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FAIR VALUE™

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CRITICALLY ASSESSING A BUSINESS VALUATION: IS THE CAPITALIZATION RATE USED REASONABLE?

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Introduction. Attorneys often review business valuations which employ a capitalization of earnings approach where the earnings of the business are divided by a "capitalization rate" (cap rate) to arrive at a value estimate. The cap rate has a crucial impact on the total value, so it is essential to assess its reasonableness, regardless of whether the valuation is for estate planning, the review of a challenge by the IRS, for equitable distribution, or the sale of a client's business.

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The Focus of This Article. This article will explain the elements of a cap rate and the variety of factors that enter into its determination. The goals of this article are to provide a better understanding of capitalization rates and how they are developed, identify problems or inconsistencies, and to distinguish professional valuations from those that are poorly prepared. It will begin with an overview of where the capitalization of earnings method fits within the spectrum of valuation techniques, followed by an explanation of the key elements of risk and growth and how they are brought together to develop the all important capitalization rate. Finally, the article will show how to use this knowledge to develop a strategy for effectively assessing the rate's reasonableness by focusing separately on its parts.

Three Broad Classes of Valuation Approaches. The capitalization of earnings (or net income) is one method falling under the category of "income valuation approaches." There are three main classes of valuation approaches, summarized as follows:

- **Income approaches-** Income approaches focus on the value of a company's income. Whether based on historic results or future forecasts, value is based on the present worth today of an anticipated series of future income streams. What income am I, the buyer, to receive as a return on my investment, taking into account the risk that the income may not continue, or at least not as I forecast?
- **Market approaches-** Market approaches examine the prices paid in the sales of similar companies and past transactions in the shares of the company itself as to their implications about the current value of the business. If appropriate, the valuator might seek to identify comparable public companies in the same or similar line of business and use how their shares are priced in the public marketplace as a starting point in valuing the private business. A previous June, 1995 *Fair Value* article dealt in detail with the significant differences between public and private companies and the skill and difficulty in correctly employing this method.
- **Cost approaches-** Cost approaches gauge the market values of the company's assets and liabilities. If a company is highly profitable and has significant intangible value (goodwill) this approach might be of limited value.

Within each approach are specific valuation methods, each of which attacks value from a different vantage point. Due to space limitations this article will only attempt to address the income valuation approach.

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The Value of Future Income. Two techniques to value anticipated future income are the discounted future income (or cash flow) and capitalization of earnings methods. The former involves making discrete year-by-year forecasts of income, typically for five or seven years, which are then discounted back to their present value today at an appropriate discount rate (annual required rate of return on investment for risk) required by a buyer. At the final projection year a "terminal value" is determined that represents the estimated value for the sale of the company at that time, based on a capitalization of the value of the final year income (or cash flow). This sale value is then also discounted back (at the discount rate) to its present worth today. The summation of the present values of both the annual income streams and the terminal value yields a fair market value estimate of the company.

Understanding this concept that all income methods are based on determining the present value of *anticipated future income streams* must be grasped before one can then understand how a capitalization rate works.

Cap Rate is a Mathematical Alternative to Yearly Forecasts. Theoretically, in every business valuation the valuator could forecast year-by-year results into the future and then discount each individual income stream back to its present worth, as in the discounted future income method just described. That may be unnecessary, however, if the enterprise's annual income is expected to grow in the future at a more or less stable annual rate of increase. In this circumstance math comes to the rescue. If income grows at a constant rate into the future (if this is not the case, however, much of this discussion may not apply and other techniques may be warranted), we obtain exactly the same value as with year-by-year forecasts simply by dividing the company's historic income stream by a capitalization rate, a so-called "single period" valuation method, as follows:

Formula for the use of the Capitalization of Income Method

$$\text{Value} = \frac{\text{Income Stream, Coming Year}}{(d-g)}$$

Where:

d= Discount Rate (Required Annual Rate of Return For Risk)

g= Annual Future Growth Rate

In short, the "d-g" component above is called the capitalization rate, determined by subtracting the estimated long term annual growth rate of income from the rate of return for risk required for that income. The capitalization method simply says that value is a function of the elements of a company's income, the risk associated with that income, and the income's expected rate of future growth.

An Example Using the Capitalization of Earnings Method. Let's use numbers to see how the method actually results in a value estimate. Suppose XYZ Company had annual net income for 1995 of $500,000. Further, income is expected to grow at the inflation rate (3.5%) plus 4.5% annually, or 8% (the "g", or annual growth rate). After a full analysis of the business, the industry and other factors, the valuator has estimated the annual rate of return required by a buyer for risk to be 28% (the "d", or discount rate). Therefore, the preliminary value of the company by the capitalization of earnings method is $2,500,000, calculated as follows:

Calculating the Value by the Capitalization of Earnings Method

Company Income	Divided by: Capitalization Rate	Equals: Value Estimate
$500,000	0.20 (28%-8%)	$2,500,000

Thought of another way, a capitalization rate of 20% (as above) is the same as saying that the multiple applied to earnings is 5 times (inverse). In an actual valuation, other adjustments may be needed to arrive at the final capitalization rate beyond this simplified example. We have ignored them here to focus on the essential elements of a cap rate.

Not Just Theory, But Evident in the Real World. If you think this is an esoteric theory of academics in ivory towers, just follow the stock market daily and see what happens to company share values. If a business comes out with a new product that brightens its future earnings outlook the share value rises as investors "capitalize" the higher anticipated future stream of income. Or consider two competitors in the same industry and with the same annual income. One has just become the target of a product liability lawsuit, calling into doubt its future survival. Thus, share value may be driven down through an increase in perceived risk (the "d" factor above), possibly combined with a diminished

future earnings outlook.

Values of private companies are impacted by the same factors. If two companies have the same risk profile, but one has a different growth rate of earnings, the investor will pay more for the one with growth. Similarly, if two companies have the same income and growth outlook, but one is much riskier, the one with greater risk will be worth less.

How Can the Attorney Act on This Knowledge? So how can one use this knowledge of the capitalization rate to assess the validity of a valuator's capitalization of earnings findings? Since it is now clear that the finding is a function of 3 broad variables, anticipated income, risk and growth, the first step is to individually assess the reasonableness of each element and how it was determined. By thinking in this light the reader of a valuation can then begin to make crucial judgments as to the strengths or weaknesses of the valuation.

Breaking the Cap Rate into its Components. As previously noted, the capitalization rate is mathematically equal to the discount rate minus the growth rate. Now suppose the valuator indicates he or she has used a multiple of 15 times earnings. By taking the inverse of this the result is a capitalization rate of 6.67%. If the valuator has not articulated the individual components one can then focus on the reasonableness of the "d" and the "g" assumptions that led to the ultimate capitalization rate utilized. If a reasonable discount rate (based on risk) for the company is 23%, then this implies that the long term annual growth rate being assumed is 16.33% (cap rate = discount rate minus growth rate, or, solving for growth, growth rate = discount rate minus cap rate, here 23% - 6.67%). Or, vice versa related to risk and the discount rate.

Powerful Information. By focusing on each of the individual elements one might then target questions designed to assess the reasonableness of the constituent pieces. For example, the previous analysis suggests that if the discount rate ought to be 23%, then this must imply the valuator expects a growth rate of 16.33% per year. The reader can then focus on if this growth is reasonable given the past and anticipated future performance of the company. Suppose it is a profitable, but mature business (called a "cash cow" in MBA lore), growing historically at only 4% per year, and there are no new products or reasons to suspect a jump in the future. One might then question the validity of a 16.33% per year growth assumption.

Now, if the valuator agrees that the discount rate for risk ought to be 23%, then simply subtract the reasonable growth rate of 4% from the discount rate to get a new capitalization of 19%, not the 6.67% the expert thought was reasonable. Or said another way, the reasonable multiple of earnings is now 5.26 times (inverse of 19%), not the 15 times earnings originally used. This clearly makes an enormous difference in the final value.

Risk Element. Determining the risk is a key part of the effort in valuing a company. In order to properly make this assessment the valuator must undertake a thorough analysis of the company. This includes consideration of a multitude of factors that provide insight into potential threats to the business, both internal and external, as well as opportunities. While the risk factors and the relevant issues differ for each company, the following provides just a limited sampling of the many items often considered:

Management:

- Strengths and weaknesses.
- Key person issues.
- Succession planning.
- Retention and turnover.
- Coverage of key personnel by non-competes.
- Depth of management and the ability to support future growth.

Products/Marketing:

- Stage of the product's life cycle- start-up, growing, mature, declining.
- Chain of distribution, reliance on key salespersons or outside representatives.
- Impacts of technological change and if other potential products present competitive threats.
- Future level of research and development required.
- Has the company made needed investments in new products and technology or has it paid out cash flow to shareholders currently at the expense of its future viability?

Customer Base:

- Concentrations of sales to one or several large customers.
- Diversification of customer base by product line, industry and geography.
- Favorable or unfavorable long term customer contracts.
- Credit-worthiness of customers, anticipated bad debts, aging of receivables.
- Current order backlog- growing, stable or declining.
- Terms of sale extended to customers.

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Suppliers:
- Dependence on one or several suppliers for a key resource.
- Bargaining power of suppliers.
- Long term supply contracts at favorable or unfavorable prices.
- Long term outlook for availability of raw materials, prices.
- Vulnerability by company to competition from its own suppliers.
- Terms of purchase offered by suppliers and any shifts in these terms.

Competitive Environment:
- Who is the competition?
- Relative strengths and weaknesses of competitors.
- Barriers to entry (if any) into the entry by new competitors (e.g., licensing, large capital requirements, training, degrees, etc.)
- Impact of freight and other costs on the ability to compete.
- Market share of industry participants and the risk implied.

Intangible Assets:
- Patents.
- Trademarks.
- Copyrights.
- Proprietary technology, knowledge.
- Skilled, trained workforce.
- Location.
- Customer lists.
- Patient records.
- Name, reputation.

Financial Risks:
- Liquidity.
- Sufficiency of working capital.
- Reliance on leverage (debt) and associated debt service requirements.
- Trends in profitability and individual income and expense items.
- Future profit outlook.
- Cash flow generation.
- Historic and anticipated future capital expenditures.
- Need for additional capacity to support growth.
- Analysis of individual asset and liability categories.
- Off balance sheet liabilities.
- Efficiency of asset utilization.
- Revenue trends.
- Bad debt experience.
- Return on equity.
- Dividend history.
- Comparison of performance to industry peer averages.

Access To Credit:
- Compliance with loan covenants.
- Ability to meet collateral requirements for working capital credit facilities.
- Proforma debt service ability.
- Sufficiency of credit facilities in place to support growth related capital needs.
- Threats to continued access to credit.

Contingent Liabilities:
- Pending or threatened litigation.
- Guarantees of other obligations.
- OSHA, ERISA, IRS and other regulatory problems.
- Environmental and hazardous waste issues.
- Warranty or repurchase liabilities.
- Unfunded pension plans or health care benefits.

Other Possible Red Flags:
- Frequent turnover of key management.
- Turmoil among management or shareholders.
- Increases in the interest rate charged on company credit facilities.
- Loss of key customer accounts.
- Inability to supply timely financial statements.
- Turnover of outside audit or accounting relationships.

Contractual Issues:
- Employment agreements, covenants-not-to-compete.
- Deferred compensation arrangements.
- Supplier and customer contracts.
- Distributorship contracts and their assignability.
- Buy-sell and shareholders' agreements.
- Voting rights, bylaw restrictions.

Other External Forces:
- Economic and industry outlook, trends.
- Governmental regulation.
- Foreign competition.

Substantial Time and Effort Required. The previous list is a limited sampling of the many issues that might need to be examined to properly assess risk for

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valuation purposes. Since every company is unique the potential risks and issues can vary substantially and can only be ascertained by a full review. This is why there are no shortcuts to a professional valuation and why skill, training and experience are essential attributes of a competent business valuator. As should be evident, knowledge of accounting, tax and numbers, while helpful, is completely insufficient to properly value a business. Numbers only scratch the surface of the numerous elements, many of them non-financial, which impact company risk and value.

Developing the Discount Rate. Once the business valuator has assessed the risk picture facing the business, he or she then proceeds to use either the "capital asset pricing model" (CAPM) or the "build-up method" variant to compute the rate. The focus here will be on the build-up method. This method simply says that the discount rate is the sum of a "risk free" return (such as for U.S. treasury notes or bonds), plus the additional risk premium required by the market to invest in stocks in general, plus a risk premium for any additional risks inherent to the specific company being valued. The greater the risk for a specific company, the greater the annual rate of return required to compensate the investor for incurring the risk. The buildup method can be summarized by the following formula:

Build Up Pricing Model

	Risk Free Rate
+	Equity Risk Premium for Investing in Common Shares
+	Specific Company Risk Premium
=	**Discount Rate**
-	Long Term Growth Rate
=	**CAPITALIZATION RATE**

The result is a discount rate representing the annual investor-required rate of return, a measure of the cost of equity (a "discount rate"). From this is then subtracted the long-term annual growth rate to arrive at a capitalization rate. Shown below is an example using hypothetical numbers to calculate a discount rate applicable to the cash flows of a business, and then further adjusted to result in a discount rate for its earnings, followed by subtraction of the growth rate, to result in a capitalization rate:

Said another way, the capitalization rate of 23.7% above is the same as saying the appropriate multiple is 4.22 times earnings (the inverse).

Development of Discount and Capitalization Rates

Risk Free Rate	6.7%
Plus: Small Stock Equity Risk Premium	18.0%
Plus: Company Specific Risk Premium	2.0%
Equals: Discount Rate for Free Cash Flows	**26.7%**
Plus: Adjustment to Rate Applicable to Earnings	3.0%
Equals: Discount Rate for Net Income	**29.7%**
Less: Long Term Growth Rate	(6.0%)
EQUALS: CAPITALIZATION RATE	**23.7%**

The sources of data for small stock risk premiums and how they should be interpreted, as well as the adjustments to go from a cash flow to an earnings discount rate are too complex for this article. Some of these issues, however, are discussed in more detail in the Spring 1995 issue of *Fair Value*™.

Not the End of the Story. Market data used by business valuators to develop discount and capitalization rates are derived from studies on market rates of return for publicly traded minority interests in public companies that have fully marketability. Therefore, adjustments might be needed to reflect a premium for control (if the valuation is of a controlling interest) and greater lack of marketability.

Conclusion. Capitalization rates can be demystified and understood, and by doing so the attorney can more adequately advise his or her clients with a valuation issues regardless of whether they are for estate planning, dispute resolution, or mergers and acquisitions. By properly focusing the analysis on the review on the elements of risk, growth and income the attorney can be in a better position to assess the underlying consistency and reasonableness of the capitalization rate used. Failure to discuss or effectively articulate these factors should be a significant red flag of a potentially unqualified valuator, or a hasty and cursory review of the company. ♦

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