

Learning Module 2: Analyzing Income Statements

FINANCIAL STATEMENT ANALYSIS

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Return on Equity

$$\text{ROE} = \left(\frac{\text{Net income}}{\text{Shareholders' Equity}} \right)$$

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### Return on Equity

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\text{\text{ROE}} = \left( \frac{\text{\text{Net income}}}{\text{\text{Shareholders' Equity}}} \right)
$$
```

Basic EPS

$$\text{Basic EPS} = \frac{\text{Net income} - \text{Preferred dividends}}{\text{Weighted average number of shares outstanding}}$$

- Basic EPS is the amount of income available to common shareholders divided by the weighted average number of common shares outstanding over a period. The amount of income available to common shareholders is the amount of net income remaining after preferred dividends (if any) have been paid.

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### Basic EPS

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Diluted EPS: The if-Converted Method

If a company has a simple capital structure (in other words, one that includes no potentially dilutive financial instruments), then its basic EPS is equal to its diluted EPS.

Diluted EPS When a Company Has Convertible Preferred Stock Outstanding

$$\text{Diluted EPS} = \frac{\text{Net income}}{\text{Weighted average number of shares outstanding} + \text{New common shares that would have been issued at conversion}}$$

- When a company has convertible preferred stock outstanding, diluted EPS is calculated using the if-converted method. The if-converted method is based on what EPS would have been if the convertible preferred securities had been converted at the beginning of the period.
- In other words, the method calculates what the effect would have been if the convertible preferred shares converted at the beginning of the period.

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### Diluted EPS When a Company Has Convertible Preferred Stock Outstanding
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$$  
\text{Diluted EPS} =  
\frac{\text{Net income}}  
{\begin{aligned}  
\text{Weighted average number of shares } \\\  
\text{outstanding} + \text{New common shares that} \\\  
\text{would have been issued at conversion}  
\end{aligned}}  
$$
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- In other words, the method calculates what the effect would have been if the convertible preferred shares converted at the beginning of the period.

Diluted EPS When a Company Has Convertible Debt Outstanding

$$\text{Diluted EPS} = \frac{\text{Net income} + \text{After-tax interest on convertible debt} - \text{Preferred dividends}}{\text{Weighted average number of shares outstanding} + \text{Additional common shares that would have been issued at conversion}}$$

- When a company has convertible debt outstanding, the diluted EPS calculation also uses the if-converted method. Diluted EPS is calculated as if the convertible debt had been converted at the beginning of the period.
- If the convertible debt had been converted, the debt securities would no longer be outstanding; instead, additional shares of common stock would be outstanding.
- Also, if such a conversion had taken place, the company would not have paid interest on the convertible debt, so the net income available to common shareholders would increase by the after-tax amount of interest expense on the debt converted.
- Thus, the formula to calculate diluted EPS using the if-converted method for convertible debt is as stated here.

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### Diluted EPS When a Company Has Convertible Debt Outstanding
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$$  
\text{Diluted EPS} =  
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{\begin{aligned}  
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\text{ common shares that would have been issued at conversion}  
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$$
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shareholders would increase by the after-tax amount of interest expense on the debt converted.

- Thus, the formula to calculate diluted EPS using the if-converted method for convertible debt is as stated here.

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### Formula to calculate diluted EPS using the treasury stock method

$$\text{Diluted EPS} = \frac{\text{Net income} - \text{Preferred dividends}}{[\text{Weighted average number of shares outstanding} + (\text{New shares that would have been issued at option exercise} - \text{Shares that could have been purchased with cash received upon exercise}) \times (\text{Proportion of year during which the financial instruments were outstanding})]}$$

- When a company has stock options, warrants, or their equivalents outstanding, diluted EPS is calculated as if the financial instruments had been exercised and the company had used the proceeds from exercise to repurchase as many shares of common stock as possible at the average market price of common stock during the period.
- The weighted average number of shares outstanding for diluted EPS is thus increased by the number of shares that would be issued upon exercise minus the number of shares that would have been purchased with the proceeds.
- This method is called the treasury stock method under US GAAP because companies typically hold repurchased shares as treasury stock.
- The same method is used under IFRS but is not named.

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Formula to calculate diluted EPS using the treasury stock method
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$$
\text{Diluted EPS} =
\frac{\text{Net income} - \text{Preferred dividends}}{\begin{aligned}
```

```

\text{[Weighted average number of shares] \\\
\text{outstanding} + (\text{New shares that would} \\\
\text{have been issued at option exercise } - \\\
\text{Shares that could have been purchased} \\\
\text{with cash received upon exercise}) \times \\\
\text{(Proportion of year during which the } \\\
\text{financial instruments were outstanding)}}
\end{aligned}}
$$

```

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## Net Profit Margin, also known as profit margin and return on sales

$$\text{Net profit margin} = \frac{\text{Net income}}{\text{Revenue}}$$

- Net profit margin measures the amount of income that a company was able to generate for each dollar of revenue. A higher level of net profit margin indicates higher profitability and is thus more desirable.

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## Gross Profit Margin

$$\text{Gross profit margin} = \frac{\text{Gross profit}}{\text{Revenue}}$$

- The gross profit margin measures the amount of gross profit that a company has generated for each dollar of revenue. A higher level of gross profit margin indicates higher profitability and thus is generally more desirable.

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Gross Profit Margin

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## Operating Profit Margin

$$\text{Operating profit margin} = \frac{\text{profit from operations}}{\text{revenue}}$$

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Operating Profit Margin

$$
\text{\text{Operating profit margin}} = \frac{\text{\text{profit from operations}}}{\text{\text{revenue}}}
$$
```

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## Pretax Margin

$$\text{pretax margin} = \frac{\text{profit before tax}}{\text{revenue}}$$

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Pretax Margin
```

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$$
```

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\text{pretax margin} = \frac{\text{profit before tax}}{\text{revenue}}
```

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$$
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