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Total Cost of Equity or Company-Specific Risk—A Better Use for the BPM?

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The question "which is better" reminds us of the famous trade-off: "Tastes great or less filling?"

The Butler Pinkerton Model™ Total Cost of Equity and Public Company Specific Risk Calculator™ (the BPM Calculator) highlights two outputs: the total cost of equity (TCOE) and the company-specific risk premium (CSRP) for publicly traded guideline companies. In this case, "total" means a discount rate that captures company-specific risk (CSR) for guideline companies.

When determining the total cost of equity for your subject private company, should you focus directly on TCOE or on CSR? Does it even matter? (Like the "lite" beer in the advertisement—did you buy it because it tasted great, or because it was less filling, or both?) In a perfect world, no matter which output you focus on, you should arrive at the same answer for the TCOE for your private company. However, the world is not perfect, and we prefer one method over the other. Other appraisers can and do disagree. Either way, both methods can act as a reasonableness check on the other.

Let's take a look at both approaches conceptually within the micro-brewery industry. (Note: We have previously published articles on this technique using this industry—and it fits with the beer slogan above. To obtain copies of these articles, visit the Free Downloads link at BVResources.com.)

BPM outputs

We ran the BPM Calculator for the following companies, with their respective tickers from the New York Stock Exchange:

1) Boston Beer (SAM)
2) Pyramid Breweries (PMID)
3) Redhook Ale Brewery (HOOK)
4) Anheuser-Busch (BUD)
5) Molson Coors (TAP)

Below, please find a summary of the BPM Calculator output:

Ticker	Levered Beta	Total Beta	TCOE	CSRP
SAM	1.03	2.57	17.87%	4.95%
PMID	0.21	3.00	20.01%	7.58%
HOOK	0.09	3.63	23.15%	11.35%
BUD	0.51	1.09	10.43%	3.26%
TAP	0.78	1.92	14.58%	5.01%

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To arrive at these outputs, we used the following inputs:

Risk-free rate = 5%
Equity risk premium (ERP) = 5%
Effective date = 12/10/07
Look-back period = Five years
Market proxy = S&P 500
Pricing = Adjusted for splits, not adjusted for dividends (We have previously shown that any dividend impact on these calculations is immaterial for most companies.)

Disclosure of these inputs allows anyone to replicate our calculations, satisfying the *Daubert* criterion on testing. (As an aside, typical "factor" models that list and attempt to "quantify" company-specific risk do not satisfy this criterion. For more on how the BPM Calculator meets all four *Daubert* criteria for reliability, see our article in the Nov. 2007 *BVU*, also available as part of the BVR free download.)

Approach number one: focus on TCOE

By looking at one number—the TCOE—you can compare and contrast the guideline companies with your subject company to arrive at an appropriate TCOE for your private company. This is a market approach "twist" for the income approach; the method is similar to selecting an appropriate multiple for your private company using multiples from guideline public companies.

Is it that easy to come up with TCOE for your private company? It might take more work and analysis than mere intuition suggests. This article is conceptual in nature, so we will not try to support or defend any particular assumption or conclusion. Rather, we will discuss the process that each approach entails.

Let's assume that after careful consideration and given the range of TCOEs cited above, you determine that your subject company has a TCOE equal to 22%. Thus, you believe that your private brewer's total risk fits between HOOK's (23.15%) and PMID's (20.01%). Great—that seems reasonable. But how did you arrive at that conclusion?

TCOE incorporates all risks, including those particular to the industry and the company as well as those that apply to the general economic outlook. The TCOE may posit only one number,

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but there are many inputs behind that number, reflecting the various risks. In arriving at 22.0%, did you look at every relevant systematic risk that impacts the microbrewery industry? You should have. Let's list some of these.

- General economic conditions (issues relating to supply/demand)
- Slower growth due to declining alcohol consumption (demand)
- Increased competition from wine and spirit companies (demand)
- Impact of growth of "lite" beers versus traditional beers (demand)
- Craft beers versus "blue collar" beers (demand)
- Quantity and quality of all hop varieties/ barley varieties (supply)
- Glass and aluminum pricing (supply)
- Alcoholic beverage regulation and taxation
- Environmental regulation
- Potential for increased energy costs (higher transportation, freight, and operating costs)
- Dram shop laws
- Impact from foreign competition
- Leverage effects (in traditional valuation approaches, market betas are un-levered and then re-levered)
- Others—probably too many to list

Let's say you went through this painstaking process. How did you quantify each of these factors for your subject company with the following troubling observation?

- The levered betas for both HOOK and PMID are less than BUD's.

Does this make any sense? Not to us, even after considering BUD's entertainment (theme park division), which contributes about 5% of revenue and 5% of net income to the firm.

The levered betas (as well as their respective un-levered betas) tell us that HOOK and PMID are not as sensitive to these market forces as BUD. This seems counter-intuitive. Is our subject company also less sensitive than BUD to these forces? We do not think so, but some empirical data refute our intuition.

While theoretically possible to arrive at a conclusion this way, can you support your opinion in light of this problematic observation? We believe a better solution is to eliminate this "problem" by simply noting the vagaries and possible problems with market betas. Let's explore our preferred method.

Approach number two: focus on CSRP

Either approach requires looking at company-specific risk factors, so we need not list these; in other words, the CSR analysis is a wash between the two approaches.

Both approaches also require considering size in arriving at a subject company's TCOE. In approach number one, size is *implicitly* incorporated to reach the guidelines' TCOEs. In approach number two, we *explicitly* account for size to calculate the guidelines' CSRPs, and also to quantify CSRP and TCOE for our private company. We prefer approach number two, because it allows us to allocate the various components of risk.

To quantify systematic risk and handle the "interesting" beta observation in this and other cases, we prefer to examine some measure of central tendency for market beta. (We recognize that other industries might not exhibit this "interesting" result and then direct observation of TCOE may have better merit.) Using the CSRP approach, you are not forced to defend that PMID and HOOK's betas are less than BUD's; nor do you have to account for each and every specific market risk.

Given the vagaries of market betas, why not use some measure of central tendency of the

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guidelines' un-levered betas to represent the industry, and then re-lever it for your private company? You can then meet any criticism related to the problematic observation by stating something to the effect of, "I considered the difficulties in estimating market beta by using a measure of central tendency. For example, I implicitly considered every systematic force when I selected beta equal to 0.7."

By contrast, if you focus on TCOE and select 22%, then you really have no idea how much of this figure is attributable to systematic versus company-specific risk versus the size premium. In recognizing this problem, the second approach uses a measure of central tendency for beta and specifically accounts for size. Moreover, this approach eliminates the painstaking process of listing each of the many systematic risks and attempting to "quantify" their impact.

Accordingly, let's hypothetically build up our TCOE for our private company under this approach.

Risk-free rate = 5.0%

Beta x ERP = 0.7 x 5% (Where the guidelines' market betas were un-levered, we calculated their median, and then we re-levered them using our subject company's capital structure.)

Size premium = 6.27% (For simplicity, we used Morningstar/Ibbotson data for decile 10. You could also use Duff & Phelps data to analyze more carefully this risk component.)

CSRP = 8% (Note: we have always "quantified" this risk before. Now that we can actually do it for public companies should make the quantification for private companies that much easier.)

TCOE = 22.77%

The TCOE is a little higher than the 22% reached in the first example, but it still falls between HOOK and PMID and, therefore, it is a good reasonableness check. If the two approaches lead to materially different conclusions, then you need to re-think the assumptions under each approach. Importantly, for litigation purposes, you will need to prepare rational support for all components of the discount rate.

Conclusions

In summary, both approaches are theoretically correct. Given our analysis, however, we recommend using the BPM Calculator under approach number two, and then comparing this result to the guidelines' TCOE after specifically quantifying all components of the TCOE. If you bypass this method and go straight to the TCOE approach, you will not have any reasonableness check.

Obviously you can use the BPM Calculator under approach number one. However, you should be aware of all the risks that this approach does not separately identify and specifically quantify, which may lead to the problematic observations and issues that we discussed. An approach that focuses on TCOE directly is still better than one that uses no market data at all to calculate a total rate. Just keep in mind that the TCOE approach is a more complex method and may be more difficult to support.

A note on guideline comparables. After reviewing the entire analysis, you may wonder why we included BUD and TAP. In most cases, the more information you have—the better. Although these public companies might not be sufficiently comparable to use in the market approach to valuing our subject private brewery, they are appropriate to use in the income approach to valuation. Moreover, these "comparables" provide guidance for the subject company's market beta and CSRP.

For example, hypothetically, your private company brewery might have a CSRP less than SAM's. How much lower? Given our analysis of each guideline company, we would not be likely to go lower than BUD's CSRP of 3.26%. Other appraisers might want to remain consistent between the market approach and the income ap-

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proach. That is acceptable, too, as even reasonable people can disagree.

A final note on the name. In developing and naming the BPM—first with an emphasis on the company-specific risk component, we realized that some appraisers thought we were claiming to calculate CSR directly for private companies. (Boy, would that be nice!) The model merely provides a way to quantify guideline CSR—not private CSR. In addition, other reviewers of the model (most notably Gary Trugman) observed that the TCOE is more important by itself than the CSR.

In light of this good feedback, the name became the Total Cost of Equity and Public Company Specific Risk Calculator. It is a mouthful, but it seems more accurately to define the model's functionality. As of now, it is the only technique that uses market-derived, empirical evidence to help determine a private company CSRP. The same data that we use to quantify betas, industry risk premiums, equity risk premiums, and size premiums we can now use to calculate guideline CSRPs. Just be sure you understand how you arrived at TCOE, using the approaches we've described.