Valuation Issues: Capitalization, Discounting, and Discounts

Valuation terminology can be confusing. In calculating the present value of future earnings, when do you use capitalization rates and when do you use discount rates? What's the difference between discount rates and discounts? This article will define those terms and explain their different uses.

Capitalization and Discount Rates

Discounting and capitalizing are variations of the same theme – calculating today's value of a benefit stream that will be realized over an extended period of time in the future. We are all aware of the concept that, thanks to inflation, a dollar in hand today is worth more than a dollar that we receive ten years from now.

Valuators use discounting to determine present value when the future benefits are reasonably predictable from one year to the next, or from one accounting period to the next.

Valuation experts use capitalization, which is a simplified version of discounting, when year-by-year projections are not as reliable and the company can only project a straight-line trend over a longer period (see chart). In this scenario, growth in future returns (as a percent) is estimated in the form of one average annual compounded growth rate**,** so that the present value of the benefit stream (income or cash flow) can be more easily derived**.**

Capitalizing

In the capitalization method of valuation, you divide a base amount of return for a number of years (such as an earnings or cash flow stream, in dollars) by a rate called the capitalization rate. You implicitly assume that the return grows uniformly from year to year, even though you realistically expect that it won't, because it's difficult to predict the return accurately.

The capitalization rate equals the subject entity's *cost of capital* minus the expected long-term *sustainable growth rate*. Let's look at those two factors one at a time.

> **1. Cost of capital** is, generally speaking, the expected rate of return that the market requires to attract funds to a particular investment. A market approach to the cost of capital would look at the rates of return for investments with comparable risk profiles. As with all other market-based assessments, cost of capital represents investor's expectations relative to the market as a whole. The higher the cost of capital, the lower the value of the company.

The components of the cost of capital are (a) the "risk-free rate of return" currently being demanded by the market, (b) a risk premium for the market as a whole, (c) a measure of volatility of the entity being valued relative to the market as a whole (referred to as "beta"), and (d) specific risk premiums attributable to the entity being valued. The first three components are often available from published statistics and market analysts such as Value Line. The fourth component, company-specific risk premiums, are subjective and based on analysis of the characteristics of the company being valued, such as:

- Size
- Relative volatility of returns
- Leverage and capital structure
- Concentration of customer base or key suppliers
- Dependence on a small or inexperienced management team
- Competition
- Pending regulatory changes, lawsuits, environmental issues, etc.
- Diversification of products, geography, etc.

2. Sustainable growth rate is the analyst's best estimate of the normal growth of the company, based on economic, industry, and market conditions.

Discounting

In the discounting method of valuation, each future increment of return (a single year or accounting period) is estimated specifically. The return for each year is discounted by using discount rates based on the cost of capital. The valuator calculates the cost of capital using the factors listed above.

Discounting and capitalizing will produce the same result if the expected growth rate of the benefit stream is assumed to be constant.

Since constant growth rates in perpetuity are generally not realistic, it is common to combine discounting and capitalizing in a two-stage approach. For those periods where returns can be projected with a reasonable degree of accuracy, each period's benefits are discounted using the cost of capital. Since each period is being evaluated separately, growth is dealt with in the benefit stream (i.e., each period's assumed growth rate is factored into the calculation of what that specific period's benefit stream will be). Once the valuator has consumed the time period of variable benefit projections, all benefits beyond this stream are valued by estimating the benefit stream using a constant growth assumption and then capitalizing the benefit stream using the capitalization rate.

A good example of when to use both methods would be in the valuation of a high-tech company. During the early years the analyst may expect rates of growth that are variable each year. For example, the company may project no earnings for the first two years, good earnings in the third year, and then explosive growth in the fourth, fifth, sixth, seventh, and eighth years (see chart). These earnings in the first eight years would be

discounted back to a present value using the cost of capital. If it is expected that after year-eight earnings will grow at a stable rate of 5% thereafter, the present value of that terminal earnings stream would be calculated by *capitalizing* that earnings stream using the cost of capital less the 5% growth rate.