

# **CFA LEARNING OUTCOMES DECODED**

In our series *Learning Outcomes Decoded* we break down a single Learning Outcome Statement (LOS) from the CFA level 1 curriculum. John Mulcahy, CFA, FRM, is the author of this article. John is a content developer for The Princeton Review. He has been a professor of finance for over fifteen years, teaching CFA exam prep courses as well as undergraduate and master's degree courses at Hult International Business School.

# FINANCIAL STATEMENT ANALYSIS: FINANCIAL ANALYSIS TECHNIQUES

**LOS: Calculate and interpret ratios used in equity analysis and credit analysis**

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Ratio analysis is one of the fundamental valuation techniques in security analysis. The CFA reading lists five steps in the valuation process. Ratios are key tools for the first two of these five steps.

1. **Understanding the business and existing financial profile**
2. **Forecasting company performance**
3. Selecting appropriate valuation model
4. Converting forecasts to a valuation
5. Making the investment decision

## Valuation Ratios:

Each of the four valuation ratios discussed (P/E; P/CF; P/S; P/BV) uses “P,” the price of one share, as its numerator. The denominators are also on a *per-share basis*. Using a per-share basis for *both* numerator and denominator scales our result, thus facilitating *comparison* to other firms. This is *relative* valuation.

## P/E Comparison:

Consider two firms, A and B. They are in the same industry but vastly different. Firm A is less than half the size of Firm B in terms of assets and revenues. The number of shares outstanding in Firm A bears no relation to the number in Firm B.

- Firm A’s share price is \$20 and its EPS is \$2, thus its P/E = 10.
- Firm B’s share price is \$360 and its EPS is \$45, thus its P/E = 8.

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The market is willing to pay \$10 for each dollar of earnings of Firm A, and only \$8 for each dollar of earnings of Firm B. The market values each dollar of earnings of Firm A higher than that of Firm B. Even though the firms are vastly different in size, the relative measure provides an apples-to-apples comparison of their value.

P/E is the most common of the four valuation ratios. But there are reasons to employ others:

- **Price to Cash Flow (P/CF):** avoids issues of poor-quality earnings. Cash flow is less affected by aggressive accounting practices or management manipulation.
- **Price to Sales (P/S):** is useful for firms with negative or near-zero earnings. This is often the case with early-stage firms in new industries.
- **Price to Book Value (P/B):** focuses on the net asset value of the firm. A ratio above 1.0 indicates that the investors believe the company will meet its required rate of return, and vice versa.

The reading then discusses earnings per share (EPS) interpretation and dividend-related measures.

The first point made regarding EPS is that the number alone gives us very little insight; we need the number of shares and the price of a share for context. This is the point made above: one needs to scale the EPS (use P/E) in order to compare it to others.

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The second issue is the definitions of **basic vs. diluted EPS**. The takeaways are:

1. Both basic and diluted must be displayed with equal prominence.
2. Use a *weighted* average of the shares outstanding to calculate basic EPS, and as a starting point for diluted EPS.
3. Include *all dilutive* securities (convertible debt, convertible preferred, options and warrants) in diluted EPS. Securities are dilutive if their inclusion *reduces* the EPS.
4. Use beginning of period as the inclusion date. If the securities were issued during the period, then use the issuance date.

Finally, three dividend-related measures are discussed.

1. The **payout ratio** is the percent of earnings paid in dividends.
2. The **retention ratio** is the percent of earnings retained:
  - a. If EPS = \$10 and \$3 is the dividend, the payout ratio is 30% and the retention ratio is 70%
3. The **sustainable growth rate** = ROE  $\times$  the retention rate

Companies are reluctant to change their dividend; dividend policy is “sticky.” Dividend cuts are viewed negatively by investors. If a company has volatile or cyclical earnings, then it is advisable to use a multi-year average to find the payout ratio.

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### PRACTICE QUESTION

Blum Enterprises has a return on equity of 18.0%. Its latest earnings per share is \$21.00. It has five million shares outstanding, and each share pays a \$7.00 yearly dividend. Blum is in a stable industry and its earnings are not volatile. What is the sustainable growth rate for Blum Enterprises?

- A. 18.0%.
- B. 12.0%
- C. 6.0%

**B is correct.** The company's dividend is \$7 on earnings of \$21, making its earnings retention \$14. Its sustainable growth rate =  $ROE \times \text{retention rate} = 18.0\% \times (14/21) = 18.0\% \times 66.7\% = 12.0\%$