

## ACCOUNTING AND REGULATORY ISSUES

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### Comparing the Accuracy and Explainability of Dividend, Free Cash Flow, and Abnormal Earnings Equity Value Estimates

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In theory, intrinsic value estimates produced by discounting future dividends, future free cash flows, or future abnormal earnings should be identical. In practice, the estimates differ if forecasted elements of the models—such as growth rates and discount rates—are internally inconsistent. Using realized current prices, other attributes, and Value Line forecast data, the authors compare the accuracy of the models and their ability to explain cross-sectional variation in market prices. The results show that abnormal earnings estimates perform significantly better than do dividend or free cash flow estimates.

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Although many models exist to estimate the intrinsic value of a security, each model generally relies on estimates of current and future economic and financial attributes associated with ownership of the security. The dividend discount model (DIV), the discounted free cash flow model (FCF), and the discounted abnormal earnings model (AE) are three such models. In theory, they are capable of producing the same estimates of intrinsic value, but in actuality, estimates may differ because of inconsistencies between forecasted attributes.

The authors examine the accuracy of each of the three models and their ability to explain cross-sectional variation in share prices. Needed forecast data are obtained from Value Line (VL). Data are taken from third-quarter VL reports for each year from 1989 to 1993

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and include 2,907 companies. Forecast data for dividends, earnings, and other attributes are obtained for the current year, the year ahead, and the 3–5 year forecast period. Historical data are obtained from Compustat, CRSP, and other sources.

For each model, the authors calculate current intrinsic values by using VL estimates for needed attributes (dividends, cash flow, etc.). Consistent with the VL methodology, each company is assumed to experience a single growth phase lasting 5 years, followed by constant growth forever. VL provides forecasts for the current year, the following year, and 3–5 years ahead. The authors assume that the 3–5 year estimates apply to all years in that interval, and the 2-year ahead forecast is set equal to the average of the following year and the 3–5 year ahead forecast. Terminal values at the end of 5 years are calculated by discounting into perpetuity the stream of forecasted attributes beyond Year 5. Terminal values are calculated under two specifications, either no growth or growth at 4 percent, although these differences do not affect the overall conclusions.

Accuracy of the models is determined by comparing the model estimates with the current market price. The results show the median accuracy of the AE model to be significantly better than the median accuracy of the FCF model, and both of these models outperform the DIV model estimates. The authors also examine the ability of the models to explain cross-sectional variation in securities prices. The results show that AE estimates are better at explaining variation in pricing than either the FCF or DIV estimates.

The authors conclude that AE value estimates are more accurate and explain more of the variation in security prices than do FCF or DIV value estimates. They argue that the relative superiority of the AE model is likely the result of the sufficiency of equity book value as a measure of intrinsic value and the probable greater precision and predictability of abnormal earnings. They also conclude that investors have little to gain from selecting dividends or free cash flow over abnormal earnings as the fundamental attribute to be valued.

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