

**DP09**

# **Investment**

**12 OCTOBER 2000**

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**.

## 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) What is a share split? Include an example in your answer. [4]
- (b) As a bond investor, which **one** of the following ratios would you be most interested in and why?
- Price/earnings ratio
  - Operating profit margin
  - Return on equity
  - Debt-to-equity ratio [4]
- (c) List **three** factors a bond investor should consider when evaluating bonds for investment. [3]
- (d) List and describe **six** types of corporate bonds. [6]
- (e) Malaysian Government Securities (MGS) are offered for sale in the primary and secondary markets.
- What is the difference between these **two** markets? [3]

(Total:20 marks)

## PART B

### ANSWER ALL QUESTIONS

2. (a) The total risk of a security comprises **two** components. Briefly explain the **two** components of total risk. [4]
- (b) What are futures contracts? [2]
- (c) What type of risk can be reduced by the appropriate use of stock index futures? Explain your answer. [2]
- (d) If it is now the month of January, what are the available contract months for the Kuala Lumpur Stock Exchange Composite Index (KLSE CI) futures contract? [2]
- (e) If a KLSE CI futures contract is still open on its day of maturity, what happens to the contract? [2]
- (f) Based on the table below, answer the questions that follow:

Stock Market	Futures Market
<p style="text-align: center;"><b>In January</b></p> <ul style="list-style-type: none"> <li>• KLSE CI is at 1,100 points.</li> <li>• Investor expects to purchase RM10million portfolio of stocks in <b>two</b> months' time.</li> </ul>	<p style="text-align: center;"><b>In January</b></p> <ul style="list-style-type: none"> <li>• Buys March KLSE CI contracts at 1,090 points.</li> </ul>
<p style="text-align: center;"><b>In March</b></p> <ul style="list-style-type: none"> <li>• KLSE CI has risen to 1,200 points.</li> </ul>	<p style="text-align: center;"><b>In March</b></p> <ul style="list-style-type: none"> <li>• Sells March KLSE CI contracts at 1,220 points.</li> </ul>

- (i) Explain why, as an investor, you would undertake the above hedging strategy. [4]
  - (ii) Assume you want to cover the full value of your expected investment of RM10million, how many March KLSE CI futures contracts would you purchase? [2]
  - (iii) Calculate the profit/loss on the futures transaction. [2]
- (Total:20 marks)

3. (a) What is the difference between the historical and the prospective price/earnings (PE) ratios? [2]
- (b) You are given the following data for Company A and Company B:

Items	Company A	Company B
Return on equity	8%	20%
Price per share	RM5.00	RM2.50
Book value per share	RM1.00	RM1.00
Price-to-book value	5 times	2.5 times
Price/earnings (PE) ratio	10 times	12 times
Dividend pay-out ratio	0.5	0.2
Estimated earnings per share (EPS) for next year	0.40	0.35

- (i) Calculate the historical EPS of Company A and Company B. [2]
  - (ii) Calculate the prospective PE ratios of Company A and Company B. [2]
  - (iii) Based on the data given above, which company would you invest in? Explain your answer. [8]
- (c) "When the economy is good, highly leveraged firms will report a very high return on equity (ROE), and when the economy is bad, these firms will report a low ROE."
- Do you agree with this statement? Give reasons to support your answer. [4]
- (d) If high PE ratios indicate high prices for a stock, give **two** reasons why investors do not just buy only low PE stocks. [2]
- (Total:20 marks)

4. (a) You are given the following data for Company A and Company B:

Items	Company A	Company B
Sales	RM200,000	RM150,000
Fixed assets	RM120,000	RM92,000
Short-term debt	RM35,000	RM30,000
Long-term debt	RM0	RM25,000
Shareholders' funds	RM600,000	RM750,000
Number of issued shares	250,000	400,000
Market price of shares	RM3.50	RM2.85

- (i) Using the financial data above, calculate the following ratios for both Company A and Company B. Show your workings.
- Price-to-book ratio [2]
  - Leverage ratio [2]
  - Net fixed asset turnover [2]
- (ii) Assume you are a fund manager, and your investment strategy is to invest in companies with low price-to-book ratios, while taking into account differences in solvency and asset utilisation.
- Which company would you invest in, based on the financial data above? Justify your answer. [4]
- (b) (i) What does an abnormally high net fixed asset turnover ratio indicate? [2]
- (ii) What does an abnormally low net fixed asset turnover ratio indicate? [2]
- (c) The share price of a company listed on the Kuala Lumpur Stock Exchange is affected by various factors, including its accounting ratios based on past performances.
- List and explain **four** other factors that affect share prices. [6]  
(Total:20 marks)
5. (a) How does a company accumulate enough reserves in order for it to issue bonus shares to its shareholders? [2]
- (b) Give **three** reasons why a company proposes a bonus issue. [6]
- (c) Explain why, past years' earnings figures need to be adjusted following a right and/or bonus issues. [4]
- (d) What is the adjustment factor that must be applied to past years' earnings figures following a right and/or bonus issue? [2]
- (e) Explain the following terms:
- (i) selling out [2]
  - (ii) trade netting [2]
  - (iii) minimum bids [2]
- (Total:20 marks)

## **OUTLINE ANSWERS**

### **Question 1**

The percentage of passes for this question on understanding the characteristics of the various types of investments available to the general public was minimal. Many were unable to answer the question on factors that an investor should consider when evaluating bonds for investment and the difference between Malaysian Government Securities offered for sale in the primary and secondary markets.

1. (a) A share split is when a company reduces the par value of its shares and issues additional shares in the same proportion.

For example, a company with 100,000 ordinary shares with par value of RM1.00 per share splits its shares into 200,000 ordinary shares at a par value of 50 sen each. The total amount of the issued share capital remains unchanged at RM100,000 before and after the split. However, the number of shares increases from 100,000 to 200,000 after the split.

- (b) A bond investor would be most interested in the debt-to-equity ratio because the ratio indicates what proportion of the company's capital is derived from debt compared to other sources of capital like ordinary share capital, preferred stocks and earnings.

A high debt-to-equity ratio 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.

- (c) In evaluating a bond, the investor should consider the following:

- maturity period,
- credit worthiness of the issuer,
- coupon rate,
- market price of the bond,
- yield-to-maturity, and
- any special features such as call options, coupon payment frequencies, trading liquidity, etc.

- (d) **Debentures**

A debenture is an unsecured bond but holders usually have the first call on the earnings or assets of the issuer. A debenture pays interest and principal but it pledges no specific asset (collateral) in case the company is unable to make the payments. If the issuer does not make an interest payment, the debenture owner can declare the company bankrupt and claim any unpledged assets to pay off the bonds.

#### **Subordinated bonds**

These bonds are similar to debentures except that in the event of default, subordinated bonds have a claim on assets of the company only after it has satisfied the claims of all senior secured bond and debenture holders.

#### **Income bonds**

Income bonds stipulate payment schedules, but the interest is due and payable only if the issuer earns an income to make the payment by the stipulated dates. In the event the company does not earn sufficient income, it does not have to make the interest payment and it cannot be declared bankrupt. However, the interest payment must be paid subsequently. Income bonds usually offer higher returns to compensate investors for the added risk of uncertainty in interest payments of the issuer.

#### **Convertible bonds**

A convertible bond gives the bondholder the option to convert the bonds into the issuer's common stock. Convertible bonds also pay an interest and have the principal characteristics of other bonds. These bonds combine the features of a fixed income security with the option of conversion into common stocks. These bonds generally pay lower interest rates than non-convertible bonds of comparable risk. The difference is that the required interest rate increases

with growth potential of the company because this increases the value of the option to convert bonds into common stocks.

#### **Zero coupon bonds**

A zero coupon bond makes no interest payments during the life of the bond but only the payment of the principal at maturity. It is, therefore, issued with no coupons or interest. The purchaser pays less than par value for a zero coupon bond and receives its par value at maturity.

#### **Junk bonds**

Junk bonds are high risk and high yield bonds. They are issued in connection with mergers, leveraged buyouts, companies with heavy debts to repay and stock buyback by corporations.

#### **Mortgage bonds**

These bonds are issued with a first mortgage lien on some or all of the issuer's properties. Such lien provides greater security to the bondholders and a lower interest rate for the issuer.

- (e) In the primary market, only NEW issues of government and corporate securities are offered for sale directly to investors. Only SECONDARY transactions in MGS are conducted through the money market.

#### **Question 2**

Another poorly attempted question was on futures for hedging. This is the first time that this topic is examined and answers for this question can be obtained directly from the study manual. Yet, only a few candidates passed this question. Candidates tend to spot questions and not study all the topics in the manual.

2. (a) The components of total risk are systematic and unsystematic risk.

Systematic risk is the general component of the total risk, which encompasses risks like interest rate risk, market risk, inflation risk, etc. This part of the total risk is unavoidable, because no matter how well an investor diversifies, the risk of the overall market cannot be avoided. If the market rises strongly, most of the stocks will appreciate in value, and when the stock market declines sharply, most of the stocks will depreciate in value. These movements occur regardless of what an investor does. Therefore, systematic risk or market risk is directly associated with overall movements in the general market or economy. Virtually all securities have some systematic risks, which are non-diversifiable.

Unsystematic risk is the non-market risk, i.e. not related to the overall market variability. This risk is unique to a particular security and is related to factors such as business and financial risks.

- (b) 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. Although cash is not required until the delivery date, a margin is required.
- (c) Market risk can be reduced by the use of Kuala Lumpur Stock Exchange Composite Index (KLSE CI) futures. If the share market as a whole should fall, then having hedged a portfolio of shares with the KLSE CI futures will ensure that at least part of what is lost in the share market will be recouped in the futures market.
- (d) January, February, March, June
- (e) Any KLSE CI futures contracts still open on the contract maturity date is automatically closed out by an opposite transaction performed through the Clearing House. The holder of the contract is then either credited or debited the difference of the cash.
- (f) (i) The investor's risk is that the share market will rise before he is able to purchase his/her shares, thus making the acquisition costs more expensive. This risk can be

hedged by buying futures in January and then reversing the transaction when he/she completes the physical purchase of shares.

- (ii) Number of March futures contract to be bought  
 $= \text{RM}10\text{million} / \text{RM}100 \times 1,090 = 91 \text{ contract}$
- (iii) Profit/Loss on the transaction  
 $= (1,220 - 1,090) \times \text{RM}100 \times 91 \text{ contracts} = \text{RM}1,183,000$

### Question 3

This question tested candidates' knowledge, understanding and application of valuation of equities. Only a small number of candidates passed this question. Many candidates did not understand the valuation techniques because they only memorised the formula in the study manual. Only candidates who understood the theory were able to answer questions requiring interpretation of the calculations.

3. (a) Historical price/earnings (PE) ratio is computed based on past years' earnings while prospective PE ratio is computed based on estimates of futures earnings.
- (b) 
$$\text{PE ratio} = \frac{\text{Market price per share}}{\text{Earnings per share}}$$
- (i) Historical earnings per share (EPS)  
Company A =  $5/10 = 50 \text{ sen}$       Company B =  $2.5/12 = 21 \text{ sen}$
- (ii) Prospective PE ratio  
Company A =  $5/0.4 = 12.5 \text{ x}$       Company B =  $2.5/0.35 = 7.1 \text{ x}$
- (iii) The investor would prefer Company B to Company A because of the following reasons:
- Assuming ROE is sustainable at current level, Company B is able to reinvest capital at a higher rate of return than Company A.
  - An indication that the Stock B may be undervalued relative to Stock A because the price-to-book value of Company B is lower than Company A.
  - Dividend pay-out ratio for Company B is lower than that of Company A, indicating that more money will be retained to invest in future projects that is expected to fuel its future earnings growth.
  - The earnings growth of Company B is stronger than Company A. Hence, the prospective PE ratio of Company B is lower than that of Company A. The lower prospective PE ratio indicates that Company B is undervalued relative to Company A.
- (c) 
$$\text{ROE} = \frac{\text{Net income} - \text{Dividend in preference shares} - \text{Minority interest}}{\text{Average total capital}}$$

When the economy is good, the leverage firms will report very high ROE because of the tax shield that these companies obtain from their debts. Interest payment on their debts are tax deductible and hence earnings will be higher than a company which is financed purely by equity.

However when the economy is bad, the leveraged firm's high level of debt service forces profits down as sales falter and hence ROE will fall.

- (d) Investors do not buy only low PE stocks because these stocks may not have the high earnings growth investors are looking for, or current earnings may be the result of a cyclical phase which may not be sustainable. Therefore, the low PE stocks may remain low PE in the future and returns from these investments would be low.

#### Question 4

This question examined two areas, financial statement analysis and factors affecting share prices. Candidates managed to score in the calculation part of the financial statement analysis. They were able to also list and explain the various factors that affect share prices. Many candidates obtained above 75% of the overall marks for this question.

4. (a) (i) Price-to-book ratio  
$$= \frac{\text{Market price per share}}{\text{Book value of the company per ordinary share}}$$

Leverage ratio  
$$= \text{Debt-to-equity ratio} = \frac{\text{Current and long term liabilities}}{\text{Shareholders equity}}$$

Fixed asset turnover  
$$= \frac{\text{Net sales}}{\text{Net fixed assets}}$$

Ratio	Company A	Company B
Book value	= 600,000/250,000 = RM2.40	= 750,000/400,000 = RM1.87
Price/Book value	= RM3.50/RM2.40 = 1.458x	= RM2.85/RM1.87 = 1.524x
Debt-to-equity	= 35k + 0 / 600k = 5.83%	= 30k + 25k / 750k = 7.3%
Fixed asset turnover	= 200k / 120k = 1.67x	= 150k / 92k = 1.63x

- (ii) Based on my investment criteria of investing in the company with the lowest price-to-book ratio and considering solvency and asset utilisation ratios, I would purchase Company A. My reasons would be that Company A has a lower price-to-book value and lower leverage ratio while asset turnover is almost the same.
- (b) (i) An abnormally high fixed asset turnover ratio may indicate that old and fully depreciated equipment which are obsolete are being used.
- (ii) An abnormally low turnover ratio may indicate that capital is tied-up in excessive assets.
- (c) A brief explanation of any four of the following factors:
- market sentiment
  - increase or decrease in a company's earnings and dividend payments
  - change in a company's management
  - mergers or acquisitions
  - rumours or corporate news
  - insider dealings
  - political developments in the country and the region
  - economic developments in Malaysia and her major trade partners
  - money supply conditions
  - fiscal policies
  - major currency moves

- stock market performance in neighbouring countries and also Japan and USA
- expected earnings and interest rates

#### **Question 5**

This was the worst attempted question, which was a straightforward question, where answers can be obtained directly from the study manual. This question tested candidates' knowledge on practical investment considerations, such as capitalisation and investors' entitlements and procedures and settlement of the Kuala Lumpur Stock Exchange.

5. (a) A company may accumulate enough reserves to create bonus shares in several ways. One of the ways is through a high retention of earnings (i.e. a low dividend pay-out ratio) which have been ploughed back over the past years to finance the company's expansion. It may also be due to inflation, which raises the values of assets like land, which, in turn, allows the opportunity for asset revaluation. The revaluation surplus together with the accumulated reserves can then be capitalised to give bonus issues.
- (b) Three reasons why a company proposes bonus issues are:
- (i) Bonus issues are used to increase the amount of issued and paid-up capital in line with the company's assets and earnings.
  - (ii) Bonus issues increase the number of issued shares or the 'float' of shares in the market. Therefore, bonus issues can improve the marketability of a company's shares both by making the market price (ex) of the share more affordable to the public and increasing the supply of the shares. By 'depressing' the market price of the shares through a bonus issue, it gives investors the impression that the shares are cheap.
  - (iii) A bonus issue is one of the limited number of ways allowed under the Companies Act to capitalise on the company's Share Premium Account. When shares are issued at a price above their par value, the premium must be credited to a Share Premium Account. By releasing the share premium through a bonus issue, the company's revenue reserves can thus be preserved for other uses such as dividends.
- (c) Following a rights and/or bonus issue, a company's capital base will be increased. Therefore, for comparative purposes, the past years' earning figures will have to be adjusted to reflect the expansion in capital base. All prior years' earnings per share figures must be multiplied by an adjustment factor before they can be used to compare with the current and future earnings per share as they will be measured on a similar base.
- (d) Adjustment factor =  $\frac{\text{Theoretical ex-right price}}{\text{Last traded cum-rights price}}$
- (e) **Selling out**  
In event of non-payment by a buying client by the due date, the stock-broking firm will, on the 8<sup>th</sup> market day, following the date of the contract (T+8), institute a selling-out. Under Central Depository System (CDS), when a buying in client fails to make payment by T=7, the shares will be transferred to a stock clearing account. This is to protect the buyer's broker who has already paid Security Clearing Automated Network (SCAN) on T+6 for the purchase. The broker will then sell out the shares to cover its outlay.

#### **Trading netting**

Deliveries of securities for each counter between SCAN are on a daily net basis. This will leave the stockbroking firms either a net buyer or a net seller of the stock. Trades are netted at the client level under the CDS.

#### **Minimum bids**

This refers to the permissible change on the offer-to-buy price over the previous due or quoted price. Bids and offers for shares with different price ranges follow different minimum bids according to a scale.