



## Accounting for Basic Earnings per Share

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This article is designed to assist students in preparing for questions on the topic of earnings per share on the P1 Corporate Reporting paper. It is also likely to be of benefit to students of P2 Advanced Corporate Reporting, although it does not cover diluted earnings per share.

### Introduction

Earnings per Share (EPS) is a measure of the earnings or profits of a business divided by the number of equity shares entitled to benefit from that profit. It is a way for individual shareholders to assess if a movement in the headline profit number translates into a similar benefit to them. For example if profits grow by 20%, but the number of shares grows by 30%, shareholders are actually worse off, on a per-share basis.

EPS is a useful performance measure if interpreted correctly. Problems arise when users place too much emphasis on a single performance measure. Companies then gear their strategies towards optimising this measure perhaps to the detriment of the long-term health of the company. This has led to several variations in the calculation of EPS, growing more aggressive as time passed. IAS 33 *Earnings per Share* was introduced to standardise the calculation of EPS so that EPS figures are consistently calculated and comparable.

It is common for entities to calculate earnings per share in ways that suit their particular business. Examples include: (1) Earnings before Interest, Taxation, Depreciation and Amortisation (EBITDA) per share, (2) Sustainable Earnings per share (excluding items deemed one-off or non-recurring), and (3) Free Cash Flow per share. These alternative measures are permitted by IAS 33 in addition to the IAS 33 definition, but if alternative measures are presented the IAS 33 measure must be given equal or greater prominence.

IAS 33 sets out guidance for the calculation of basic earnings per share and diluted earnings per share. The calculation of diluted EPS is beyond the scope of this article, as it is not on the P1 syllabus in 2019. Hence the remainder of this article will focus on the calculation of basic EPS.

### Scope

It is important to be aware that IAS 33 is only mandatory for entities that have their debt or equity quoted on a public exchange. Other entities may choose to publish EPS figures. If they do so, they must also comply with IAS 33.

### Basic earnings per share

There are two elements to a basic EPS calculation.

- Earnings
- Number of shares in issue

### Example 1: Simple EPS calculation

Dermot Ltd has earnings attributable to equity shareholders of €2.5m in 2018. The number of equity shares outstanding for the year was 50 million. There were no changes in the number of shares issued throughout the year.

**Required:** Calculate 2018 basic EPS for Dermot Ltd on the basis of the above information.

**Solution:**

Basic EPS is calculated by dividing profit or loss attributable to equity shareholders by the weighted average number of ordinary shares in issue for the year.

Here, this is €2.5 million / 50 million  
= €0.05 or 5c per share.

**Definition of Earnings**

The example above shows the calculation at its simplest. However it is rarely this simple in reality. We must first focus on the definition of earnings. As you will be aware, there are several definitions of earnings we could possibly use. The objective is to select the earnings attributable to equity shareholders of the parent entity. This means excluding any portion attributable to any entity or individual who is not an equity holder.

The relevant profit figure to start with is the “profit for the year” in the statement of profit or loss. This is presented after interest, tax, and exceptional items have already been removed.

However, parties other than equity shareholders may still have claim over these profits. The most likely adjustments are for any dividends due to preference shareholders, not already deducted in arriving at profit after tax.

We must also make adjustment for any portion of the profit that may be attributable to non-controlling interests. These parties are not considered equity holders of the parent.

For the purposes of clarity, other comprehensive income (OCI) is not included in earnings per share, and equity dividends are not removed. This makes the distinction between profit or loss and OCI very important as far as EPS is concerned.

**Example 2: Determination of earnings for EPS calculation**

Elaine Ltd presents the following figures in its consolidated statement of profit or loss for the year ended 31 December 2018:

	€ million <b>2018</b>	€ million <b>2017</b>
Profit before taxation	400	300
Taxation on profit	<u>(75)</u>	<u>(60)</u>
<b>Profit for the period</b>	<b>325</b>	<b>240</b>
Other comprehensive income – revaluation gains on land	<u>30</u>	<u>10</u>
<b>Total comprehensive income for the period</b>	<b>355</b>	<b>250</b>
Profit for the year attributable to:		
Owners of the parent	280	210
Non-controlling interests	<u>45</u>	<u>30</u>
<b>Profit for the year</b>	<b><u>325</u></b>	<b><u>240</u></b>
Total comprehensive income for the year attributable to:		
Owners of the parent	307	220
Non-controlling interests	<u>48</u>	<u>30</u>
<b>Total comprehensive income for the year</b>	<b><u>355</u></b>	<b><u>250</u></b>

In addition, you are informed that Elaine Ltd has €100 million in 4% non-cumulative preference shares in issue for the full year, in respect of which the dividend was paid.

**Required:** Calculate the earnings relevant to the 2018 basic EPS calculation for Elaine Ltd on the basis of the above information.

**Solution:**

The correct profit calculation is as follows:

	€ million
Profit for the year	325
Less non-controlling interest in profit for year	(45)
Less preference dividends (100 million * 4%)	(4)
Total	<u>276</u>

**Definition of Weighted Average Number of Shares**

The weighted average number of shares in issue for the period is used as the denominator in the EPS calculation. This is calculated as a time-weighted as well as a value-weighted average.

Some rules for determining the weighted average number of shares are as follows:

- Shares held by another group member are treated as cancelled;
- Shares issued are included in the weighted average from the date consideration is receivable;
- Shares issued subject to conditions are only included when all the conditions are satisfied, and
- Shares repurchased by the entity and not reissued are treated as cancelled, whether or not they have been legally cancelled.

There are a number of complications surrounding the calculation of the number of shares in issue. These arise when changes in the issued equity shares occur during the year, particularly if new shares issued cause a dilution in the average value of the entity on a per share basis. If this happens, it means that the earning power of the new shares was less than the earning power of the existing shares. Hence they cannot rank equally for EPS purposes. As we will see later, we must find a way to make adjustment for this in our EPS calculation.

**Types of share issue**

As we have seen above, there is an issue to be resolved when new shares are issued. The issue only arises when shares are issued at a discount to the previous market value.

In essence there are three types of share issue:

- Issue at full market value;
- Issue for zero consideration (bonus issue);
- Issue at some in-between price (discounted rights issue).

We will consider each of these in turn.

**Treatment of share issue at full market price**

When shares are issued for full market price, they are deemed to be equal to the existing shares in every way. In particular, the earning potential of all the shares, new and old, is the same, as the resources represented by the shares is the same. Therefore, all we need to do is weight the issue by reference to timing only. The same applies in reverse if an entity repurchases its own shares at full market value.

**Example 3: Basic EPS with issue of shares at full market value**

Eddie Ltd, whose year-end is 31 December, has earnings attributable to equity shareholders of €4m in 2018. The number of equity shares outstanding on 1 January 2018 was 30 million. On 1 May 2018 Eddie issued a further 15 million equity shares at full market value. On 1 November 2018 Eddie repurchased 3 million equity shares at full market value.

**Required:** Calculate 2018 basic EPS for Eddie Ltd based on the above information.

**Solution:**

Earnings attributable to equity shares

€4 million

Weighted average number of equity shares in issue for 2018:

Dates	Number of shares	Time weighting	Weighted number
1 Jan – 1 May	30 million	4/12	10 million
1 May – 31 Oct	(30 + 15) 45 million	6/12	22.5 million
1 Nov – 31 Dec	(45 – 3) 42 million	2/12	7 million
<b>Total</b>			<b>39.5 million</b>

Basic EPS = €4 million / 39.5 million = €0.101 (or 10.1c) per share.

**Treatment of Bonus Issues**

- Bonus issues change the number of shares in issue without any change in the firm's total resources (earning capacity). This is because shares issued by way of a bonus issue do not involve any new cash or other resources being received by the company.
- This is treated as a permanent adjustment in the earning capacity of each share. In effect, the (unchanged) total value of the business is now divided over more shares, so the resources available per share has reduced.
- Bonus issues should be retrospectively adjusted for. The weighted average number of shares in issue for the full year should be increased to reflect the bonus issue. The adjustment factor is given by the following:  

$$\frac{\text{No. of shares after bonus issue}}{\text{No. of shares before bonus issue}}$$
- The shares in issue before the bonus issue are adjusted by this factor to reflect the permanent adjustment in earning potential (resources per share).
- The shares in issue after the bonus issue are adjusted by the same factor as the actual number of shares has increased.
- Hence the date of the bonus issue is irrelevant to the outcome.
- Any comparative EPS figures should be adjusted by the inverse of the same factor for comparison purposes, consistent with the permanent and retrospective change in resources per share. This is to allow inter-period comparisons.
- Reverse bonus issues are treated in the same manner. These are also called share consolidations.

**Example 4: Basic EPS with bonus issue**

Frank Ltd, whose financial year-end is 31 December had 2018 earnings of €100,000. The number of equity shares in issue on 1 Jan 2018 was 500,000. A bonus issue took place on 31 May 2018 the terms of which were that three new shares were issued free for every 5 already held. The reported EPS for 2017 was 15c.

**Required:** Calculate the 2018 basic EPS for Frank Ltd based on the above information. Calculate also the comparative figure for 2017 to be disclosed in the 2018 annual report.

**Solution:**

Earnings attributable to equity shares

€100,000

Bonus fraction:  $\frac{=5+3}{5}$   
 $=8/5$

Weighted average number of equity shares in issue for 2018:

Dates	Number of shares	Time weighting	Share value weighting	Weighted number
1 Jan – 31 May	500,000	5/12	8/5	333,333
1 June – 31 Dec	800,000	7/12		466,667
<b>Total</b>				<b>800,000</b>

Basic EPS = €100,000 / 800,000 = €0.125 (or 12.5c) per share.

The 2017 EPS figure is adjusted by the inverse of the bonus fraction:

Restated 2017 EPS: 15c \* 5/8 = 9.375c

### Treatment of Rights Issues

- Rights issues change the number of shares in issue, but also increase total earning capacity as the shares are paid for. As we have seen above, if a rights issue is at full market price at the time, the contributed resources per new share is equivalent to the resources per existing share, so earning capacity per share should be maintained. It is more common, however, for a rights issue to be at less than full market value. In this case, the resources contributed will lead to a reduction in the average resources per share.

#### Illustration

To understand this, consider a business worth €100, with 50 issued shares. Each share is therefore worth €2. Now if the business issues 50 more shares for €1.20 each what happens? Well the business is worth €60 more (50 \* €1.2) due to the cash the new shares added. Nothing else has changed. However what is the value per share?

$(€100 + €60) / (50 + 50)$   
 Answer: €160 / 100 = €1.60

- The new average price per share is called the “Theoretical Ex-rights Price” (TERP).
- A rights issue at a discount can be understood to be equivalent to a bonus issue combined with a rights issue at full price.
- This means the number of shares in issue prior to the rights issue needs to be adjusted to reflect the reduction in value per share caused by the bonus element of the issue. This is the “share value weighting”. This leaves all shares equivalent across the period.
- The “bonus factor” used to adjust the number of shares is calculated as follows:  

$$\frac{\text{Actual cum-rights price (share price immediately before the rights issue)}}{\text{Theoretical ex-rights price (see below)}}$$
- Also, the change in resources per shares is permanent and retrospective. Therefore any prior year EPS figures need to be adjusted (similar to the adjustment required for a bonus issue). The inverse of the above fraction is used for adjusting previous EPS figures.

### Theoretical ex-rights price

This is the price at which the share should trade at in theory, after accounting for the dilution in value caused by the new shares being issued at a discount.

#### Example 5: Basic EPS with rights issue

Number of shares in issue on 1 Jan 2018	750,000
Earnings for the year to 31 December 2018	€50,000
EPS for 2017	9c
Rights issue on 30 April 2018, 1 for 4 at a price of	€1.00.
Market price of shares on 31 March 2018	€1.25

**Required:** Calculate basic EPS for 2018 and restate the comparative for 2017.

**Solution:**

Earnings attributable to equity shares €50,000

Theoretical ex-rights price:

For every 4 shares that was in issue, valued at €1.25 each, total value is €5.00

There was issued 1 further share, at a price of €1.00, adding value of €1.00

There are now a total of 5 shares, with a total value of: €6.00

Hence, average value per share should be (€6.00 / 5 shares) €1.20

Bonus fraction:  $= \frac{1.25}{1.20}$

This is the adjustment factor that is applied to all periods prior to the date of the rights issue.

The number of shares is adjusted for the rights issue in respect of all future periods.

Weighted average number of equity shares in issue for 2018:

Dates	Number of shares	Time weighting	Share value weighting	Weighted number
1 Jan – 30 Apr	750,000	4/12	1.25/1.20	260,417
1 May – 31 Dec	750,000 + 187,500 =937,500	8/12		625,000
<b>Total</b>				<b>885,417</b>

Basic EPS = €50,000 / 885,417 = €0.05647 (or 5.65c) per share.

The 2017 EPS figure is adjusted by the inverse of the bonus fraction:

Restated 2017 EPS: 9c \* 1.20/1.25 = 8.64c

**Presentation of EPS**

If presented, basic EPS should be presented immediately below the statement of profit or loss and other comprehensive income, with comparatives shown as appropriate. EPS must be shown even if it is negative (a loss).

**Disclosure**

The following disclosures are required if EPS figures are presented:

- The amount used as the numerator in calculating basic EPS, and a reconciliation of this amount to profit or loss attributable to the parent entity for the period;
- The weighted average number of ordinary shares used as the denominator in calculating basic EPS;
- A description of those ordinary share transactions that occur after the reporting date and that would have changed significantly the number of ordinary shares outstanding at the end of the period if those transactions had occurred before the end of the reporting period. Examples are issues and redemptions of ordinary shares including bonus issues.

**Conclusion**

EPS can be quite a technical topic, challenging your understanding of equity structures and the effect of changes in numbers of equity shares. However, the benefits of spending some time studying the topic will benefit you not only in Corporate Reporting, but in many other areas of your career also. There are a number of questions in past Corporate Reporting papers on this standard, most recently in August 2012 and August 2016. The interested reader is invited to study those for further question practice.