Financial Analysts Journal ›

Volume 58, 2002 - Issue 2

EQUITY INVESTMENTS

Multiples Used to Estimate Corporate Value

Erik Lie & Heidi J. Lie

Pages 44-54 | Published online: 02 Jan 2019

Cite this article https://doi.org/10.2469/faj.v58.n2.2522

Abstract

We evaluated various multiples practitioners use to estimate company value. We found, first, that the asset multiple (market value to book value of assets) generally generates more precise and less biased estimates than do the sales and the earnings multiples. Second, although adjusting for companies' cash levels does not improve estimates of company value, using forecasted earnings rather than trailing earnings does. Third, the earnings before interest, taxes, depreciation, and amortization (EBITDA) multiple generally yields better estimates than does the EBIT multiple. Finally, the accuracy and bias of value estimates, as well as the relative performance of the multiples, vary greatly by company size, company profitability, and the extent of intangible value in the company.

Despite the importance of valuation in a variety of contexts, surprisingly few studies have examined the accuracy of various valuation techniques. Only the effect of the

choice of matching companies on the valuation accuracy of P/E multiples and the usefulness of discounted cash flow and various multiples in valuing rather narrow subsets of companies, such as companies that operate in bankruptcy, have been addressed. The study reported here explicitly examined the overall performance of a variety of multiples used for valuation. The purpose was to examine the biases and valuation accuracy of multiples based on earnings, sales, or book value of assets for several categories of companies.

For the aggregate sample, we found that all multiples yield estimates that are somewhat negatively biased. That is, the mean valuation errors are slightly negative, whereas the median valuation errors are roughly zero. The ratio of market value to book value of assets yields the most accurate estimates. Adjusting the market and book values for the level of cash does not improve the accuracy, but using forecasted earnings in place of historical earnings improves the estimates based on the P/E multiple.

We partitioned the sample into financial and nonfinancial companies and, within those two groups, formed groups based on size and profitability. We also partitioned the companies into those with high (low) levels of intangible assets and research and development activities. We found that valuations are more precise for large companies. For all company sizes, the asset multiple performs the best and the sales multiple performs the worst. Valuations based on the asset multiple appear to be most precise for companies with mediocre or low earnings; they are roughly equally as precise as valuations based on other multiples for companies with high earnings. The bias for the measures as applied to companies grouped by earnings varies: For companies with high earnings, earnings-based multiples yield a positive valuation bias, but the asset multiple yields a negative bias—and vice versa for companies with low earnings.

The valuations tend to be more accurate for financial companies than for nonfinancial companies. Nevertheless, the trends regarding the performance of various multiples for groups based on size or profitability are similar for financial and nonfinancial companies.

When we assessed the performance of the multiples for companies with high intangible assets (i.e., either “dot-com” companies or companies with large levels of R&D), the valuation estimates became generally worse, especially for the dot-coms. We also found the estimates to be systematically lower than the actual values, presumably

because the estimates do not fully capture the growth opportunities and other intangibles associated with these companies.

Our research is certainly relevant to practitioners, such as investment bankers and analysts, because they use multiples to value companies, but we believe it is also consequential to academic researchers. For instance, studies of the effect of corporate diversification on value use multiples to value individual segments of a company and then compare the estimated aggregate value to the market value to determine the "excess value" created by diversification. The results presented here may help such researchers choose multiples that minimize potential bias embedded in the value measures, especially if the companies or company segments exhibit certain irregularities.