

# A theoretical and empirical study of computing earnings per share

## Abstract

In this dissertation, I propose a theoretic foundation to compute earnings per share (EPS) for firms with both common shares and dilutive securities outstanding. I derive a new EPS measure, market EPS, which is defined as the expectation of the future earnings per share. From the view of investors, market EPS naturally captures EPS information in stock prices. It is compared to basic EPS and diluted EPS, which are suggested in the dual presentation under the current U.S. rule. The comparisons show that market EPS is below the range defined by basic EPS and diluted EPS as long as the expected future abnormal earnings is zero. This indicates a weakness behind the thinking of the current rule.

I also find that the diluted EPS by the treasury stock method overstates market EPS more than that by the if-converted method. In addition, given all conditions the same, the upward bias of diluted EPS of growth firms is smaller than that of non-growth firms.

To support the proposed theory, I conduct an empirical study using a dataset containing 3130 firm-year employee stock option plans from 1997 to 2006. The results show that diluted EPS under the rule is, on average, larger than market EPS by 1%. Furthermore, the bias is larger for firms that are heavy users of employee stock options and for firms that have higher earnings volatility.

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