you agree with your manager to sell the **one**-year bond? Explain your answer. [6]

- (d) State **six** advantages of convertible bonds. [6]  
(Total:20 marks)

3. (a) You have just been employed as an investment analyst, responsible for covering the tobacco and construction sectors. In doing your research work, you applied the Infinite Period Dividend Discount Model to find the intrinsic value of JKL Bhd, a cigarette-manufacturing company, and RST Bhd, a construction company. The following data are provided for JKL Bhd and RST Bhd.

| Financial Year         | JKL Bhd   |           | RST Bhd   |           |
|------------------------|-----------|-----------|-----------|-----------|
|                        | EPS (sen) | DPS (sen) | EPS (sen) | DPS (sen) |
| December 1997 actual   | 40.0      | 20.0      | 10.4      | 7.0       |
| December 1998 actual   | 43.5      | 21.0      | -13.3     | 0.5       |
| December 1999 actual   | 48.3      | 22.5      | 13.5      | 8.0       |
| December 2000 actual   | 51.0      | 24.0      | -5.3      | 0.5       |
| December 2001 actual   | 56.5      | 25.0      | 18.3      | 10.0      |
| December 2002 forecast | 58.0      | 26.5      | 22.1      | 11.0      |

- (i) State **three** key assumptions when using the Infinite Period Dividend Discount Model. [3]

- (ii) You have derived an intrinsic value of RM6.60 a share for JKL Bhd and an intrinsic value of RM1.76 a share for RST Bhd. The current market price is RM6.50 a share for JKL Bhd and RM3.30 a share for RST Bhd.

When you asked your manager why there was such a wide discrepancy between the intrinsic value of RST Bhd and its market price, you were told that, "The Infinite Period Dividend Discount Model is more appropriate for JKL Bhd and less appropriate for RST Bhd."

Do you agree with your manager? Briefly explain your answer. [5]

- (iii) When using the Infinite Period Dividend Discount Model and based on the data provided in the table above, which company, JKL Bhd or RST Bhd, would you expect to have a higher required rate of return, "k"? Briefly explain your answer. [3]

- (b) List **two** disadvantages of the Infinite Period Dividend Discount Model. [2]

- (c) "A stock with a higher beta should have a higher required rate of return."

Do you agree with this statement? Briefly explain your answer. [3]

- (d) Risk can be measured both by standard deviation as well as by beta.

Explain how standard deviation is different from beta. [4]  
(Total:20 marks)

4. (a) Indicate and explain briefly whether the following will result in an "increase" or "decrease" in a company's return on equity ratio, assuming all other things being equal:

- (i) A company suddenly sells more of a new product with higher profit margins. [2]
  - (ii) A manufacturing company has just expanded production capacity using internally generated funds but sales continue to remain flat. [2]
  - (iii) In the most recent budget, corporate tax rates were reduced by 2%. [2]
- (b) You are given the following data for DEF Bhd:

**DEF Bhd: Income Statement for 2001 (RM'000)**

|                         |          |
|-------------------------|----------|
| Sales                   | 125,000  |
| Operating profit        | 42,500   |
| Depreciation            | (12,800) |
| Interest expense        | (1,200)  |
| Pre-tax profit          | 28,500   |
| Income taxes            | (7,500)  |
| Net profit attributable | 21,000   |

**DEF Bhd: Balance Sheet for 2001 (RM'000)**

|                       |         |
|-----------------------|---------|
| Current assets        | 38,000  |
| Net fixed assets      | 197,000 |
| Total assets          | 235,000 |
| Current liabilities   | 47,000  |
| Long-term liabilities | 67,000  |
| Shareholders equity   | 121,000 |

Based on the above data, compute the following ratios for DEF Bhd:

- (i) Net profit margin [1]
  - (ii) Interest coverage ratio [1]
  - (iii) Debt-to-equity ratio [1]
  - (iv) Current ratio [1]
- (c) Briefly explain the supervisory and management functions of the following regulatory bodies:
- (i) Securities Commission [2]
  - (ii) Registrar of Companies [2]
  - (iii) Kuala Lumpur Stock Exchange [2]
  - (iv) Foreign Investment Committee [2]
- (d) The day-to-day operations of the Kuala Lumpur Stock Exchange are managed by various departments, subsidiaries and affiliate companies. State what the following subsidiaries or affiliate companies do:
- (i) Malaysian Central Depository Sdn Bhd [1]
  - (ii) Research Institute of Investment Analysis Malaysia [1]

(Total:20 marks)

5. (a) With reference to the Securities Industry Act 1983, describe **two** circumstances under which false trading is deemed to have taken place. [2]
- (b) State **three** obligations of the Kuala Lumpur Stock Exchange as a self-regulatory organisation. [3]
- (c) State **five** objectives of the Malaysian Central Depository Sdn Bhd. [5]
- (d) State **five** actions available to a shareholder in a rights issue. [5]
- (e) Shareholders of ABC Bhd have approved a 2-for-5 rights issue at RM1.80 a share. The cum-rights price of ABC Bhd was RM3.48 a share.
- Based on this information, what is the value of the rights? [5]
- (Total:20 marks)

## **OUTLINE ANSWERS**

### **Question 1**

Areas of weakness include poor understanding of basic concepts like “market capitalisation” and “share premium”. Candidates also failed to explain clearly what “Balanced Unit Trust Funds” and “Growth Unit Trust Funds” were.

1. (a) **(pg 9 - 12 of manual)**
  - (i) A share quoted cum-dividend means the buyer is entitled to a dividend attached to it.
  - (ii) Ex-dividend means the buyer is not entitled to dividend entitlement attached to the share.
  - (iii) Market capitalisation refers to the total value of a company’s shares listed on the KLSE based on the market price per share of the stock.
  - (vi) Share premium refers to the difference between the par value and the issued price of shares.
  - (v) Par value is the nominal or face value of a share, which exists for legal and accounting purposes.
- (b) **(pg 28 of manual)**

Factors to consider in evaluating a bond as a potential investment (any **five**):

  - Its maturity period.
  - The credit-worthiness of the issuer.
  - The coupon rate.
  - The market price of the bond.
  - The yield-to-maturity.
  - Special features such as call options, convertibility, trading liquidity.
- (c) **(pg 29 of manual)**
  - (i) Subordinated bondholders have a claim on assets of the company only after it has satisfied the claims of all senior secured bond and debenture holders.
  - (ii) Convertible bonds give the bondholders the option to convert the bonds into the issuer’s common stock.
  - (iii) Zero coupon bonds promise no coupon payment during the life of the bond but only the payment of principal at maturity.
- (d) **(pg 31 of manual)**
  - (i) Balanced funds generally have a three-part investment objective, namely to conserve the investors’ initial principal, to pay current income and to promote long-term growth of both this principal and income.
  - (ii) Growth funds invest in the common stocks of well-established companies. Their primary aim is to increase the value of their investments rather than a flow of dividend payments.

### **Question 2**

Candidates performed poorly for this question due to their lack of understanding on the topic of bonds. Many could not explain how a move in interest rates or how a change in credit ratings affects bond prices. Hence, they could not answer part (c), which required them to apply their understanding of how bond prices are inter-related with a changing interest rate scenario.

2. (a) (i) **(pg 96 of manual)**  
The bond market price will increase as its yield falls given the lower default risk.
- (ii) **(pg 96 of manual)**  
The bond's yield will decrease given the lower default risk.
- (b) (i) **(pg 93 - 94 of manual)**  
The bond's market price will increase given the lower default risk.
- (ii) **(pg 93 - 94 of manual)**  
The bond's yield will decrease given the lower default risk.
- (c) **(pg 93 - 94 of manual)**  
No. Do not sell the one-year bond. Sell the ten-year bond instead. If interest rates are going to rise as you are expecting, then in a few months, the price of the ten-year bond will decline since rates are going to rise from 3.40% to 4.50%. The one-year bond on the other hand will hardly be affected as short-term rates are only going to rise by 0.20%, i.e. from 3.20% to 3.40%.
- (d) **(pg 97 of manual)**  
Advantages of convertible bonds:
- The issuer often gets a lower interest rate on its debt.
  - The convertible bond represents potential common stock and is desirable for an issuer, which eventually needs equity capital but not before the new investment begins generating earnings.
  - If the company performs well, the bondholders will be able to gain by converting their bonds into more valuable common stock.
  - Convertible bonds have upside potential of a common stock.
  - Convertible bonds have downside protection of a bond.
  - Convertible bonds usually have higher current yields than the underlying common stock.

### **Question 3**

- This question on Dividend Discount Model was also poorly answered, as candidates did not know the key assumptions behind this model. However, they could relate that higher risk translate to higher return.
- Candidates also could not understand and differentiate between risks measured by standard deviation and as measured by beta.

3. (a) (i) **(pg 67 of manual)**  
Assumptions when using the Infinite Period Dividend Discount Model:
- Dividends grow at a constant rate
  - The constant growth rate will continue for an indefinite period
  - The required rate of return is greater than the infinite growth rate. If it is not, the model gives meaningless results because the denominator goes negative.
- (ii) **(pg 67 - 68 of manual)**  
Yes, one can see that JKL Bhd, the cigarette manufacturing company, is closest to meeting all three assumptions. In addition, it is explicitly noted in page 68 of the manual that the Infinite Period Dividend Discount Model should not be used to value companies which expect periods of abnormally high rates of return for some periods of time. The table on RST Bhd shows that the company is set to show good earnings

growth for the period to December 2002. However, an examination of its past also shows that its earnings growth for RST Bhd may not be sustained.

- (iii) **(pg 53 of manual)**  
RST Bhd should have the higher required rate of return as its has more volatile earnings which implies that a higher risk premium is justified.

$$k = \text{risk free rate} + \text{risk premium (from pg 53)}$$

Thus, if risk premium is higher, then “k” should also be higher.

- (b) **(pg 70 of manual)**
- An accurate forecast of dividend payments to infinity is an impossible task.
  - Many investors want capital gains and not dividends.

- (c) **(pg 53 of manual)**  
 $k = \text{risk free rate} + \text{risk premium}$   
 $= \text{risk free rate} + \beta * (\text{market return} - \text{risk free rate})$

Hence, if  $\beta$  is higher, then “k” is also higher.

- (d) **(pg 48 of manual)**  
Standard deviation is a measure of total risk of a security or a portfolio of securities. It captures the total variability in the return of an investment or a portfolio of investments.

Beta, on the other hand, is a relative measure of systematic risk. It is the risk of an individual stock in relation to the overall market, as measured by the volatility of its returns.

#### **Question 4**

- Most candidates fared better in this question which had less application-type problems. Candidates were familiar with the Du Pont ratio and how a changing business environment would affect this ratio.
- Candidates also demonstrated that they were comfortable with basic financial ratios like “net profit margin” and “debt-to-equity ratio”.
- Candidates were also prepared for questions relating to supervisory and management functions of the various regulatory bodies.

4. (a) (i) **(pg 84 of manual)**  
ROE will increase with an increase in profit margins.
- (ii) **(pg 84 of manual)**  
ROE will decrease with a decrease in asset turnover.
- (iii) **(pg 84 of manual)**  
ROE will increase with a lower tax burden.
- (b) (i) **(pg 82 of manual)**  
net profit margin = net income / net sales  
= RM21,000,000 / RM125,000,000  
= 16.8%
- (ii) **(pg 78 of manual)**  
interest coverage ratio = EBIT / debt interest charges  
= RM29,700,000 / RM1,200,000  
= 24.8x

- (iii) **(pg 77 of manual)**  
 debt-to-equity ratio = current and long term liabilities / equity  
 = (RM47 mil + RM67 mil) / RM121 mil  
 = 0.94x
- (iv) **(pg 76 of manual)**  
 current ratio = current asset / current liabilities  
 = RM38,000,000 / RM47,000,000  
 = 0.81x
- (c) **(pg 113 of manual)**
- (i) **Securities Commission** provides the regulation and advice to the Minister of Finance on all matters relating to securities and futures contracts industries.
- (ii) **The Registrar of Companies** administers the Companies Act, 1965, and the relevant provisions of the Securities Industries Act, 1983.
- (iii) **The Kuala Lumpur Stock Exchange** is a self-regulatory organisation. It governs the conduct of its members in securities dealing. It is also responsible for the surveillance of the market place and the enforcement of its Listing Requirements.
- (iv) **Foreign Investment Committee** implements the Governments guidelines on regulation of acquisition of assets or interests, merger or takeovers of companies and businesses.
- (d) **(pg 116 of manual)**
- (i) **Malaysian Central Depository Sdn Bhd** implements and operates the Central Depository System, which is the KLSE scripless settlement system.
- (ii) **Research Institute of Investment Analysis Malaysia** helps to upgrade the investment standard in Malaysia.

#### Question 5

Candidates performed satisfactorily on this question, which mainly required memory work, pertaining to false trading under the Securities Industry Act, obligations of the KLSE and the Malaysian Central Depository and some understanding of rights issues. Some candidates were not able to calculate an “ex-rights price” and hence the value of a “rights”.

5. (a) **(pg 114 of manual)**  
 False trading is deemed to be created if:
- a transaction to buy/sell any securities is effected and it does not involve any change in the beneficial ownership of the shares; and
  - an offer to sell and purchase any securities at a specified price which is substantially the same as the first mentioned price.
- (b) **(pg 115 of manual)** Choose any **three**:
- To provide, regulate and maintain facilities for conducting the business of a stock exchange in Malaysia.
  - To promote and protect the interests and welfare of the members of the Exchange.
  - To provide an authority for the interpretation and means for the enforcement of the rules relating to member companies on the Stock Exchange and to undertake arbitration between members by the Committee of the Exchange.
  - To establish just and equitable principles in the securities market.
  - To make and amend from time to time rules relating to member companies, and for trading by member companies.
  - To provide investors’ service and to promote interest in the securities market as a whole.

- To promote the commerce and industries of Malaysia and to augment the facilities with which it may be conducted.
- To provide and enact listing requirements and undertakings relating to listed companies and to enunciate and enforce the Code for Mergers, Takeovers and Acquisitions
- To institute a policy of market surveillance and corporate disclosure.

(c) **(pg 129 of manual)**

- To establish and operate a system for the central handling of securities, whether or not they are listed on any stock exchange.
- To increase the capacity for clearing and settlement of securities
- To reduce the costs and risks of settlement of securities
- To enhance the liquidity and efficiency of the Malaysian capital market
- To promote Malaysia's competitiveness by complying with the latest international standards for settlement and clearing of securities

(d) **(pg 133 of manual)**

- Subscribe fully to the rights entitlement
- Sell the rights entitlements
- Sell part of the rights entitlements to raise enough cash to pay for his remaining rights entitlements
- Sell some share ex-rights to pay for the rights entitlements
- Sell all existing shares cum rights
- Do nothing

(e) **(pg 133 - 134 of manual)**

|                                       |                       |
|---------------------------------------|-----------------------|
| 5 existing shares at RM3.48 per share | RM 17.40              |
| 2 rights issue at RM1.80 per share    | RM 3.60               |
| <b>7 shares worth</b>                 | <b><u>RM21.00</u></b> |

Theoretical ex-rights price =  $RM21.00 \div 7 \text{ shares} = RM3.00 \text{ per share}$

Value of rights calculation:

|                           |                      |
|---------------------------|----------------------|
| Ex-rights per share       | RM3.00               |
| Less : subscription price | RM1.80               |
| <b>Value of rights</b>    | <b><u>RM1.20</u></b> |