BVR
What It's Worth

Top Ten Issues to Note When Selecting COC Data in Volatile Times

BUSINESS VALUATION UPDATE™
BVR What It's Worth
From the developers of *Pratt's Stats*®
Timely news, analysis, and resources for defensible valuations *Excerpt from Vol. 15, No. 7, July 2009*

Top Ten Issues to Note When Selecting COC Data in Volatile Times

Deriving a defensible cost of capital (COC) for the capital asset pricing method (CAPM), modified CAPM, or the build-up method is frequently the most contentious issue in litigation involving the valuation of private companies or economic damages. Moreover, estimating COC is "the single most important element in any business valuation using the income approach," say the sponsors of the CalCPA Education Foundation's 2009 Business Valuation conference, held this spring in San Francisco.

Movements of just a few basis points in COC calculations can cause significant fluctuations in value. Consequently, business appraisers must carefully choose the data and the tools they use to make this critical estimate—especially given the current economic climate and the continuing volatility of the credit and stock markets. Now more than ever, estimating the COC (what investors in a certain business interest or security expect as a future rate of return) is a "daunting task," Willamette Management Associates' managing director Robert Reilly told the roughly 180 CalCPA attendees, including nearly 60 who were listening "live" by webinar.

Nonetheless, when estimating the COC, analysts should not "over-obsess about precision," Reilly advised. Instead, analysts need to focus on identifying the concerns and questions regarding their selection of COC-related data. "We can get to a very precise answer, but at the end of the day, we will still have to use our professional judgment," given the current market and credit conditions. According to Reilly, there is no right or wrong answer, just issues that analysts need to talk about and applications they need to understand.

With that in mind, he offered BV analysts his own "short list" of the top ten issues related to the selection of COC data—including the particular problems that each poses in the current economic climate:

1. Risk-free rate of return measurement. As a proxy for the risk-free rate (Rf), business valuation analysts often use the yield-to-maturity on long-term (usually 20-year) Treasury bonds as of the valuation date (from www.federalreserve.com). *The current problem*: 20-year, constant maturity, Treasury bond yields have decreased dramatically, from a 5.02% average for 12 months in 2004, to 4.52% average for the first eight months of 2008—to 3.03% average as of December 31, 2008. (Reilly derived these numbers from Roger Grabowski's materials at the conference, including "Problems with Cost of Capital Estimation in the Current Environment," an update to his article in the ASA's *Business Valuation E-Letter*, Oct. 29, 2008.)

"It is unlikely that the decrease is due primarily to a decrease in inflation expectations," Reilly said. More likely, it reflects the "flight to quality" in financial markets as investors move from risky to less risky assets. "This decrease in the Rf may be a short-term aberration," he added. Thus, the use of a spot yield on T-bonds may cause analysts to underestimate a subject company's actual COC. As alternatives, they may want to use a longer-term average Treasury yield or a forward rate on Treasuries.

2. Appropriate historical period for the equity risk premium (ERP). The "big debate" among BV analysts is "how long do you go back

Continued to next page...

BUSINESS VALUATION UPDATE

Executive Editor: Lisa Isom
Legal Editor: Sherrye Henry Jr.
Contributing Editors: Paul Heidt & Adam Manson
Publisher: Doug Twitchell
Production Manager: Laurie Morrisey
President: Lucretia Lyons
Customer Service: Stephanie Crader
Sales: Linda Mendenhall
Chair and CEO: David Foster

Business Valuation Update™ (ISSN 1088-4882) is published monthly by Business Valuation Resources, LLC, 1000 SW Broadway, Suite 1200, Portland, OR, 97205-3035. Periodicals Postage Paid at Portland, OR, and at additional mailing offices. Postmaster: Send address changes to *Business Valuation Update*™, Business Valuation Resources, LLC, 1000 SW Broadway, Suite 1200, Portland, OR, 97205-3035.

The annual subscription price for the *Business Valuation Update*™ is $339. Low cost site licenses are available for those wishing to distribute the *BVU* to their colleagues at the same address. Contact our sales department for details. Please feel free to contact us via email at customerservice@BVResources.com, via phone at 503-291-7963, via fax at 503-291-7955 or visit our website at BVResources.com. Editorial and subscription requests may be made via email, mail, fax or phone.

Selecting COC Data in Volatile Times

to measure the ERP?" Do you use data from the *Ibbotson/Morningstar Stocks Bonds, Bills & Inflation* (SBBI) *Valuation Yearbook*, which goes back as far as 1926, or those from the *Duff & Phelps Risk Premium Report* (RPR), which captures data since 1963? The answer may not be as important as understanding the differences between the data and the sources, and being able to support their application to COC measurements. It is also an "easy trap to fall into, especially for younger analysts," that they simply tab the back page of Ibbotson's for its data, Reilly said. '"Be aware what that page tells you, and be able to explain it."

3. Size effect in ERP measurement. Likewise, it's an important reminder that SBBI provides data regarding the difference between the total ERP returns for all public companies and the ERP returns realized by smaller, more thinly capitalized companies. It also disaggregates the stock market pricing data into ten deciles based on market capitalization. The size-related ERP can then be added to the overall ERP. By comparison, Risk Premium Report data uses eight different size measures (book value, net income, total assets, etc.) and presents a "smoothed" average historical ERP for each.

4. Beta measurement—levered or unlevered? Levered beta measures the systematic risk, including business and financing, borne by a company's equity shareholders. Unlevered or "asset" beta removes the company's financing decision from the beta calculation, reflecting only business risk. The beta can also be "relevered" using either the subject company's actual capital structure or an industry average. Once again, it's very important that analysts know the differences between the concepts and be able to explain the generally accepted formulas used to unlever and relever beta.

5. Beta measurement—appropriate market proxy. BV analysts derive beta from such commonly accepted sources as Bloomberg; Standard & Poor's *Compustat*; Capital IQ; the *Ibbotson® Beta Book*; and the *Value Line Investment Survey*. "We use all of them," Reilly told CalCPA

Reprinted with permission from Business Valuation Resources, LLC

attendees. "You really need to understand the differences between these sources. You'll get different results depending on which ones you go to." For example, Bloomberg allows you to select over 20 domestic series, with the default set as the S&P 500. Compustat uses the S&P 500, as does Morningstar/Ibbotson. "Even in choosing the default option, you have made a choice that will give you a different beta," Reilly said. Again, there is no right or wrong option, "just be aware of the differences."

6. Beta measurement—appropriate time period. Keep in mind that Bloomberg and Capital IQ provide an adjustable time period (default is two years). *Compustat*, Morningstar/Ibbotson, and *Value Line* use five years.

7. Beta measurement—appropriate frequency of data observations. Bloomberg is adjustable (default is weekly). *Compustat* and Morningstar/Ibbotson are monthly. Capital IQ permits a choice between weekly or monthly (default is weekly). *Value Line* is weekly.

8. Beta measurement—appropriate adjustment factors. Bloomberg is (0.67 x unadjusted beta) + (0.33 x 1.0). Compustat and Capital IQ are unadjusted. Morningstar/Ibbotson is adjusted toward peer group beta weighted by statistical significance. *ValueLine* is 0.35 + 0.67 x (unadjusted beta).

9. Industry ERP measurements. Remember, industry risk can be incorporated into the modified CAPM (through the beta) and the Build-up model. Another way to explain this difference in the models: You must include an adjustment for the industry ERP in the Build-up model, because it does not include a beta element. Analysts should be very aware of what each model does (and does not) capture. Industry betas can be found in Morningstar/Ibbotson's *Cost of Capital Yearbook*, and industry ERPs are in *SBBI* data.

10. Company-specific risk premium (CSRP) measurement. There are several qualitative models for estimating the CSRP, including those developed by Black/Green, Warren Miller, and Gary Trugman. Each suggests a general framework for the analyst to consider economic, industry, and company-specific factors. In addition, the Butler Pinkerton Model™ (available at BVMarketData.com) offers a quantitative approach to estimating the CSRP; it also requires some subjective analysis, including the selection of guideline public companies for computing the benchmark CSRPs and their comparative weighting against the specific factors that affect the subject company.

An important point: The CSRP is an input to all the cost of capital models, Reilly reminded CalCPA attendees, "and you have to get comfortable using your judgment in coming up with the company-specific risk component, or you may not be able to sustain a contrarian view."

The top takeaway from the conference. In fact, that may have been the most important takeaway from the California conference. "You need to use a lot more judgment now than you did in prior years," Reilly said, in his concluding remarks. The current economic environment requires it, and "every single speaker reminded us of that." Some of the data that BV analysts are reviewing now is aberrational, a product of dysfunctional markets—but this does not mean that the models are dysfunctional.

In fact, analysts should use the words "commonly accepted" when explaining their choice of models and data sources for calculating the COC, "because that's what we're talking about. It's not overstated and it can keep you out of trouble," Reilly said. You may not use all the models or sources, depending on your practice, but if you are aware of them and understand them all, you can explain your choices and defend against the claim that you simply "made them up."

A final point: It is one thing to explain these models and data sources to a judge, an IRS auditor, or a regulator. "But can you explain them to your colleagues—or even your spouse?" Reilly asked. Why does a particular cost of capital model work the way it does? Why does that specific data belong in that model? "If you can explain it to a non-technical person, then you are probably on safe ground. If not, then you may not be able to explain it in court—and you will lose your case and your credibility."