

Jim Hitchner's Valuation Products and Services

VPS Q&A

A free Q & A periodical to promote education, build consensus and answer your questions in the financial valuation and litigation services industry.

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Email your question to: jhitchner@valuationproducts.com

DISCOUNT RATES FOR LOST PROFITS ANALYSES

Question 1: There are a lot of data choices for each component of a discount rate calculated in a valuation. In determining the discount rate in a lost profits analysis, do you use the same data? Is the calculation of a discount rate less rigorous in a lost profits analysis?

Answer 1: Conceptually the determination of the discount rate in lost profits analysis is similar to that for a business valuation. The discount rate enables the expert to put a value on a stream of earnings taking into account the time value of money and the risks involved. The data that will be used is typically the same in lost profits valuation as it is in business valuation; however, the risks that are being recognized in development of the discount rate are often different. When developing a rate for a business valuation, the risks associated with the business are typically incorporated into the discount rate.

In valuing a stream of lost profits, we are usually valuing a stream of earnings that is only a fraction (it could be a nominal fraction or a large fraction) of the total earnings stream of the business. Accordingly, the discount rate should reflect the risks inherent only in the lost profits stream being measured. If only a small segment of the company's earnings has been impaired, it may be appropriate to exclude some of the general business risks that would attach to the business as a whole. If the stream being valued represents a newer line of business, one with a more volatile earnings pattern or for some other reason is particularly risky, it may warrant a rate that is higher than that applied in the valuation of the business as a whole. As the size of the impairment approaches the total earnings stream of the business, it would be

reasonable to expect the discount rate to approach the discount rate that would be used in valuing the business entity.

Academic literature suggests that a "weighted average cost of capital (WACC)" is an appropriate discount rate for lost profits. However, for a projected stream of lost profits that has already been reduced to reflect the likelihood that the projections may not be achieved, a low risk (or no risk) rate may be more appropriate. Finally, in lost profits analysis, the process of developing the discount rate should be no less rigorous than in a business valuation. In fact, it is reasonable for an expert to expect that the discount rate will be challenged by opposing counsel. Accordingly, a discount rate that has been carefully developed and appropriately supported by empirical data will be more likely to survive adversarial challenges.

Answer by: Michael G. Kaplan, CPA, CVA, CFFA, ABV, cofounder of Voir Dire Partners, LLC, an association of independent forensic valuation consultants, and Kaplan Abraham Burkert & Company, Litigation and Valuation Consultants (Los Angeles). Michael is the past chair of NACVA's Executive Advisory Board, a principal member of the training development team for NACVA and director of NACVA's Financial Forensics Institute. Michael@forensicvalue.com.

PREMIUMS FOR CONTROL

Question 2: Do you apply control premiums from studies like Mergerstat in your valuations? Please answer based on a DCF method and a guideline public company method.

Answer 2: The answer is sometimes yes and sometimes no; it depends on the facts and circumstances of the valuation assignment. First, one has to assume that the valuation is being performed on a controlling-interest basis. With that caveat, let's address the applicability of a control premium to a DCF-derived value. If, and I stress if, the cash flows utilized in the DCF model have been adjusted for control attributes, e.g. fair market rents,

reasonable compensation, etc., then, in my opinion, the application of a control premium is not appropriate. This position is also held by the Delaware Chancery in a number of reported opinions.

Under the guideline public company method, however, it is my opinion that a control premium would apply (this position is also held by the Delaware Chancery). The underlying rationale in *continued on next page*

support of this opinion is that the prices of publicly traded companies on the open market are quoted on a minority basis. As such, a control premium would be required to bring those implied prices in line with a control position. However, I must caution the reader about a possible error that I have witnessed in my work. If you have derived your public guideline company multiples directly from reported prices in the market without any adjustments for real estate, salaries or other adjustments, but you do make control adjustments to the subject company's multiple metrics, there may be a need to adjust the applicable control premium or the public company multiples themselves or make similar adjustments to the public companies themselves (really hard to do). Typically, the public company multiples are adjusted for size, growth and other attributes anyway, so making additional adjustments could be complicated if the information is not readily available.

I would like to make one last overall comment. When contemplating a control premium, don't forget the reasons control premiums typically arise. On the one hand, control premiums reflect the ability of a controlling shareholder to dictate the timing and amount of cash flows. If you have adjusted the cash flows of the subject company to the "optimal" level of cash generation, then what is left to "control" by a controlling shareholder? That's why the Delaware courts do not typically apply control premiums to the DCF method. On the other hand, the control premiums cited in Mergerstat may contain a component of "strategic value" that increases the control premium beyond the premium a typical financial buyer may be willing to pay. As is always the case, make sure you have a deep understanding of all the data points you apply to your valuation, especially in the area of control premiums.

Answer by: Neil Beaton, CPA/ABV, ASA, CFA, Partner in Charge, Valuation Services Group, Grant Thornton (Seattle), former member of the AICPA BV Subcommittee, AICPA Valuation of Private Equity Securities Task Force and FASB's Valuation Resource Group.

[Editor's note: Many analysts share an alternate view about the addition of control premiums to the results of the application of the guideline public company method (GPCM) of the market approach under fair market value. This is usually not the standard of value in state's rights actions (dissenting rights and shareholder oppression), including those tried in the Delaware Chancery.

This alternate view is based on the concept that market multiples, e.g., price/earnings, invested capital to EBITDA, etc., are derived from the public markets and, although used as a multiplier to derive value, can also be inverted and used as a capitalization rate and divisor. Why is this any different from the income approach, where, again, the inputs to a discount rate and a capitalization rate are largely based on the public markets as well? Furthermore, you can also invert a capitalization rate divisor and use it as a cash flow valuation multiple. The idea here is that, whether using the GPCM or the income approach, control is determined in the cash flows being capitalized, not the capitalization rate or the valuation multiple.

Many analysts also believe that, under fair market value, the value of a public company is both minority and control given the fact the company is supposed to be run to the benefit of all shareholders, regardless of the number of shares held. This may not be true under investment value where a synergistic value may be added under certain conditions.

For further discussion see *Financial Valuation Applications and Models*, 2nd edition, Hitchner, et al., Wiley, including pages 100-103, 184, 268-269, 376-379, 387-390.]

SIZE PREMIUM VS. LEVERAGE PREMIUM

Question 3: I have never believed the wild statistics brought to us by Ibbotson and Duff and Phelps. Here is my question. Is it possible that the small stock premium is really not a size premium at all, but rather a premium for leverage? Maybe the small stocks are small because of higher leverage. Higher leveraged firms would have higher returns. Maybe the equity risk premium (ERP) [proponents] have just misinterpreted small equity size as opposed to smaller sized in terms of total invested capital. (Companies with tons of debt could be very large - just with small equity relative to debt.) Even if I am wrong with my hypothesis, wouldn't it be necessary to break down the total premium between a size premium and leverage premium?

Answer 3: First off, I do not agree with the term "wild statistics" for Morningstar (Ibbotson) and Duff & Phelps (D&P) data. The information is what it is, and I think both Morningstar and D&P do a very good job collecting, analyzing and presenting their data. As I said in question and answer number 1 of VPS Q&A 5 www.valuationproducts.com : "The selection of a size premium is up to each individual analyst. However, the analyst should be ready to defend that selection and understand how the size premium he/she uses is calculated as well as the data that goes into the premium. Furthermore, the analyst should also be ready to answer the following question: 'Why didn't you use the other possible choices for the size premium?'" They give us the data and we have to understand that data to properly use it and/or decide not to use it.

There are several questions here, but the general theme is whether size and leverage are related. This is a concept that is

often overlooked in a valuation, and so I am glad I have an opportunity to respond. As we all know, Morningstar has only one measure of size, market value of equity. Again, see VPS Q&A 5 for a discussion of some of the problems with market value of equity as the sole measure of size. I'll answer this question based on D&P data, as D&P publishes debt as a percentage of the market value of invested capital (D/MVIC) for each of the 25 size categories.

The Duff and Phelps data has eight measures of size. In addition to market value of common equity and market value of invested capital (equity and carrying value of preferred stock and long-term debt (including current portion) and notes payable), D&P allows comparisons based on the following: book value of common equity, 5-year average net income, total assets, 5-year average EBITDA, sales and number of employees. However, an

continued on next page

often overlooked set of D&P data is leverage. D&P reports on the average amount of debt per size category, i.e., 25 categories. Let's start with market value of common equity. The average debt/MVIC ratio for category one is 16 percent. However, category two is 21 percent and category ten is 23 percent, category 20 is 26 percent and category 25 is 30 percent. Between categories 15 through 25 there is only a 5 percent difference between the highest and the lowest in the debt to MVIC ratio. For size category market value of invested capital the debt/MVIC ratio is even tighter; category one is 21 percent, category two is 28 percent and category 25 is 24 percent. Generally speaking there is not a large enough difference in the Debt to MVIC ratio to explain the large difference in the risk premiums between the larger companies and the smaller companies.

D&P also provides data on the betas of the 25 categories both levered and unlevered. The levered beta in the category of market value of equity ranges from 0.90 for size category one to 1.30 for category 25. The average unlevered beta is 0.79 for size category one vs. 0.97 for category 25. Based on this data there appears to be a size risk premium based more on size than the

amount of leverage. The betas based on market value of invested capital are not that different.

(Sources for above information: Duff & Phelps Risk Premium Report, 2008, exhibits A-1, A-4, C-1 and C-4).

What's more interesting is the D&P data that compares companies of different size based on fundamental measures of risk, i.e., operating margin, coefficient of variation (COV) of operating margin and COV of return on equity. It's pretty clear that the smaller the company, generally speaking, the lower the average operating margin, the higher the average COV of the operating margin and the higher the average COV of the return on equity. The bottom line here is that company size does indeed seem to matter when it comes to risk. (For additional information see *Financial Valuation and Litigation Expert* journal Issue 13, June/July 2008 www.valuationproducts.com).

Answer by: Jim Hitchner, CPA/ABV, ASA, Valuation Products and Services and The Financial Valuation Group (Atlanta, GA) jhitchner@valuationproducts.com.



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TRANSACTION DATABASES: CAN YOU RELY ON THEM?

Presented by Jim Hitchner, CPA/ABV, ASA. Assisted by Sam Wessinger (The Financial Valuation Group)

DISCOUNTS FOR LACK OF MARKETABILITY: QUANTITATIVE VS. QUALITATIVE MODELS

R. James Alerding, CPA/ABV, ASA, CVA, (Clifton Gunderson, LLP),

Neil Beaton, CPA/ABV, ASA, CFA, (Grant Thornton, LLP). *Moderated by Jim Hitchner, CPA/ABV, ASA*

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Ed Dupke, CPA/ABV (Clifton Gunderson, LLP), Jim Alerding, CPA/ABV, ASA, CVA (Clifton Gunderson, LLP)

Moderated by Jim Hitchner, CPA/ABV, ASA

IS MORNINGSTAR IBBOTSON DATA STILL RELEVANT? YES, AND WE'LL TELL YOU WHY.

HOW TO PROPERLY UNDERSTAND AND USE IBBOTSON DATA

Jim Hitchner, CPA/ABV, ASA, Valuation Products and Services; James Harrington, Director, Business Valuation Research, Morningstar, Inc. and Senior Editor, Ibbotson SBBI *Valuation Yearbook*; Sam Wessinger, Financial Valuation Advisors, LLC