Cost of Capital Insights

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Equity risk premium mania— what should you use? Four nationally known valuation anaylsts tackled this question and explained how it's done in "their shops" in a recent national webinar presented by Valuation Products & Services (VPS) and the Financial Consulting Group (FCG).[1] The topic was "Cost of Capital: A Consensus View?" Moderated by Jim Hitchner, CPA/ABV, ASA, the panel included Alina Niculita, CFA, president of Shannon Pratt Valuations, Rod Burkert, CPA/ABV, CVA, cofounder of Burkert Valuation Advisors and Bob Duffy, CPA/ABV, ASA, CFA, partner with Grant Thornton.

Presentations and discussion took place concerning Morningstar data, including traditional equity risk premiums, supply side equity risk premiums, size premiums and industry risk premiums. Duff & Phelps was also discussed, including equity risk premiums, size premiums, high financial risk companies, different measures of size and accounting measures of risk (operating margin, coefficient of variation of operating margin and coefficient of variation of return on equity.) Forward-looking ex ante risk premiums were also presented, as were specific-company risk methods, including the Butler-Pinkerton Model.

Three of the four panelists were using Duff & Phelps data, whereas the other panel member was about to start using it. The webinar included polling questions, one of which showed that a large percentage of participants were not using Duff & Phelps data. All of the panelists were also continuing to use Morningstar data, although one panel member indicated putting less reliance on it. All the panelists agreed that Morningstar industry risk premiums, if used, should be done with caution and consideration of certain factors.

None of the panelists was currently using the Butler Pinkerton model, but one of them said he was looking into it as a tool for use in the market approach. The other panel members were interested in the model but agreed it wasn't the Holy Grail and that judgment was still a part of calculating specific company risk.

The VPS/FCG webinar had over 500 participants. The following are some highlights, sorted by major topic. Please note that most of the following information is taken from the Webinar transcript. As such, it has a conversational tone.

Supply Side Equity Risk Premium

When the supply side equity risk premium first became more widely known just a few years ago, the differential between the Morningstar/Ibbotson traditional equity risk premium (ERP) and the supply side equity risk premium (SSERP) was about 1.25 percent. However, it is interesting that the differential between the two has decreased over the last few years. In 2000, it was 1.8 percent. In 2002, it was 1.7 percent. In 2004, it was 1.3 percent. Perhaps that is where the 1.25 percent came from. But in 2006 and 2007, it was down to 0.8 percent.[2]

For analysts who value smaller companies with equity returns in the high teens or low 20s, a 0.8 percent difference is awfully close. However, this difference becomes more important when you are valuing large companies where you do not add a size

premium. For example, a difference between a 10 percent rate and 9.2 percent rate can be important.

Mixing the SSERP With the Size Premium

Morningstar's size premiums (let's take the 10th decile) are "in excess" of CAPM. They take the actual return of that decile over a period (let's assume from 1926), and then they subtract the expected return calculated using the capital asset pricing model (CAPM), not the modified capital asset pricing model (MCAPM). However, here is the disconnect: adding the supply side equity risk premium, which today is about 0.8 percent less than the traditional equity risk premium, with the size premium data from Morningstar. Morningstar's size premium data is not calculated using the supply side equity risk premium. It is calculated using the traditional equity risk premium, so you have a little bit of "apples and oranges."

It would be nice if Morningstar could start publishing supply side size premiums, but currently, they don't. If the expected return using supply side is less, which it would be when using a smaller equity risk premium, mathematics would dictate that the size premium itself would go up because the "in excess" of CAPM would be higher. As such, much of the decrease in the return due to using the SSERP would be offset by a higher size premium. So for those using supply side, be careful and recognize that you are not using supply side size premiums from Ibbotson.

Size Premiums and the Number of Historical Data Points

What are the age constraints in the historical data used to calculate size premiums? Let's take the 10th decile again. Sure, there are 1,744 companies in 2006, but look how many there are between 1926 and 1960. In 1960, almost half the period, there are just over 100 companies. There are only 52 companies in the beginning period of 1926.# Also, consider those 52 companies in 1926[3]— what did they do, given the state of the industry and technology back then?

Morningstar/Ibbotson Size Premiums – categories 10, 10a or 10b

For smaller companies, the panelists indicated that they use decile 10 only, or 10 and 10a. None indicated that he or she uses 10b. However, when valuing a company much smaller than the average in the 10th decile, many analysts will make another adjustment for size when calculating the specific company risk. Some practitioners use the micro-cap, which is a fancy term for deciles 9 and 10. They like the fact that it has more companies, which may somewhat mitigate the effect of some of the troubled companies on the bottom of 10b.

Duff & Phelps Risk Premium Data

One area in which Duff & Phelps has an advantage over Morningstar is the additional analysis available with the Duff & Phelps report. Morningstar basically gives you the market value of equity on several different tables and presents data over different time frames. Duff & Phelps gives you eight different measures of size, allowing appraisers to focus on financial variables that are more closely associated with small size rather than just market capitalization. In the Morningstar 10th decile, company size is more uncertain because you are only analyzing market value. There could be fallen angels, or there

could be a highly leveraged company. You may think you are using all small companies in the 10th decile, but in reality you may not be using only small companies.

Duff & Phelps allows you to segregate different characteristics such as size, which is a useful analytical tool for people valuing smaller size companies. Duff & Phelps provides regression equations for all eight measures of size. It also tells you what the beta is for the companies in each of the 25 portfolios. When valuing a company with no debt, you can go directly to the Duff & Phelps table and pull off the equity risk premium for unleveraged companies. High financial risk companies are screened from the main database. However, when valuing a financially distressed company, that data is available. One of the things that most people don't know is that you can also calculate an alternative equity risk premium using what Duff & Phelps calls "Fundamental Measures of Accounting Risks," meaning the operating margin, co-variance of the operating margin, and the co-variance of return on equity.

Mixing Morningstar Industry Risk Premiums with D&P Data

Some analysts use Morningstar industry risk premiums with Duff & Phelps data. This is combining two databases that calculate risk premium data differently. Some analysts ignore this and just use the Morningstar IRP "as-is," believing it is an independent calculation of industry risk. Other analysts recalculate the Morningstar industry risk premium for application to Duff & Phelps by using the formula in the Morningstar book:

$$IRP = [RIi(ERP)] - ERP^4$$

You know the IRP and you know the ERP (note: Morningstar uses the traditional ERP in its calculation of the IRPs). You then solve for the RIi, which is really a beta calculation. You then remove the equity risk premium from Ibbotson and insert the equity risk premium from Duff & Phelps. So there is a conversion factor for taking an Ibbotson industry risk premium and applying it to Duff & Phelps data.

IRPs: CAPM in a Build-Up Wrapper With a Beta Chaser

Using the Morningstar industry risk premiums in the build-up model makes the build-up model more like the CAPM model because the industry risk premiums are based on the betas of the public companies that are part of the SIC code.

When using IRPs, one consideration before applying them is the number of companies included in the selected SIC code. Some SIC codes have five companies, which is the minimum that Morningstar allows for a SIC code to be included in its report. Some have hundreds. Obviously, more companies and more data usually results in a better industry risk premium estimation.

When valuing a small company, analysts may think, "there are no guideline companies out there that I can use," or "for whatever reason, I can't find any," or "they are all too big." This may discourage them from using the CAPM approach, yet they use an Ibbotson industry risk premium, which is actually based on the same publicly traded companies that they have already determined are not comparable to their subject business.

Specific Company Risk and the Butler-Pinkerton Model

The basic premise of the Butler-Pinkerton Model (BPM) is not very controversial. It says that beta, which captures the systematic or market risk, doesn't capture all the risk

associated with a public company, nor does it capture all the risk associated with a private company.

So how do people who value small, closely held businesses use the Butler-Pinkerton Model to get useful information from private company valuations? When using the same modified CAPM formula, only use a concept of total beta, which captures both company-specific or idiosyncratic and market risk. Put that in place of the typical data. Put a total beta in the same formula as a plain beta. By doing this, then, you can capture all of that associated risk and narrow your judgment gap, because that's what all of these models are trying to help us do— narrow our judgment gap.

There is a simple, straightforward formula to calculate total beta from beta. Even better, BPM has what it calls "the calculator." For a fee, you can go in and add in your public guideline companies, and BPM will calculate the total beta for you and actually calculate your rate of return and the specific company risk premium.

How does this work in practice? First, you have to find decent comparable companies. Think of it as a market approach, sort of "wrapped up" as an income approach. You need to calculate the total return for each company, again using either the formula or going to the calculator. You compute the traditional CAPM or build-up return and subtract this from the total return. The calculator does all of this for you, producing an estimate of the company-specific risk for each public guideline company identified. From here you can identify the company-specific risk factors present in that industry or in those companies and explain why guideline company A has a different company-specific risk from guideline company B. This puts in context the company-specific risk for your subject company.

BPM – Income vs. Market Approach

This is not the Holy Grail, but it can be used as a starting point. However, there is still judgment involved in getting the information from the calculator to your private company. One practical limitation to the Butler-Pinkerton Model is that, again, you have to find public guideline companies. If you found public guideline companies, you'd probably use a market approach. So if you have used a market approach and an income approach, just from a pure packaging standpoint, do you want get your cost of equity—one of the major two components in the income approach—from the same source you used for your market approach? If you did, you'd be opening both of your approaches to an attack, as opposed to just one of them. This may not be the best strategic way to use this.

Summary of BPM

The basic premise underlying the BPM model is not controversial. When public guideline companies exist, the model provides a good framework from which to analyze and place in context the specific-company risk premium. Access to the model (i.e., the calculator) is priced such that it is affordable to use as appropriate. Limitations exist (such as the need for decent publicly traded guideline companies), which limit its usefulness in many small engagements.

For more information about the VPS/FCG "no bias, no agenda and no nonsense" STRAIGHTtalk series of webinars, visit www.valuationproducts.com.

1 The largest organization of business valuation and litigation services firms in North America, with online resources, educational conferences, and networking opportunities.
2 Source: Morningstar Stocks, Bonds and Bills and Inflation Valuation Edition 2007 Yearbook, p. 98.
www.global.morningstar.com/DataPublications
3 Morningstar, p. 140.
4 Morningstar, p. 40.

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