15

Earnings Per Share

Earnings Per Share 15

Learning Outcome

After studying this chapter students should be able to:

- interpret a full range of accounting ratios.

This chapter completes the work begun in Chapter 14 on how to calculate accounting ratios.

15.1 Introduction

This chapter is devoted to the study of a single accounting ratio. This may at first seem a little odd, given that a very large number of accounting ratios were covered in Chapter 14. However, earnings per share is regarded as particularly important. Investors and others who are looking for headline measurements of a entity's performance will often look first (and perhaps last) to the eps figure. It has additional significance in that it forms the denominator of the price/earnings ratio, a measurement that is regarded as being of great significance for listed entities.

The status accorded to earnings per share leads to it being dealt with as a special case in accounting standards. There are no regulations about the calculation of any of the other accounting ratios. Earnings per share, on the other hand, has its own accounting standard (IAS 33) which sets out rules relating to its consistent calculation and presentation.

This chapter covers the following areas:

Section 15.2: IAS 33 *Earnings per share* – some basic definitions.
Section 15.3: Basic earnings per share, including adjustments for changes in number of shares in issue during the year (rights issues and bonus issues).
Section 15.4: Diluted earnings per share, including adjustments in respect of convertible financial instruments, share warrants and options, and dilutive potential ordinary shares.

15.2 IAS 33 *Earnings per share*

The EPS of an entity whose shares are publicly traded is regarded as a very important measure of performance. It is therefore important that EPS should be reported on a standard basis for all relevant companies. IAS 33 lays down clear and generally accepted definitions and procedures for calculating EPS and applies to all entities whose ordinary shares or potential ordinary shares are publicly traded. The basic principle of EPS is to obtain a consistent and comparable ratio for measuring earnings.

Definitions

Net profit attributable to ordinary shareholders. Consolidated profit or loss for the year after tax, minority interests and appropriations in respect of non-equity shares. The shares of net profit of associates and joint ventures are included.

Weighted average number of ordinary shares. IAS 33 defines an ordinary share thus: 'An ordinary share is an equity instrument that is subordinate to all other classes of equity instruments.' The weighted average number of ordinary shares reflects the issues and repurchases of shares during the year. The weighting of the average is on a time basis.

Example 15.A

A's year end is 31 December. The following transactions in shares took place during the year ended 31 December 20X1:

1 January ordinary shares in issue	1,000,000
1 April 100,000 shares issued	100,000
1 May 200,000 shares issued	200,000
1 Dec 10,000 shares repurchased	(10,000)
As at 31 December	1,290,000

The weighted average number of shares is:

1 Jan–31 Mar: 1,000,000 × 3/12	250,000
1 April–30 Apr: 1,100,000 × 1/12	91,667
1 May–30 Nov: 1,300,000 × 7/12	758,333
1 Dec–31 Dec: 1,290,000 × 1/12	107,500
Weighted average number of shares	1,207,500

Shares are included in the weighted average number of shares from the date the consideration is receivable:

- when cash is receivable, where shares are issued in exchange for cash;
- at the date of payment of dividend, when dividends are reinvested as shares;
- when interest ceases to accrue, for convertible debt and other financial instruments;
- at the date of acquisition, when shares are issued for consideration in the acquisition of another entity.

15.3 Basic earnings per share

EPS can be a relatively straightforward ratio to calculate. However here are some complications that may arise in practice.

Problems in arriving at the number of equity shares in issue

Arriving at the number of equity shares in issue can present a problem if there is an issue of shares during the year.

The following situations may arise:

- issue at full market price;
- bonus issue (also known as capitalisation issue or scrip issue);
- share exchange;
- rights issue.

The key to understanding the calculations is to assess whether the change in share capital has increased the earnings potential of the entity.

15.3.1 Issue at full market price

Where there is an issue at full market price, cash or other assets will flow into the entity – these will then generate earnings. In order to reflect this in the calculations, the earnings are apportioned over the average number of shares in issue and ranking for dividend during the period weighted on a time basis.

Example 15.B

A had four million ordinary shares in issue and ranking for dividend at 1 January 20X1. On 30 September, one million further shares were issued. Earnings for the year ended 31 December 20X1 were $500,000.

The number of shares would be time apportioned as follows:

1 Jan–30 Sep: 4,000,000 × 9/12	3,000,000
30 Sept–31 Dec: 5,000,000 × 3/12	1,250,000
Weighted average number of shares	4,250,000
Earnings per share are 500,000/4,250,000	11.8¢

15.3.2 Bonus issue

In a bonus issue, no fresh capital enters the business and no further earnings are generated. The effect is merely to revise the number of shares in issue. We therefore use the number of shares ranking for dividend after the bonus issue. This can be done by multiplying the original share capital by the bonus factor. If the bonus issue is a 1 for 4, the bonus factor is 5/4. This is irrespective of the date when the bonus issue was made.

The corresponding figures for all earlier periods are recalculated to include the bonus issue. This can be done by multiplying the corresponding EPS by the reciprocal of the bonus factor.

Example 15.C

B has four million ordinary shares in issue at 1 January 20X1. On 30 September the entity made a bonus issue of 1 for 4. Earnings for the year ended 31 December 20X1 were $500,000. The EPS for 20X0 was 9 cents per share.

The number of shares would be:

$$4{,}000{,}000 \times \frac{5}{4} = 5{,}000{,}000$$

$$\text{EPS would be } \frac{500{,}000}{5{,}000{,}000} = 10¢ \text{ per share}$$

The EPS for the previous year's comparative is restated using the bonus fraction:

$$20X0 \text{ EPS} = 9¢ \times \frac{4}{5} = 7.2¢ \text{ per share}$$

Share exchange

Where shares (ranking for dividend) or loan stock have been issued during the year in consideration for shares in a new subsidiary, they are included in the weighting calculation as of the date on which the acquisition is recognised.

In the calculation of EPS, this is treated as an issue at full market price.

15.3.3 Rights issue

A rights issue is an issue to existing shareholders, made at a price below current market price, to encourage shareholders to take up the shares. Cash is received into the entity to generate income, but not as much as an issue at full market price. Therefore a rights issue is a combination of an issue at full market price and a bonus issue.

The calculation will have to reflect the bonus element of the rights issue; this is done by calculating the bonus fraction as follows:

$$\text{Bonus fraction} = \frac{\text{Fair value before the exercise of rights}}{\text{Theoretical ex-rights price}}$$

The numerator of the bonus fraction can be obtained from the share prices or is given in the examination question. The denominator is calculated as the theoretical value of the shares after the issue.

The bonus fraction is applied, as with a bonus issue, to all periods and will affect the number of shares prior to the issue and the corresponding year's EPS.

The other element of the rights issue, the issue at full market price, is reflected by calculating the weighted average number of shares on a time basis.

Example 15.D

C had four million ordinary shares in issue and ranking for dividend at 1 January 20X1. On 30 September, a rights issue of 1 for 4 at 50 cents per share was made. The market price of the shares prior to the issue was $ 1 per share. Earnings for the year ended 31 December 20X1 were $500,000. The EPS for 20X0 was 9 cents per share.

1. Calculate the price of the shares after the rights issue, the theoretical ex-rights price*:

		$
If a shareholder had four shares at $1 per share	=	4.00
They would be entitled to a further one share at 50¢ per share	=	0.50
Holding after the rights issue five shares (at 90¢)		4.50

Note: This ex-rights price is theoretical. It may not be (and probably will not be) the same as the market price of the shares immediately after the rights issue.

2. The bonus fraction would be:

$$\text{Bonus fraction} = \frac{\text{Fair value before the exercise of rights}}{\text{Theoretical ex-rights price}}$$

3. Calculate the weighted average number of shares:

1 Jan–30 Sep: (4,000,000 × 100/90) × 9/12	3,333,333
30 Sept–31 Dec: 5,000,000 × 3/12	1,250,000
Weighted average number of shares	4,583,333

4. Calculate EPS:

$$\frac{500{,}000}{4{,}583{,}333} = 10.9¢$$

5. The EPS for the prior year comparative is restated using the inverse of the bonus fraction:

$$\text{20X0 EPS} = 9¢ \times \frac{9}{10} = 8.1¢ \text{ per share}$$

15.3.4 Other relevant points

Changes in ordinary shares without any corresponding changes in resources

The bonus issue example discussed above required that the ratio reflects a change in ordinary shares; the increase is due to the bonus, while profits are not affected as no new resources were introduced into the entity following the issue. Therefore the EPS ratio is amended for all periods disclosed in the financial statements.

Another example is the *scrip dividend.* A entity may offer to its shareholders the choice of receiving further fully paid-up shares in the entity as an alternative to receiving a cash dividend.

One interpretation is that the dividend forgone represents payment for the shares. This would mean that there is a change in resources and so no restatement of previous periods is necessary.

Alternatively, it may be interpreted that the market value of the shares received is greater than the dividend value. In this instance a bonus element is identified and should be applied to prior periods. This is then like a rights issue.

Special dividends

An entity may declare a special dividend (usually very large) and will then consolidate its ordinary shares.

The two transactions need to be viewed as a whole. The consolidation of shares will reduce the number of shares. In this case there is an outflow of resources, being the special dividend, which indicates that prior periods need not be affected. There is no bonus element to be calculated and applied to prior periods.

Example 15.E

N's reported earnings for the year ended 31 March 20X4 were $3 million. On 1 December 20X3 the directors decided to declare a special dividend of $ 1,500,000. The 1,000,000 $1 ordinary shares would be consolidated on a 2:1 basis. One new share would be issued for every two old shares held. The basic earnings per share for the year ended 31 March 20X3 was 200 cents per share.

Calculate the basic earnings per share year ended 31 March 20X4 with comparatives.

Solution

The reduction in shares is compensated by the special dividend. There is an outflow of resources from N and so the EPS is calculated using a weighted average number of shares and the comparative is not affected.

1 April 20X3 to 30 November 20X3	1,000,000 × 8/12	666,667
1 December 20X3 to 31 March 20X4	500,000 × 4/12	166,667
Total weighted average number of shares		833,334
20X4 Basic EPS (3m/833,334)	360¢	
20X3 Basic EPS no change	200¢	

15.4 Diluted earnings per share

An entity may have in issue at the year end date a number of financial instruments that give rights to ordinary shares at a future date. These are referred to as potential ordinary shares in IAS 33. Examples of potential ordinary shares are:

- convertible debt or equity instruments;
- share warrants and options;
- rights granted under employee share schemes;
- contingently issuable shares, where the ordinary shares are issued upon completion of some contractual agreement.

When the obligations are realised the number of ordinary shares will increase, therefore lowering the earnings per share. This is said to have a potential dilutive effect on EPS. Earnings can be affected in some cases and the diluted EPS is calculated using an adjusted profits figure.

In order that users are informed of the potential 'dilution' of their earnings, IAS 33 requires that a diluted EPS is calculated.

The diluted EPS ratio is:

$$\frac{\text{Earnings per basic EPS + Adustment for dilutive potential ordinary shares}}{\text{Number of shares per basic EPS + Adjustment for dilutive potential ordinary shares}}$$

Potential ordinary shares are deemed to be converted to ordinary shares at the start of the period. Where the potential ordinary shares are issued during the period, they are taken from the date of issue of the financial instrument.

We shall look at the effect of each type of financial instrument. It is included in the diluted EPS only if the effect of the conversion to ordinary shares is dilutive. Dilution is where the conversion decreases EPS or increases the loss per share.

15.4.1 Convertible financial instruments

Where an entity has in issue at the year end date convertible loan stock or convertible preference shares they will affect the ratio as follows:

- *Profits*
  - There will be a saving of interest. Interest is a tax-deductible expense and so the post-tax effects will be brought into the adjusted profits.
  - There will be a saving of preference dividend. There are no associated tax effects here.
- *The number of shares will increase*. Where there is a choice of dates for conversion, IAS 33 assumes the most advantageous conversion rate or exercise price from the standpoint of the holder that is still available.

Example 15.F

Throughout the year ended 31 December 20X3 A had in issue $2,000,000 10% convertible loan stock. The terms of conversion for every $100 of loan stock are as follows:

31 December 20X3	122 ordinary shares
31 December 20X4	120 ordinary shares
31 December 20X5	110 ordinary shares

Profits attributable to ordinary shareholders for the year amounted to $25,000,000.
The weighted average number of shares in issue during the year was 100,000,000.
A paid tax at 33%.

1. *Adjust profits.*

	$	$
Earnings		25,000,000
Add net interest saved		
Interest (2m × 10%)	200,000	
Taxation (200,000 × 33%)	(66,000)	
		134,000
Fully diluted earnings		25,134,000

2. *Adjust number of shares.* The maximum number of shares that convertible loan stockholders could take up is 120 on 31 December 20X4. The 122 ordinary shares available at 31 December 20X3 would have already been taken up and so the next available time is the following year (120 shares available).

Weighted average number of shares in issue	100,000,000
Dilution (2,000,000 × 120/100)	2,400,000
Fully diluted number of shares	102,400,000
Fully diluted EPS	24.5¢

15.4.2 Share warrants and options

A share option or warrant gives the holder the right to purchase or subscribe for ordinary shares. This would involve an inflow of resources or monies into the entity and so potentially can increase profits. For the purpose of computing diluted EPS, IAS 33 requires that the assumed proceeds from these shares should be considered to have been received from the issue of shares at fair value. The difference between the number of shares that would have been issued at fair value and the number of shares actually issued is treated as an issue of ordinary shares for no consideration.

Example 15.G

B has in issue options to subscribe for 1,000,000 $1 ordinary shares at $4 per share. The average fair value of one share during the year was $6 per share.
Profits attributable to ordinary shareholders amounted to $25,000,000.
The weighted average number of shares in issue during the year was 100,000,000.

When the transaction is analysed carefully there are two elements to the issue of options:

1. an amount of shares at fair market value;
2. the remainder for no consideration.

Basic EPS = 25,000,000 ÷ 100,000,000 = 25¢

Diluted EPS:

Increase in number of shares	1,000,000
Number of shares that would have been issued at fair value (1,000,000 × $4) ÷ $6	(666,667)
Shares issued for no consideration	333,333

Diluted EPS = 25,000,000 ÷ (100,000,000 + 333,333) = 24.9¢

15.4.3 Dilutive potential ordinary shares

It is, of course, possible that potential ordinary shares as above could increase EPS. IAS 33 requires that the fully diluted EPS is adjusted only for those instruments that cause a dilutive effect, that is, they decrease EPS or increase loss per share.

IAS 33 requires that the calculation for the inclusion of potential ordinary shares is done by reference to net profit from continuing operations. There is also an ordering of potential ordinary shares according to their effect on the dilution of EPS from most to least dilution.

Example 15.H

A has the following data:

Profits attributable to ordinary shareholders	$25,000,000
Net profit attributable to discontinuing operations	$5,000,000
The weighted average number of shares in issue during the year	100,000,000
Average fair value per share	$6
Tax rate 33%	

Potential ordinary shares as follows:

1. Options to subscribe for 1,000,000 $1 ordinary shares at $4 per share.
2. $10,000,000 2% convertible bonds, the conversion terms being 500 ordinary shares per $1,000 bond.
3. 500,000 convertible preference shares. The dividend is $5 per share and the conversion terms are one ordinary share for one convertible preference share.

As before, we calculate the effects of the potential shares on the EPS calculation using the profits from continuing operations. This is done by order of dilution which may be found by calculating the earnings per incremental share.

Options would not increase earnings but shares increase as above by the amount of shares deemed to be issued at no consideration, that is, [1,000,000 − (1,000,000 × $4) ÷ $6] 333,333 shares. Therefore, no earnings per incremental share.

Two per cent convertible bonds would save interest net of tax of [10,000,000 × 2% × (1 − 0.33)] $134,000 and would increase the number of shares by 5,000,000. The incremental earnings per share would be (134,000 ÷ 5,000,000) 2.68 cents.

Convertible preference shares increase earnings by $2,500,000 and increase shares by 500,000, the incremental earnings per share being (2,500,000 ÷ 500,000) $5.

The order of dilution is therefore:

1. options;
2. 2% convertible bonds;
3. convertible preference shares.

	Net profit attributable to continuing operations $	*Ordinary shares*	*Per share* ¢
Basic	20,000,000	100,000,000	20.00
Options	–	333,333	
	20,000,000	100,333,333	19.90
2% convertible bonds interest saved	134,000	5,000,000	
	20,134,000	105,333,333	19.11
Convertible preference shares	2,500,000	500,000	
	22,634,000	105,833,333	21.40

In this example the convertible preference shares increase the diluted EPS and so are eventually excluded from the calculation disclosed in the financial statements.

Final disclosure:

Basic EPS = 25,000,000 ÷ 100,000,000 = 25¢
Diluted EPS = (25,000,000 + 134,000) ÷ 105,333,333 = 23.9¢

Note that the distinction between continuing and discontinuing profits is required only for the purpose of the dilution effect calculation, and the full profit figure attributable to ordinary shareholders (i.e., $25 million) is used.

15.4.4 Disclosure requirements

The basic and diluted earnings per share should be shown on the face of the income statement.

The calculation of the weighted average number of shares should be disclosed. The number of shares used in the diluted EPS should be reconciled to the weighted average number of shares in the basic EPS.

The profit attributable to ordinary shareholders should be reconciled to the net profit or loss for the period.

IAS 33 requires that any historical data in the financial statements should be consistent with the calculations of EPS, and any restatements incorporated into the historical summary. Furthermore, IAS 33 requires that the same rules are applied to any per share calculation, for example, net assets per share, dividend per share.

15.5 Summary

This chapter covered earnings per share which is unique amongst accounting ratios in having an accounting standard devoted to it, and it therefore requires additional care in calculation. The basic calculation of earnings per share is straightforward, but as we have seen in this chapter, it can be complicated, for example, by the issue of new financial instruments during the year, and by the existence of potentially dilutive financial instruments.

Revision Questions 15

Question 1

BAQ is a listed entity with a financial year end of 31 March. At 31 March 20X7, it had 8,000,000 ordinary shares in issue.

The directors of BAQ wish to expand the business's operations by acquiring competitor entities. They intend to make no more than one acquisition in any financial year.

The directors are about to meet to discuss two possible acquisitions. Their principal criterion for the decision is the likely effect of the acquisition on group earnings per share.

Details of the possible acquisitions are as follows:

1. *Acquisition of CBR*
   - 100% of the share capital of CBR could be acquired on 1 October 20X7 for a new issue of shares in BAQ;
   - CBR has 400,000 ordinary shares in issue;
   - Four CBR shares would be exchanged for three new shares in BAQ;
   - CBR's profit after tax for the year ended 31 March 20X7 was $625,000 and the entity's directors are projecting a 10% increase in this figure for the year ending 31 March 20X8.
2. *Acquisition of DCS*
   - 80% of the share capital of DCS could be acquired on 1 October 20X7 for a cash payment of $10.00 per share;
   - DCS has 1,00,000 ordinary shares in issue;
   - The cash would be raised by a rights issue to BAQ's existing shareholders. For the purposes of evaluation it can be assumed that the rights issue would take place on 1 October 20X7, that it would be fully taken up, that the market value of one share in BAQ on that date would be $5.36, and that the terms of the rights issue would be one new share for every five BAQ shares held at a rights price of $5.00;
   - DCS's projected profit after tax for the year ending 31 March 20X8 is $860,000.

BAQ's profit after tax for the year ended 31 March 20X8 is projected to be $4.2 million. No changes in BAQ's share capital are likely to take place, except in respect of the possible acquisitions described above.

Requirements

Calculate the group earnings per share that could be expected for the year ending 31 March 20X8 in respect of each of the acquisition scenarios outlined above. **(10 marks)**

Question 2

On 1 February 20X4, CB, a listed entity, had 3,000,000 ordinary shares in issue. On 1 March 20X4, CB made a rights issue of 1 for 4 at $6.50 per share. The issue was completely taken up by the shareholders.

Extracts from CB's financial statements for the year ended 31 January 20X5 are presented below:

CB: Extracts from income statement for the year ended 31 January 20X5

	CB
	$'000
Operating profit	1,380
Interest payable	(400)
Profit before tax	980
Income tax	(255)
Profit for the period	725

CB: Extracts from summarised statement of changes in equity for the year ended 31 January 20X5

	CB
	$'000
Balance as at 1 February 20X4	7,860
Issue of share capital	4,875
Surplus on revaluation of properties	900
Profit for the period	725
Ordinary dividends	(300)
Balance as at 31 January 20X5	14,060

Just before the rights issue, CB's share price was $7.50, rising to $8.25 immediately afterwards. The share price at close of business on 31 January 20X5 was $6.25.

At the beginning of February 20X5 the average price earnings (P/E) ratio in CB's business sector was 28.4, and the P/E of its principal competitor was 42.5.

Requirements

(a) Calculate the earnings per share for CB for the year ended 31 January 20X5, and its P/E ratio at that date. **(6 marks)**

(b) Explain the significance of P/E ratios to investors, and compare CB's P/E ratio relative to those of its competitor and industry sector. **(4 marks)**

(Total marks = 10)

Question 3

Earnings per share (EPS) is generally regarded as a key accounting ratio for use by investors and others. Like all accounting ratios, however, it has its limitations. You have been asked to make a brief presentation to CIMA students on the topic.

Requirements

(a) Explain why EPS is regarded as so important that the IASB has issued an accounting standard on its calculation; **(2 marks)**

(b) Explain the general limitations of the EPS accounting ratio and its specific limitations for investors who are comparing the performance of different entities. **(8 marks)**

(Total marks = 10)

Question 4

(a) GHJ, a listed entity, has 1,000,000 ordinary shares in issue throughout 20X8. The profits after tax for the period total $800,000. The entity has two convertible financial instruments in issue:

- $500,000 10% loan stock, each $1,000 of stock having the right to convert into 2,000 ordinary shares.
- 400,000 convertible $1 non-equity shares, paying a dividend of 10p per share. Each preference share is convertible to 2 ordinary shares.

Requirement

Calculate the basic and diluted earnings per share for GHJ assuming a tax rate of 30%. **(6 marks)**

(b) ACD, another listed entity, has earnings per share in 20X7 of 25 cents per share. ACD has 4,000,000 ordinary shares in issue throughout 20X7. In 20X8 1,500,000 ordinary shares were issued by way of a capitalisation (bonus) issue. The profits after tax for the year were $1,200,000.

Requirement

Calculate the EPS for 20X8 and the restated eps for 20X7 that will be included in the 20X8 financial statements. **(4 marks)**

(Total marks = 10)

Solutions to Revision Questions 15

Solution 1

1. *CBR acquisition*

	$
BAQ's projected earnings	4,200,000
CBR's projected earnings – 6 months	
$625,000 × 110% × 6/12	343,750
Projected group earnings for year ending 31 March 20X8	4,543,750

Weighted average of shares in issue:

1.4.X7 – 30.0.X7 6/12 × 8,000,000	4,000,000
1.10.X7 – 31.3.X8 {[¾ × (200,000/50¢)] + 8,000,000} × 6/12	4,150,000
	8,150,000

Projected group earnings per share if CBR acquisition takes place:

$$\frac{\$4{,}543{,}750}{8{,}150{,}000} = 55.8¢$$

2. *DCS acquisition*

Working 1: theoretical ex-rights price

5 × $5.36	26.80
1 × $5.00	5.00
	31.80

TERP = $31.80/6 = $5.30

Bonus fraction = $5.36/5.30

Working 2: number of BAQ shares in issue after 1 October 20X7

(1/5 × 8,000,000) + 8,000,000 = 9,600,000

	$
BAQ's projected earnings	4,200,000
DCS's projected earnings – group share for 6 months $860,000 × 80% × 6/12	344,000
Projected group earnings for year ending 31 March 20X8	4,544,000

Weighted average of shares in issue:

		$
1.4.X7 – 30.9.X7 (W1)	6/12 × 8,000,000 × 5.36/5.30	4,045,283
1.10.X7 – 31.3.X8	6/12 × 9,600,000 (W2)	4,800,000
		8,845,283

Projected group earnings per share if DCS acquisition takes place:

$$\frac{\$4{,}544{,}000}{8{,}845{,}283} = 51.4¢$$

Solution 2

(a)

Workings

1. *Calculate theoretical ex-rights price*

	$
4 shares × $7.50	30.00
1 share × $6.50	6.50
Theoretical value of holding of 5 shares	36.50
Theoretical ex-rights price of 1 share after rights issue: $36.50/5	7.30

2. *Calculate bonus fraction*

$$\frac{\text{Fair value of one share before rights issue}}{\text{Theoretical ex-rights price of one share (W1)}} = \frac{7.50}{7.30}$$

3. *Weighted average number of shares in issue in the year to 31 January 20X5*

	Number of shares
1 February–1 March 20X4: 3,000,000 × 7.50/7.30 × 1/12	256,849
1 March 20X4–31 January 20X5: 3,750,000 × 11/12	3,437,500
	3,694,349

$$\text{Earnings per share} = \frac{\$725{,}000}{3{,}694{,}349} = 19.6¢$$

$$\text{P/E ratio} = \frac{625}{19.6} = 31.9$$

(b)

The price earnings ratio is a measure of how the stock market views the shares of an entity. A relatively high P/E usually suggests that the shares are regarded as a safe investment. Lower P/Es suggest risk and volatility. However, it is unsafe to generalise too much. Where a listed entity has become a highly fashionable investment for some reason (for example, technology shares have in the past been regarded in this way from time to time) its high P/E ratio may help to mask fundamental weaknesses.

CB's P/E is a little above the sector average indicating that it is probably regarded as a slightly less risky investment within its sector. Its competitor has a substantially higher

P/E, which, on the face of it, would suggest that it is regarded as a very sound investment, and that its shares are currently preferred by the market compared to those of CB.

Solution 3

Notes on earnings per share

(a) eps is of particular importance because it is one of the component parts of the price/earnings (P/E) ratio. P/E is used by investors to help them identify the relative riskiness of investments, and investments that are over-valued or under-valued by the stock market. Also, eps is accorded great importance by investors, analysts and others as a key measurement of performance and as a basis for making decisions. It is principally for these reasons that some accounting standard setters, amongst them the IASB, have produced accounting standards regulating its calculation.

(b) The principal general weaknesses of eps include the following:

- eps is based on accounting figures, and can only be as reliable as those figures. Accounting figures may be subject to manipulation by using creative accounting techniques. Even where no malicious manipulation is intended, the figures are often imprecise because they involve the use of estimation.
- eps is essentially a backward looking measure because it is based on accounting figures reporting on transactions and events that have already taken place. It is of limited use for predictive purposes, although, perhaps inevitably, it is used as an indicator of future performance.
- eps, like all other accounting information published in the annual report of a business, is soon out of date. The P/E ratio calculation uses an up to date price figure, but where the price has been affected significantly by events after the year end date, the mixing of a current price with an old earnings figure may be, essentially, meaningless.

The specific weaknesses of eps for the purposes of making comparisons include the following:

- The number of shares in issue is rarely comparable between entities.
- In some instances, accounting standards permit a choice of accounting treatments. It is quite likely, therefore, that entities being compared with each other, use different policies and or bases for preparation of the financial statements. Where such policies and bases impact upon the profit figure, as will usually be the case, eps figures are not strictly comparable.
- The problem of comparability is made worse where the entities being compared are subject to different sets of accounting standards.

  eps is calculated on the basis of after tax figures. Where entities are subject to significantly differing rates of taxation because they are based in different countries, the comparison is unrealistic.

Solution 4

(a) Calculation of basic earnings per share

Profit after tax	$800,000
Weighted average number of shares outstanding	1,000,000
Basic eps	80 cents

Calculation of diluted earnings per share

Profit (working 1)	$875,000
Weighted average number of shares outstanding (working 2)	2,800,000
Fully diluted eps	31.25 cents

Calculation of profit for diluted earnings per share

	$
Profit as per basic eps	1,200,000
Plus post-tax saving on 10% loan stock (10% × $500,000 × 70%)	35,000
Plus saving on preference dividend (10% dividend × $400,000)	40,000
Profit for diluted eps	875,000

Calculation of number of shares for diluted earnings per share

Shares for basic eps	1,000,000
Plus conversion of loan stock ($500,000 × 2,000/1,000)	1,000,000
Plus conversion of preference shares ($400,000 × 2)	800,000
Number of shares for diluted eps	2,800,000

Note that the most dilutive outcome is given and in one calculation

(b) GHJ's Basic eps for 20X8 is $1,200,000/(4,000,000 1 1,500,000) 5 20 cents (note the basic eps is calculated including the bonus issue in the period – this is not time weighted – it brings no new resources and therefore is treated as if the shares were in issue from the earliest reporting date).

The comparative figure for 20X7 eps is restated to:
25 cents × 4,000,000 shares = earnings in the year of $1,000,000
Restated eps = $1,000,000/6,000,000 = 16.7 cents
Or calculated as 25 cents × 4,000,000/6,000,000 = 16.7 cents