Roger A. Morin, PhD

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DCF Growth Rate Check

As a reasonableness check on the DCF growth rate, the growth rate in dividends can be verified using the following relationship:[16]

Dividend Growth = Risk-free Return + Risk Premium − Dividend Yield

For example, let us say that the yield on Treasury bonds as a proxy for the risk-free return is 5%, the utility risk premium is 5.5% derived from a Capital Asset Pricing Model (CAPM) analysis discussed in earlier chapters, and the expected dividend yield for the utility industry is 4.5%. Substituting these values in the above relationship, we obtain a dividend growth expectation of 6.0% as follows:

Dividend Growth = 5.0% + 5.5% − 4.5% = 6.0%

9.6 Growth in the Non-Constant DCF Model

Although the constant growth DCF model does have a long history, analysts, practitioners, and academics have come to recognize that it is not applicable in many situations. A multiple-stage DCF model that better mirrors the pattern of future dividend growth is preferable. There is a growing consensus and ample empirical support that the best place to start is with security analysts' forecasts, that is, assume that dividend policy is relatively constant and use analyst forecasts of earnings growth as a proxy for dividend forecasts. The problem is that from the standpoint of the DCF model that extends into perpetuity, analysts' horizons are too short, typically five years. It is often unrealistic for such growth to continue into perpetuity. A transition must occur between the first stage of growth forecast by analysts for the first five years and the company's long-term sustainable growth rate. Accordingly, multiple-stage DCF models of this transition are available and were described in Chapter 8. It is useful to remember that eventually all company growth rates, especially utility services growth rates, converge to a level consistent with the growth rate of the aggregate economy.

A reasonable alternative to the constant growth DCF model is to use a multiple-stage DCF model that more appropriately captures the path of future dividend

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[16] Equating the expected return from the standard DCF equation and the required return from the CAPM equation:

$$K = D_1/P + g = R_f + \text{Risk Premium}$$
$$K = D_1/P + g = R_f + \beta(R_m - R_f) \text{ from the CAPM}$$

Solving for g:

$$g = R_f + \beta(R_m - R_f) - D_1/P$$