

# Company-Specific Risk: The Dow 30 v. Private Company USA

by Peter J. Butler CFA, ASA; and Keith A. Pinkerton, CFA, ASA

Our technique to calculate company-specific risk premiums (CSRPs) for publicly-traded stocks has been published for about a year. Yes, you read that correctly: Valuation analysts can now calculate CSRPs for guideline publicly-traded stocks to better defend and support determinations of CSRPs for privately held companies. For more information on the theory and practical applications behind this technique, please see our following articles:

- “Company-Specific Risk—A Different Paradigm: A New Benchmark,” *Business Valuation Review* (Spring 2006, pp. 22-28).

The purpose of this article was to introduce background information such as the Total Beta concept developed by Professor Aswath Damodaran<sup>1</sup> and this new technique which, for the first time in the valuation community, quantifies CSRPs. The formula below shows how to do this.

- “Quantifying Company-Specific Risk: A New, Empirical Framework with Practical Applications,” *Business Valuation Update* (February 2007, pp. 1-8).

The article refined our earlier work and provided a detailed example of how to select a CSRPs for a privately-held company, using benchmark CSRPs derived from guideline publicly traded companies.

- “Quantifying Company-Specific Risk: The Authors Answer Your Questions,” *Business Valuation Update* (May 2007, pp. 9-14; and June 2007, pg. 21).

These articles answered insightful questions that we received during our March 8, 2007, teleconference sponsored by Business Valuation Resources.

To greatly simplify these articles, here is our formula for calculating CSRPs for a guideline publicly traded stock:<sup>2</sup>

$$\text{CSRPs} = (\text{Total Beta} - \text{Beta}) * \text{equity risk premium} - \text{size premium}$$

where Total Beta is defined as the standard deviation of the stock divided by the standard deviation of a market index.<sup>3</sup>

<sup>1</sup>See *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset*, 2nd Edition, by Professor Aswath Damodaran (Wiley, NJ, 2002), which contains references to the Total Beta technique in Chapter 24, Valuing Private Firms.

<sup>2</sup>Originally published in “Company-Specific Risk—A Different Paradigm: A New Benchmark,” by Peter Butler, CFA, ASA and Keith Pinkerton, CFA, ASA.

<sup>3</sup>Damodaran, Chapter 24.

A key conclusion of these prior articles is that all publicly traded stocks have CSR, and therefore using 0 percent as a benchmark is incorrect.

**Objective**

The focus of this article is to introduce additional empirical evidence to show that starting at a 0 percent CSR for Private Company USA, and then either adding or subtracting points, is an incorrect process to properly “quantify” CSR.

**Background**

Assume Public Company USA discloses that it just lost a substantial contract that it had enjoyed for the last five years and had expected to continue for the next five years. The announcement is a surprise to the investing public. Guess what happens to the value of the stock? It declines—the expected reaction to this company-specific shock.

Obviously, public companies exhibit company-specific risk (CSR). Why wouldn’t they? Yet, prior to the introduction of this technique, appraisers often started quantifying this risk at 0 percent—an incorrect starting point because it is too low.

Our technique isolates the publicly traded stock—meaning we effectively remove it from the well diversified stock market and look at it as if it were the only stock in a portfolio. That allows us an apples-to-apples comparison, since we value Private Company USA in isolation most of the time, i.e., not as one stock of many in a diversified portfolio. After all, a private company stock is riskier to the owner (for whom the stock is relatively isolated) than to an outside investor who owns the security as part of a diversified portfolio.

Now we have an apples-to-apples comparison and, for the first time in the valuation community, market-derived evidence to quantify CSR.<sup>4</sup>

**Empirical Data**

Previously, we determined CSR calculations for General Electric and Exxon Mobil.<sup>5</sup> This article expands upon these two companies to include the other 28 companies in the Dow Jones Industrial Average Index. Our premise is if these companies have CSR (and again, why wouldn’t they?), then all private companies have positive CSRs. Therefore, appraisers should not start at 0 percent to quantify this risk. Rather, they should use this technique to calculate publicly traded benchmark CSRs to compare and contrast with their Private Company USA to properly

<sup>4</sup>Some appraisers disagree with our premise that public and private company comparisons are legitimate. Our perspective is that business owners have a choice with their money—they can invest in publicly traded securities or they can own a business, among other options. The Principle of Substitution requires appraisers to look to public stock market data to value privately held companies.

**Table 1: Historical CSR for the Dow 30 Stocks**

American Express	2.20
Citigroup	2.64
JP Morgan	2.76
Dupont	3.01
General Electric	3.14
IBM	3.30
United Technologies	3.34
3M	3.54
Microsoft	3.64
Procter & Gamble	3.78
Exxon Mobil	3.80
AIG	3.85
Wal-Mart	3.96
Honeywell	4.12
Caterpillar	4.31
MEDIAN	4.34
Coca Cola	4.37
Disney	4.38
Johnson & Johnson	4.44
MEAN	4.48
McDonalds	4.79
Alcoa	4.83
Intel	5.11
Pfizer	5.11
Verizon	5.12
Home Depot	5.24
Boeing	5.26
Hewlett Packard	5.36
AT&T	5.43
Merck	7.58
Altria	7.83
General Motors	8.20

quantify and defend their determinations of CSRs.

Table 1 shows the results of our calculations of the historical CSRs for the Dow 30. Our calculations used the formula shown on page 12, with the following data:

- Risk-free rate of 5.05 percent

Moreover, the guidance in revenue Ruling 59-60 essentially requires it for estate and gift tax valuation.

<sup>5</sup>“Quantifying Company-Specific Risk: A New, Empirical Framework with Practical Applications,” by Peter Butler, CFA, ASA, and Keith Pinkerton, CFA, ASA, cited in the text.

- Equity risk premium equal to 5.00 percent
- Size premium for all 30 stocks equal to -0.36 percent
- The S&P 500 serving as the market proxy
- A historical measurement period from 8/5/02 to 7/30/07, or five years of weekly returns<sup>6</sup>

Not a single stock in the Dow 30 has a 0 percent CSRP (see Table 1). A negative CSRP is out of the question. (We acknowledge that some valuation analysts think a negative CSRP may be appropriate. After reading this article, we hope they will reconsider.)

Moreover, there is recent research to indicate that even CSR for publicly traded stocks cannot be completely diversified away.<sup>7</sup> Again, this begs the question, why do appraisers start their benchmark analysis at 0%? Answer: They shouldn't.

We did not spend time analyzing the reasons behind the range of CSRP conclusions (2.20 to 8.20 percent). Intuitively, before we conducted our analysis, we might have guessed that General Motors would have the highest CSRP, given its well publicized company-specific problems. We also might have guessed (although not as obvious) that American Express would have the lowest CSR, given its many lines of business and inherent diversification relative to other companies on the list.<sup>8</sup>

Keep in mind one of the many advantages to this technique is the ability for the valuation analyst to compare and contrast public stocks with one another as well as with their private company to better defend conclusions related to CSR. One can now obtain public filings and specifi-

cally search for disclosures related to CSR for each of the benchmarks. Previously, as a community, we had no empirical evidence or specific disclosures regarding CSR to analyze to quantify CSR. Now we do and that is very exciting.

### Independent Assessment

We have yet to hear any criticism of our first three articles on this topic (listed at the beginning of this article) that might suggest the technique is misguided, despite our calls for critical assessments of its practical value.

We have previously been asked if the Total Beta concept has been peer-reviewed. Please see our answer below, which appeared in our article, "Quantifying Company-Specific Risk: The Authors Answer Your Questions" in the May 2007 *Business Valuation Update*:

To the best of our knowledge, we have not seen any criticisms of Professor Damodaran's work. (We believe the Total Beta concept appeared as early as 1999.) Professor Ashok Abbott, West Virginia University finance professor, has also indicated that our Total Beta calculations are "very clean" and conceptually sound, and responded to the peer-review question by email:

"Use of standard deviation as a measure of the risk of an asset in a stand-alone situation is quite appropriate. Market-based beta is an appropriate measure of risk for an asset held in a diversified portfolio. This is widely accepted and you can cite a number of finance textbooks on this.

Hopefully your presentation helped individuals to move from subjective measures towards considering objective measures."

Having noted all of the above, subjectivity remains. Depending on a valuation analyst's inputs, he or she will arrive at different conclusions of benchmark CSRPs—really no different from any other business valuation technique. However, we think you will agree that this technique eliminates much of the subjectivity relative to purely subjective factor models. **VE**



*Peter J. Butler, CFA, ASA, is a manager of financial and valuation services at Hooper Cornell, PLLC, a full-service CPA firm in Boise, ID. He is responsible for valuation of privately held companies for mergers and acquisitions, estate and gift tax, financial reporting, and litigation support.*



*Keith A. Pinkerton, CFA, ASA, is a manager of financial and valuation services at Hooper Cornell, PLLC, in Boise, ID. He specializes in the appraisal of closely held businesses and business interests, and has performed valuations of professional practices, manufacturing conglomerates, construction, automotive, wholesale, retail, and investment companies, as well as debt securities, pass-through entities, and intangible assets.*

<sup>6</sup>Valuation analysts can select the appropriate period, whether they want to look back five years or one year, for example. Moreover, the Total Beta technique allows one to actually calculate a forward-looking total cost of equity for a security using implied volatilities from publicly traded stock options. Previously, valuation analysts did not have any reference points to quantify this risk; now they do.

<sup>7</sup>"How Diversifiable is Firm-specific Risk?" by James A. Bennett, CFA, and Richard W. Sias, Working Paper. Bennett is professor of finance at the University of Southern Maine, and Sias is professor of finance at Washington State University.

<sup>8</sup>American Express Company offers financial products, services, and information to consumers and businesses. It also operates as a travel company and publisher.