VALUATION

Private Cost of Capital Model

By Rob Slee, CBA, and John K. Paglia, PhD, CPA/ABV, CFA, ASA

Business valuation is an attempt to estimate the balance between risk and return in an entity. Risk is the capital market's assessment of the likelihood that a subject will actually achieve its expected returns. Business appraisal quantifies this risk assessment as a company's cost of capital.Cost of capital is the expected rate of return that the *relevant market* requires in order to attract funds to a particular investment. Specifically, Pratt states "…the discount rate is a market-driven rate. It represents the expected yield rate—or rate of return—necessary to induce investors to commit available funds to the subject investment, given its level of risk."[1] Several items are important to note:

- The relevant market refers to the universe of investors who are reasonable candidates to provide funds to a particular investment.
- The principle of substitution applies here. The relevant market of investors is the market that determines cost of capital because they do have alternative investment opportunities.
- Discount rates emanate from the return expectations of the capital providers.

Currently, business appraisers and others employ public securities data as a surrogate for private return expectations. This is inappropriate, as the public and private markets are not substitutes; they are driven by different, unrelated factors. The difference in behavior between the markets has now been recognized and somewhat accepted, such that indiscriminate use of the public guideline method is now under attack. One important step toward relevancy in private business appraisal is the development and use of empirical expected returns of private capital providers. Fortunately such empirical data now exists. The foregoing promotes the use of a discount rate that is derived from private market expected returns.

In this article we first demonstrate the following:

- Public and private capital markets are *not* substitutes.
- Cost of capital models that rely on public market data, such as the build-up method and capital asset pricing model (CAPM), are flawed due to their dependence on the fungibility of capital argument.

Second, we discuss the following subjects:

- The structure of the private capital markets
- The results of two recent private capital markets surveys
- A new discount rate model, called the Private Cost of Capital model
- The impact on business appraisal by using a private discount rate model

PUBLIC & PRIVATE CAPITAL MARKETS

Business appraisers spend a considerable amount of time and energy using public securities information to derive private business values. This is understandable, since *Revenue Ruling* 59–60 gives justification to considering the "market prices of…stocks actively traded…either on an exchange or over the counter" as one of eight factors when valuing privately held businesses. Comparing public and private securities has created the need for elaborate economic bridges that enable appraisers to value private business interests vis-à-vis public data with ever more frequency. There is a problem with this methodology, however: it assumes that public and private capital markets are substitutes. In a 2005 article titled "Public and Private Markets are Not Substitutes," Slee argued to the contrary and identified a number of factors that differentiate the public and private markets, including:[2]

1. Risk and return are unique to each market.
2. Liquidity within each market is different.
3. Motives of private owners are different from those of professional managers.

1 *Valuing a Business*, 5th Edition, by Shannon P. Pratt, McGraw-Hill, 2008, Page 182.

2 Robert T. Slee, *Business Appraisal Practice*, Spring 2005.

4. Underlying capital market theories that explain the behavior of players in each market are different.
5. Private companies are priced at a point in time, while public companies are continuously priced.
6. Public markets allow ready access to capital, while private capital is difficult to arrange.
7. Public shareholders can diversify their holdings, whereas private shareholders cannot diversify.
8. Private markets are inefficient, whereas public markets are fairly efficient.
9. Market mechanisms have differing effects on each market.
10. Capital market lines (costs of capital) are substantially different for each market.
11. The expected holding period for investors is different.
12. The transaction cost of either buying or selling the interest is different.

In that 2005 article, the differences between public and private markets are examined at several levels. First, the principle of substitution is used to determine if the markets are indeed substitutes. Next, the appropriateness of employing one capital market theory to explain the behavior of all parties within the various markets is discussed. Third, the structure of the public and private capital markets is analyzed. Finally, investor return expectations for each market are described. It is the premise of that paper that capital markets are differentiated by nearly every meaningful measure, and that solutions to problems within each market are found within that market.

TEARING DOWN THE BUILD-UP MODELS

Most business appraisers currently view capital markets in the United States as monolithic. They base this view on the argument that capital is fungible, by which they mean it can be interchangeably invested in one market segment or another in open substitution. Unfortunately, this approach ignores market segmentation, investor return expectations, differences in access and cost of capital, and differences in how each market works, as well as distinctly different behavior of players in each market segment who are guided by different market theories. This approach to valuation is misguided and introduces procedural and substantive errors that threaten to render appraisals irrelevant.

Appraisers use financial models based on this fungibility theory. These include models such as the build-up or CAPM to estimate cost of capital—the expected rate of return that the market requires in order to attract funds to a particular investment—for subject companies. But these models are not designed to directly yield cost of capital for private companies; rather, they generate rates by reference to returns in another market, the public market. This is like drawing conclusions about a neighborhood pond by studying an ocean, then making "necessary" adjustments to describe the pond. Why not study the pond directly—or in the case of appraisal, why not use return expectations from the subject's market segment to derive cost of capital?

Appraisers rely on the "fungibility of capital" argument to support the belief that investors can choose to substitute investments in public or private markets with equal ease. Thus, an investor in middle market private equity could always achieve the risk-free rate by buying government securities. They use a build-up model, adding return to the risk-free rate to compensate for the additional risk of private market investing. There are several weaknesses with this argument, however.[3]

The fungibility argument does not stipulate the necessity of adopting the risk-free rate as a standard. Why that standard rather than a variety of others? That money is fungible does not necessarily lead to the adoption of the risk-free rate as an objective standard, or even an adequate standard. The presence of elaborate retrograde calculations to make it "fit" the market indicates that it is not sufficient.

Once again, the logic of substitution governs this situation. Specifically, the relevant market of investors determines the cost of capital by defining and quantifying opportunity costs within a market. For example, private equity firms are frequently restricted by their charters and cost of funds from investments outside specific markets. They can never achieve the risk-free rate without abandoning the private equity market and investing in another market with fundamentally different risk and return expectations, information and liquidity functions, and value-creating models. Because there is no clear and necessary substitution, cost of capital is properly based on market costs, not book value, or firm value, or a standard appropriated from another market.

Players within a market do not approach the problem of calculating real-world investment decisions this way. Imagine private equity or mezzanine investors trying to decide whether they should invest in the private market or in a risk-free government instrument. They can't do this because their capital is raised at lower cost and their mission is to reinvest it in a market with greater return expectations. That mar-

3 Robert T. Slee and Richard M. Trottier, "Capital Market Segmentation Matters," *Business Appraisal Practice*, Summer 2006.

ket necessarily has different risk and return characteristics.

The use of valuation models built on the fungibility argument uses functions and attributes of divergent markets, yielding fundamental contradictions. It conflates incompatible value worlds (standards of value) that operate with dissimilar rules and standards and are governed by diverse authorities, often with irreconcilable boundaries. Therefore, using the risk-free standard as a base is logically inadequate in that it purports to be an independent standard, but is in fact systemically bound to a different, mismatched theoretical market. Capital may be fungible, but it is not fully substitutable. A scale derived from direct observation of the market is more accurate, useful, and responsible than a theoretical construct attempting to mimic that market.

> *"A scale derived from direct observation of the market is more accurate, useful, and responsible than a theoretical construct attempting to mimic that market."*

STRUCTURE OF THE PRIVATE CAPITAL MARKETS

The five broad categories of capital available in the private capital markets are called capital types. The capital types are bank lending, asset based lending, mezzanine, private equity, and venture capital. These capital types correspond to *institutional* capital offerings in the marketplace.

We want to stress the importance of using expected rates of return. First, this return is the expected rate of return *to the provider*. In other words, capital providers require a certain "all-in" return to compensate them for taking the risk of extending the credit or making the investment. This expected return is close to the effective cost to the borrower or investee. The major difference between the expected return to the provider and effective cost to the borrower are various transaction costs. For example, the borrower may incur legal, brokerage, environmental, and other costs in effecting the transaction. These costs are considered when calculating an effective or all-in cost to the borrower or investee.

Second, cost of capital should be based upon expected rather than realized returns, even though there are often substantial differences between the two rates. Expected returns are used because capital providers offer credit and structure deals based on what they expect to receive from the investment. Note that this expected return includes a delta believed to compensate for less than expected returns from other similar investments.

This forward-looking assessment of all-in capital costs is essential when evaluating future benefit streams. Simply assessing future cash flows with historical costs of capital may provide significant errors.

PEPPERDINE SURVEYS

The Pepperdine private cost of capital (PCOC) survey project is the first comprehensive and simultaneous investigation of the behavior of the major private capital market segments. The surveys specifically examined the behavior of senior lenders, asset-based lenders, mezzanine funds, private equity groups, and venture capital firms. The Pepperdine PCOC survey investigated, for each private capital market segment, the important benchmarks that must be met in order to qualify for capital, how much capital is typically accessible, and what the required returns are for extending capital in the current economic environment. Two survey cycles have been completed thus far. The first survey report, based on 627 responses from private capital market participants, was published in August 2009.[4] The second report, which yielded 736 responses, was published in February 2010.[5] The web-based surveys are administered semi-annually, each having 25 to 50 questions.

In these surveys, we captured the return expectations from the various segments of the private capital markets along with the credit boxes, which guide their decisions regarding capital access. Each segment has its own rules regarding capital access and is important in creating a capital structure of our subject company. Specifically, the "rules" utilized by banks, asset-based lenders, mezzanine funds, private equity, and venture capital are identified below along with their return expectations.

BANKS

Senior lenders work for a variety of institutions including corporate banks, commercial banks, business banks, community banks, and others. The recent economic recession has created tighter lending standards. In fact, approximately 67.3 percent of all cash flow based loan applications were denied in late 2009, mainly for two reasons: qual-

4 Pepperdine Private Capital Markets Project Survey Report, August 2009, John K. Paglia, bschool.pepperdine.edu/privatecapital.

5 Pepperdine Private Capital Markets Project Survey Report, February 2010, John K. Paglia (same URL as above).

ity of cash flow and debt load concerns.

Senior lenders lend primarily on cash flow. The primary metric used is EBITDA. Borrowers report being motivated to obtain bank loan capital mostly for financing growth, refinancing, acquisitions, working capital, capital expenditures, and other corporate purposes.

When banks evaluate borrowers' loan applications, several items are important when determining whether to extend credit or not. Banks cite the following items as being most important: collateral type or coverage, liquidity position, debt to cash flow ratios, and fixed-charge coverage ratios. Management strength is also an important component to evaluate.

As of the most recent survey date, banks were charging a median all-in rate of approximately 6.8 percent with an interquartile range that spans from 6.3 to 7.0 percent. Regarding qualifying for credit, senior debt to cash flow ratios and fixed charge coverage ratios are very important. The median response for the maximum senior debt to EBITDA ratio is 3.5X while the median reported for minimum fixed charge coverage ratio is 1.1X. Banks report that high revenue growth rates aren't required for financing; however it generally should be positive. The median reported minimum growth rate required is less than 1 percent at 0.5 percent. Table 1 gives more details regarding banks' important benchmarks.

ASSET-BASED LENDING

The asset-based lending function occurs at designated asset based lender firms as well as community banks, commercial banks, and business banks. This type of lending generally fills a void when borrowers do not qualify for traditional bank lending. Asset-based lenders will extend credit that is secured by some particular type of asset, ranging from relatively liquid types such as marketable securities to more illiquid types such as low quality inventory. The amount asset backed lenders extend is subject to an advance rate, which considers the type of collateral. Median advance rates reported by survey respondents typically range from 25 percent in the case of low quality inventory, to 85 percent for accounts receivable. In Table 2 (page 27), two advance rates are reported for each asset classification. The first is a "typical" advance rate, which is that amount extended to a typical borrower. The second is the maximum advance rate, which is the maximum amount an asset based lender would extend to a borrower. Medians and the interquartile ranges are reported for each.

The motivations for obtaining this type of financing are similar to those reported by banks. Borrowers seek asset based lending credits for refinancing, financing growth, acquisitions, working capital, and other corporate purposes.

In some situations, asset-based lending can be price competitive with cash flow loans from senior lenders. Generally speaking, the larger the borrower, the lower the cost to borrow from an asset-based lender. Because asset-based lenders perform a more robust monitoring function, the fees they charge are generally greater.

Rates for this type of capital depend largely on the size of the loan, and range from 7 percent (all-in median) for a $10 million working capital loan to 17.5 percent for a $500,000 loan. Table 3 (page 27) shows reported medians and interquartile ranges for four different loan sizes.

MEZZANINE INVESTMENT

Mezzanine funds generally take a subordinated debt position in the capital structure. Depending on economic conditions, they may also attach warrants, which allow them to participate in the equity upside. That being the case, these funds derive their returns from two sources: coupon payments and warrants. Approximately 70 percent of funds report receiving both warrants and coupons on new deals. Collectively, mezzanine funds are expecting returns of approximately 18.5 percent on new investments.

These funds invest in service, manufacturing, distribution, retail, wholesale, oil and gas, healthcare, and other industries with stable and positive cash flows. Borrowers typically seek mezzanine capital to assist with refinancings, financing growth, management buy-outs, acquisitions, dividend recapitalizations, and other corporate purposes.

Because mezzanine funds are in a subordinated position in the capital structure and rely on cash flows to pay back the investment, they apply various financial ratio tests to determine whether a company qualifies for capital. In particular, they apply ratios for total

TABLE 1: BENCHMARKS

	1st Quartile	Median	3rd Quartile
Rates Charged on New Loans	6.30%	6.80%	7.00%
Important Factors			
Debt to Cash Flow Ratios			
Senior debt to EBITDA (Max)	3.0	3.5	4.5
Total debt to EBITDA (Max)	3.5	4.3	5.0
Fixed-Charge Coverage Ratios (Min)	1.0	1.1	1.2
Revenue Growth (Min)	0%	0.50%	5%

debt to EBITDA, senior debt to EBITDA, and fixed charge coverage. Additionally, they'll target companies with at least $5 million in revenues and positive growth.

In addition to the financial metrics evaluation, mezzanine funds consider a number of qualitative factors. Specifically, they report the following items as being important when evaluating an investment opportunity: historical operating performance, customer concentrations, future prospects, market leadership, sectors of economy, management strength, and volatility of cash flow.

When determining the maximum amount to lend, mezzanine investors evaluate EBITDA multiples. Generally, they will lend up to four times EBITDA with approximately 2.5X being funded by senior lenders. Once factoring in debt, they will compute the borrower's fixed charge coverage ratio to make sure it is at least 1.1X.

Table 4 shows medians and interquartile ranges for the relevant financial factors.

PRIVATE EQUITY INVESTMENT

Private equity funds make equity investments in a variety of companies, mostly concentrated in service, manufacturing, retail, wholesale, distribution, oil and gas, restaurant, real estate, and healthcare. Most funds make investments greater than $1 million in exchange for a control stake in the equity of the company. Private equity firms will often employ leverage to increase expected returns on investment. In this economic environment, a large percentage of private equity firms are investing in equity, which represents approximately 40 to 50 percent of the value of all invested capital.

As a return for bearing risk in these entities, private equity funds expect to

TABLE 2: ADVANCE RATES

		1st quartile (%)	Median (%)	3rd quartile (%)
Marketable securities	Typical	80.0	80.0	90.0
	Max	90.0	90.0	96.3
Accounts receivable	Typical	80.0	85.0	85.0
	Max	85.0	90.0	93.8
Inventory - low quality	Typical	20.0	25.0	30.0
	Max	25.0	35.0	40.0
Inventory - intermediate quality	Typical	30.0	40.0	47.5
	Max	33.8	45.0	50.0
Inventory - high quality	Typical	40.0	50.0	60.0
	Max	50.0	60.0	63.8
Equipment	Typical	50.0	50.0	75.0
	Max	57.5	70.0	81.3
Real estate	Typical	35.0	50.0	60.0
	Max	50.0	65.0	75.0

TABLE 3

	$0.5M	$2.0M	$5.0M	$10.0M
1st quartile	14.8%	13.3%	7.5%	5.0%
Median	17.5	14.5	10.5	7.0
3rd quartile	20.3	15.0	12.8	12.0

TABLE 4

	1st Quartile	Median	3rd Quartile
Expected Returns	17.9%	18.5%	20.0%
Credit Boxes			
Minimum Investment (millions)	$1–$5	$5–$10	$5–$10
Loan term	60 months	60 months	60 months
Financial Risk			
Total Debt to EBITDA	3.5x	4.0x	4.5x
Senior Debt to EBITDA	2.0x	2.5x	3.0x
Fixed Charge Coverage	1.1x	1.1x	1.2x
Business Risk			
Firm Size (revenues)	$5 million	$10 million	$20 million
Revenue Growth (Minimum)	0.0%	0.0%	5.0%

TABLE 5

	1st Quartile	Median	3rd Quartile
Expected Returns	25%	25%	30%
Capital Advanced			
Minimum Investment	$1–$2 million	$2–$5 million	$5–$10 million
Equity Purchased	50–75%	75–100%	75–100%
Equity / Invested Capital	30–40%	40–50%	50–70%
Credit Boxes			
Revenue Growth (Minimum)	5–10%	10–15%	15–20%
EBITDA Growth	5–10%	10–15%	15–20%
Targeted EBITDA Ranges	$1–$5 million	$1–$5 million	$10–$20 million

earn a median return of approximately 25 percent per year. The first quartile of returns is also at 25 percent, while the third quartile is 30 percent.

When evaluating investments, these funds identify relatively safe companies with solid growth prospects. The typical fund is looking for businesses that can grow both EBITDA and revenues by 10 to 15 percent annually, but cite 5 to 10 percent as the first quartile. Investors also report minimum targeted EBITDA amounts in the $1 million to $5 million range.

More details about considerations and return expectations are identified in Table 5.

Private equity firms also report significant investments in minority equity positions. The discount from pro rata equity value for taking a non-control position is 20 percent (median), while the first quartile is 10 percent and the third quartile is 25 percent. Private equity investors also report the presence of various investor protections in minority interest deals. The protections include items such as buy-sell agreements, employment agreements, and shareholder agreements.

Size of Discount from Pro Rata (%)	
1st quartile	10.0
Median	20.0
3rd quartile	25.0

VENTURE CAPITAL INVESTMENT

Venture capital firms generally invest in high-growth companies that offer unique innovations or are positioned in industry pockets with exceptional growth prospects. Venture capital firms generally invest in companies involved in industries such as nanotechnology, biotech, medical devices, pharmaceuticals, software, hardware, energy, clean technology, industrial, media & entertainment, Internet, consumer products, retailing, and financial services.

As reported, venture capitalists are looking for revenue growth rates of 40 to 50 percent (median) annually. However, some of their investments may be in companies that have not yet generated any sales. Venture capital funds will typically purchase between 20 and 30 percent of the equity of a subject company, yielding a minority interest level of control. Minimum investment amounts range from less than 1 million up to $5 million and, in some cases, much more.

In exchange for the risk, venture capital investors report expected returns on new investments of approximately 38.2 percent (median) with a first quartile rate of 25.6 percent and a third quartile return of 51.0 percent.

Table 6 (page 29) shows more details on venture capital, including medians, first quartiles, and third quartiles.

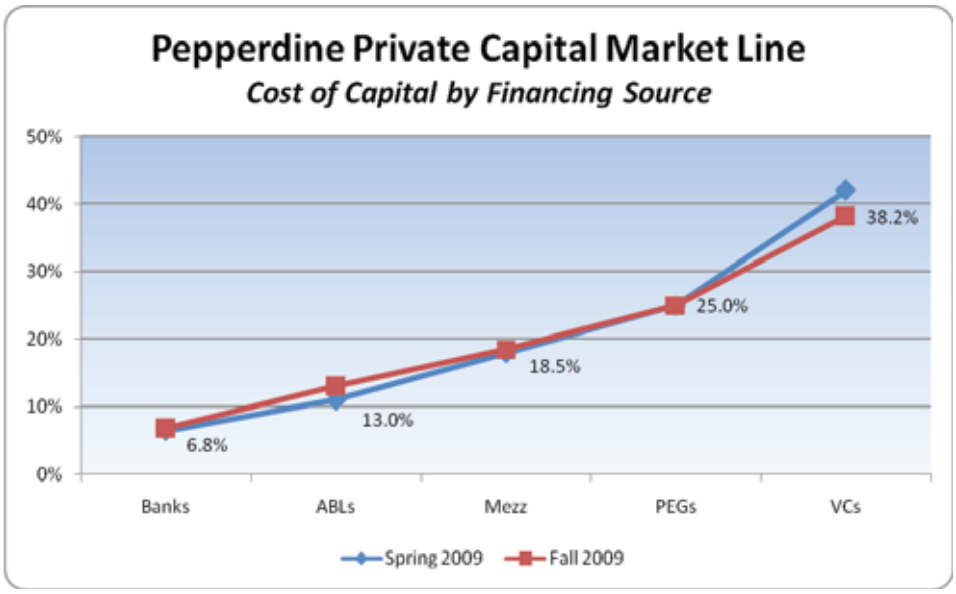
Because venture capital funds invest in minority equity interest positions, they frequently apply discounts for lack of control. The median discount reported in the surveys is 20 percent while the first quartile is 0 percent and the third quartile is 27.5 percent.

Discount from Pro Rata (%)	
1st quartile	0.00
Median	20.00
3rd quartile	27.50

Once all of the broad capital types are described and expected returns determined, we can graph the returns. We call this graph the Pepperdine Private Capital Market Line (PPCML), which appears on page 29. The return expectations of the investors who issue private securities are located on or near this line.

The PPCML is stated on a pre-tax basis, both from a provider and from a user perspective. In other words, capital providers offer deals to the marketplace on a pre-tax basis. For example, if a private equity investor requires a 25 percent return, this is stated as a pre-tax return. Also, the PPCML does not assume a tax rate to the investee, even though many of the capital types use interest rates that generate deductible interest expense for the borrower. Capital types are not tax-affected because many owners of private companies *manage* their company's tax bill through various aggressive techniques. It is virtually impossible to estimate a generalized appropriate tax rate for this market.

Now that we have knowledge of the return expectations and important qualification parameters for various capital types, we can use a private cost of capital (PCOC) model to develop private company discount rates.



PCOC MODEL

A relevant private discount rate model should enable the user to determine the expected rate of return that the market of private capital providers requires in order to attract funds to a particular subject or investment. The PCOC model yields such a discount rate by positioning the user into the decision-making process of private capital providers.

The PCOC model is as follows:

$$PCOC = \sum_{i=1}^{N} \left[(CAP_i + SCAP_i) \times \frac{MV_i}{\sum_{j=1}^{N} MV_j} \right]$$

Where:

- N is the number of sources of capital
- MV_i is the market value of all outstanding securities *i.*
- CAP_i equals the median expected return for capital type *i*
- $SCAP_i$ equals the specific CAP risk adjustment for capital type *i*

PCOC will depend on private cost of debt (PCOD), private cost of equity (PCOE), and private cost of preferred (PCOP) where applicable.

Five steps to determining PCOC:

1. To determine the appropriate CAPs by which to compare, review the credit boxes described in the most current Pepperdine survey.
2. Select the appropriate median CAP_e from the survey results.
3. Apply a specific CAP risk adjustment ($SCAP_i$) to the selected median CAP_i based on a comparison of subject results to the appropriate survey credit box. Use upper and lower quartile returns as a guide to this adjustment.
4. Determine the market value of each CAP. Then derive the percentage of capital structure for each CAP.
5. Add the individual percentages from Step #4 to derive PCOC.

As a simple illustration, suppose we are interested in calculating the private cost of capital for ABC Health Clubs as it pertains to a buyout. ABC Health Clubs has $25 million in revenues and $2 million in EBITDA. A company analysis reveals that the company has the following capital structure:

TABLE 6

	1st Quartile	Median	3rd Quartile
Expected Returns	25.6%	38.2%	51.0%
Capital Advanced			
Minimum Investment	<$1 million	$1–$2 million	$2–$5 million
Equity Purchased	10–20%	20–30%	20–30%
Credit Boxes			
Revenue Growth (Minimum)	30–40%	40–50%	50–60%

- Senior debt of $3 million at an all-in rate of 6.8 percent
- Mezzanine debt of $1 million at a rate of 18.5 percent
- Book value of equity of $1 million. A comparison of ABC Health Clubs to the survey data suggests that the owners should require a 30 percent return on their equity. This rate is 25 percent plus a 5 percent specific CAP adjustment.

Next we determine market values of the debt and equity for weighting purposes. For this example, assume market values for senior and mezzanine debt are face value, or $3 million and $1 million, respectively. We determine market value of equity in this example by calculating the enterprise value, then deducting debt.

Assume several private equity firms are willing to pay a '4' acquisition multiple for the company. Multiplying this multiple to a $2 million EBITDA yields an implied $8 million enterprise value. By deducting the $4 million in debt, we arrive at a $4 million equity figure for the company. Now we can weight debt and equity to enable determination of PCOC, as follows:

$$\text{Senior Debt} = \frac{3.0}{(3.0+1.0+4.0)} = 0.375$$

$$\text{Mezzanine Debt} = \frac{1.0}{(3.0+1.0+4.0)} = 0.125$$

$$\text{Equity} = \frac{3.0}{(3.0+1.0+4.0)} = 0.375$$

$$\text{PCOC} = \{(6.8\% \times .375) + (18.5\% \times .125) + [(25\% + 5\%) \times .5]\}$$

$$= .0255 + .046 + .15$$

$$= 22.2\%$$

The cost of capital for ABC using PCOC is 22.2 percent.

In the above example, we determined that PCOE is 30 percent, while PCOD is a blended rate between senior debt and mezzanine debt. PCOD is calculated as follows:

$$\text{PCOD} = \{6.8\% \times [.375/(.375+.125)] + [18.5\% \times .125/(.375+.125)]\}$$

$$= 9.725\%$$

Due to space constraints, this example over-simplifies a number of complicated issues regarding the implementation of PCOC. For instance, choosing an appropriate adjustment to a CAP requires a fair amount of analytical rigor. Because these issues require a much fuller treatment than is possible here, later this year we will provide a companion article that focuses solely on derivation and application of PCOC.

RAMIFICATIONS OF USING PCOC

The temptation to use readily available public information to value private companies is strong. Note that within the private capital markets, only academics and business appraisers use the guideline public company method. Other parties in the private capital markets—business owners, lenders, investors, estate planners, etc.—rely on valuation methods that are specifically useful to making decisions in their markets.

Why don't parties in the private capital markets employ public information in their decision-making process? Because these parties have real money in the markets; valuation is not notional to them. Making proper financing and investment decisions requires using theories and methods that are appropriate to the subject's market.

Using a discount rate that is derived from empirically derived private data alters professional, legalistic, compliance business appraisal in four ways. First, adjustments such as lack of marketability discounts and control premiums are not needed. These adjustments were originally created based on the faulty premise that public return expectations could be manipulated to derive private values. Once risk is defined using private return expectations, these public-to-private adjustments are unnecessary.

Second, PCOC provides a risk definition that can be applied across value worlds (standards of value). Each world also has an authority, which is the agent or agents that govern the world. The authority decides whether the intentions of the involved party are acceptable for use in that world, and prescribes the methods used in that world. More specifically, authority refers to agents or agencies with primary responsibility to develop, adopt, promulgate, and administer standards of practice within that world. Authority decides which purposes are acceptable in its world, sanctions its decisions, develops methodology, and provides a coherent set of rules for participants to follow. Authority derives its influence or legitimacy mainly from government action, compelling logic, and/or the utility of its standards. Authorities from the various value worlds will finally have an empirically derived method of defining risk. Hopefully these authorities will prescribe use of PCOC in their respective worlds.

Third, business owners will finally have the ability to determine their companies' cost of capital. This knowledge will help them learn whether they are creating eco-

nomic value, i.e., generating returns on invested capital greater than this cost. This should promote economic value creation as a practical and useful tool. Plus it opens an avenue for business valuators to consult with business owners to help them make better investment and financing decisions.

Finally, the PCOC model will make business appraisal more relevant. Currently, an industry of business appraisers inhabits mainly the notional value worlds. Business owners need more help in competing in a global economy. Tools like the PCOC model will help the appraisal industry become more value-added.

CONCLUSION

Private company business appraisal is performed using an assumption that public market cost of capital is relevant to the private capital markets. We argue that the private and public markets are not substitutes for each other, as each has its unique risk and return expectations, as well as structural differences. We propose a cost of capital model that use private capital market return data, which is relevant to privately held businesses. The model relies on current survey data to guide return expectations, risk assessment, and investment qualification assessment. The private cost of capital model replaces appraisers' reliance on public market data for the valuation of privately held companies.

Forthcoming will be an article that addresses the suggested application of the model, along with a number of examples that should provide helpful guidance. VE

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