

# The Basics of Company Valuation for Dispute Resolution Professionals

By David R. Hobbs and Chris Thorpe

## Introduction

Arbitrators and mediators are frequently asked to resolve disputes a fundamental part of which is the proper valuation of a company. Such disputes can arise from any number of factual situations ranging from the dissolution of a partnership to a dispute over a failed merger. When presented with such disputes, arbitrators are often asked to decide between two competing expert analyses, each prepared by one of the parties, and each presenting a valuation analysis based on what that party believes best supports its position in the dispute. Mediators often have even less to work with as disputes frequently go to mediation before the parties have exchanged expert analysis. It is therefore useful if dispute resolvers have a basic understanding of how experts go about valuing companies.

This article seeks to familiarize mediators and arbitrators with the basic fundamentals of valuing a company. It will introduce the common methodologies used by valuation experts and discuss common pitfalls and areas of caution. The information in this article should help dispute resolution professionals assess parties' competing valuation claims.

At the most basic level, value is the price at which a willing buyer and willing seller would agree to an arm's length transaction. However, the value of a company will change over time and depending on economic circumstances. Valuation of a company includes assessment of data regarding the company's business as well as external factors. Valuation of both publicly traded and private companies is significantly impacted by external factors including the general economic environment, interest rates and whether financing is readily available or difficult to obtain. Though some may see valuation as a precise science, it is also an art that requires sound judgment.

## Valuation Methodologies

There are many popular valuation techniques ranging from determining liquidation value to discounted cash flow analysis. This article focuses on valuing a company as a going concern, which means the company continues as an active trade or business. In particular, this article explains the three most common and accepted valuation techniques—comparable company analysis, precedent transaction analysis and discounted cash flow analysis. These techniques do have their limitations such as when valuing intellectual property. However, one must always remember that even when valuing such intangible assets they are only worth the future cash flow that they can produce or protect. Always keep in mind that buyers of these assets will at some point require real economic returns.

For example, what is a patent worth? One must assess the market for the product that the patent produces and what cash flow it may produce in the future as well as the value of other similar patents when they have been sold. In this sense, the analysis is not dissimilar to corporate valuation.

## Comparable Company Analysis

Comparable company analysis is a market-based approach to valuation. This analysis compares the value of a company to other similar businesses in its industry. The premise is simple—investors will likely pay similar prices for similar companies. Given the requirement for current valuation metrics (*i.e.*, the need for a publicly available valuation benchmark) the most appropriate comparable companies are publicly traded companies. This can be problematic when using comparable company analysis to value smaller businesses, which will be discussed later in this article.

The critical question is what is a comparable company? The practical answer is to pick competitors of the company to be valued that have similar growth and margins. Sometimes, unfortunately, the closest “comparable” may be a single division of a diversified holding company, making the relevant data more difficult to obtain. These cases must be examined on a case-by-case basis. There is no bright line test to decide when a company is no longer comparable.

On the contrary, it may be that the company to be valued operates in two or more unrelated businesses. In this instance, it could be appropriate to perform a sum-of-the-parts (“SOTP”) analysis. In a SOTP analysis you value each of a company's businesses separately then total the individual values to derive the value of the entire company.

As a part of the analysis, the valuation expert may use a multiple of a company's cash flow or earnings to estimate its “enterprise value.” Enterprise value (“EV”) is defined as equity value plus debt minus cash. EV as a multiple of “EBITDA” (earnings before interest, taxes, depreciation and amortization) is perhaps the most commonly used valuation metric, but the metric used should be the one that is most relevant to the valuation target's industry. For example, technology companies are frequently valued using an EV to *sales* multiple (rather than EV to EBITDA) because many technology companies do not have positive earnings or a price/earnings (“P/E”), in part because debt is not heavily used that industry. It all depends on the sector. However, for most industries enterprise value as a multiple of EBITDA is an appropriate measure.

Let's look at an example of trying to value a widget company. It has competitors Company A, B and C below.

Company	Sales	Profit Margin	Earnings Growth	EV / EBITDA
A	\$250mm	15%	10%	8x
B	\$750mm	12%	6%	7x
C	\$400mm	10%	5%	6x
Average	\$467mm	12.3%	7%	7x
Valuation Target	\$75mm	10%	15%	?

This is an illustration that highlights the common problems finding comparable companies that have similar dynamics. Should the expert pick the average or shade the valuation towards the most comparable company valuations? One is constrained by the data set but it is necessary to use judgment, and not simply pick averages unless appropriately scrutinized. Often smaller companies will be growing faster than larger competitors. This is due do a number of factors including that it is just harder to grow a larger than smaller base of business. All things being equal faster growing companies, unless they are very small as discussed below, will garner a higher valuation multiple. The logic is simply that the better the future prospects of a company the more a buyer will pay for it as a multiple of dollars earned; a dollar growing at 20% a year is worth more than a dollar growing at 3%.

### Small Company Valuation Issues

The comparable company analysis is a good place to discuss size and its impacts on valuation (although size will impact valuation under any analysis). One is often challenged valuing a smaller company when the only valuation metrics available are for large publicly traded companies. Also, "small" is relative. Large investment banks may start incorporating risk premiums for "small" companies at enterprise values of \$250 million to speak nothing of a small but prosperous family business.

Small companies tend to have fewer resources and customers and less access to capital and diversity of revenue than do larger ones. Typically it is more likely

that a smaller company will fall into company-threatening financial challenges than a larger one. Also, investors prize liquidity and generally it is easier for a larger company to have a liquidity event (e.g., IPO, sell shares if it is public, etc.). Due to these additional risk factors, investors demand a higher rate of return for a smaller company than for a larger company in the same industry. This risk premium can vary but is estimated at 4-5%<sup>1</sup> and is stated as an interest rate added to the weighted average cost of capital ("WACC") which will be discussed later in this article.

### Precedent Transaction Analysis

Precedent transaction, also called comparable transaction (or acquisition), analysis is related to comparable company analysis. However, precedent transaction analysis uses the valuation metrics of acquired companies. The methodology seeks to value a company based on what it would be sold for by applying the valuation metrics of past transactions. The companies should still be in the same line of business with similar size and growth prospects.

There are several challenges with precedent transaction analysis. As with comparable company analysis, it can be challenging to find companies that are in the same line of business with similar margins and growth prospects at the time of sale. Another common issue is that precedent transactions take place over time and the applicable valuation metrics (also called multiples) used at one point in time can be different than at another. For instance, perhaps a close competitor was acquired in 2007 but a less similar comparable was acquired last year. Certainly the valuation must be mindful of distressed sales as well as whether transactions were done at peaks and troughs of the cycle.

### Discounted Cash Flow Analysis

Discounted cash flow analysis ("DCF") seeks to value a company based on the after-tax cashflow that the company generates. Cash flow in this case is literally the amount of cash that is available to pay equity and debt providers in a given year. It is not based on an accounting methodology. Importantly, it adjusts EBITDA for changes in net working capital, taxes paid, capital expenditures, and deferred taxes (see below).

EBIT	Earnings before interest and taxes
Less: Taxes	Less taxes at the statutory tax rate
=NOPAT	Net operating profit after tax
Add: Depreciation and Amortization	Add back of non-cash accounting charges
Less: Increase in Net Working Capital	Subtract increase in working capital and add a decrease in working capital. "Net" ignores cash
Less: Capital Expenditures	Subtract capital expenditures used to maintain and grow the business
Add: Increase in Deferred Taxes	Incorporates the tax shield of accelerated depreciation allowed by the IRS
=After-Tax Cash Flow	The amount of cash a company generates in a given year

With proper information, it is possible to calculate reasonably accurate numbers for past cash flow. The question becomes how to project cash flow into the future. How many years can be projected with any certainty? The most-commonly used periods are 5 or 10 years forward. Generally, the more stable the business the longer its cash flow can be projected with confidence. A valuation expert may feel comfortable in projecting the cash flow for a company selling a consumer staple such as milk or cheese for 10 years. But, the same expert could struggle to project the financial outlook for a high fashion retailer or technology company from one year to the next.

The projection period should incorporate at least two important considerations: i) that the projection period covers an economic or product life cycle and ii) whether the company's growth or financial outlook may change in the next 5 to 10 years. With respect to the first consideration, imagine you are valuing a company that sells products to an original equipment manufacturer ("OEM") that changes its platform every six years; and the changeover in platform requires capital expenditures that are five times the normal amount. The company has to re-engineer its production cycle and make new tools and dyes perhaps. A 5-year discounted cash flow that begins after the most recent changeover would understate the general capital expenditure requirements of the business. In regards to the second consideration, one must keep in mind that high growth companies usually do not continue along a torrid trajectory (e.g., "trees don't grow to the sky") and conversely the company with low earnings in a recessionary period may see earnings rebound in a normal economic environment.

Merely projecting cash flow out for a period of years does not value the company. It is necessary also to calculate a "terminal value." The terminal value is the value of the company beyond the 5-10 year projection period. In essence it is an attempt to discount the cash flows beyond the projection period. However careful the valuation expert is in formulating projections, the terminal value will be a significant driver of the entire valuation of the company. Often, particularly in the case of a 5-year DCF, the terminal value can be significantly more than 50% of the entire estimated value. Thus the assumption of terminal value must be considered with great care.

There are three common methodologies used to calculate the terminal value. These are i) using the ending year EBITDA (or the most relevant financial metric) to calculate a comparable company valuation, ii) using precedent transaction analysis and iii) using a perpetuity or perpetuity with growth model. We have previously discussed in detail the first two valuation methodologies. Valuation practitioners debate how to decide between the two methods. The ultimate choice comes down to an analysis of the typical investor exit in the industry; *i.e.*, sale vs. IPO or some other personal judgment based upon the factual circumstances. The third methodology

is used in industries where long-term growth is very predictable and is close to the rate of inflation or GDP. Again, think of consumer staples such as basic food products. Assuming a 5-year DCF, to calculate the terminal value one should take the cash flow one year forward from the fifth year ("CF<sub>6</sub>") divided by the WACC,<sup>2</sup>  $CF_6 / WACC$ . If there is growth, subtract the growth rate from the WACC,  $CF_6 / (WACC - \text{growth})$ .

The final piece of the puzzle is to discount the cash flows and terminal value to today's dollars. A dollar in the future is worth less than a dollar today. Every project has a certain amount risk. For the cost of equity, the risk is compared to that of investing in a broad set of stocks such as the S&P 500 (by far the most common). The cost of debt is compared to a risk-free bond, the U.S. Treasury 10-year Note. After establishing these two rates, to establish a discounted value, the expert multiplies each by the respective portion of the capital structure represented by equity and debt.<sup>3</sup> The WACC is the sum of these two calculations.

After determining the discount rates, the enterprise or firm value is determined by discounting each of the cash flow and the terminal value. Then, to arrive at the value of the equity, the final step is to subtract the debt from the enterprise value and add the cash on the balance sheet. This same methodology is used for comparable company and precedent transaction analysis if the expert is using enterprise valuation metrics to derive a valuation. For purposes of this calculation, debt means long-term liabilities plus the portion of long-term liabilities due in the current year. A common question that arises is why not subtract current liabilities? Current liabilities such as accounts payable are part of working capital. These are liabilities that arise out of the natural running of the business. They are not a financing choice but a requirement just like machinery. Long-term debt, however, is a financing decision. The current owner actively decided to fund the business using debt vs. equity. In industries that utilize a significant amount of lease financing, such as airlines or retail (with significant store leases), it is prudent to consider adding the present value of leases to amount of debt on the balance sheet. This treatment typically occurs when there are significant leases that if ignored would grossly underestimate the leverage of the company.

Other factors may come into play as well. For example, the valuation methodologies discussed above are valuations for an entire company. Sometimes it is necessary to value a less than complete interest in a company. In general, control is valued. In fact, mergers and acquisitions bankers will often call the average of corporate acquisition premiums as the "market for corporate control." Simply put, where valuing a less than complete equity stake, it is important to take into account whether the valuation is on an equity stake that provides control or a minority interest? For a large equity stake such as 75%

that provides control, there might not be any discount over the implied valuation for 100% of the company.

Liquidity can also be an issue. In valuing a small stake in a private company there might be a significant discount due to illiquidity, in addition to lack of control as previously discussed. If it is a minority but still large stake in a public company, a minor discount might arise due to the friction of making several stock sales to liquidate the position.

This article is intended to serve as a primer and reference piece for arbitrators and mediators who may be faced with valuation issues. The authors hope that it helps enhance appreciation and awareness of common valuation techniques and some of the pitfalls involved in corporate valuations.

## Endnotes

1. Equity Risk Premiums (ERP): Determinants, Estimation and Implications—The 2013 Edition (March 2013), Aswath Damodaran, Stern School of Business.
2. Weighted Average Cost of Capital.
3. The following explanation provides a more detailed explanation of the cost of equity and debt. The cost of equity is defined as  $R_e = R_f + \beta(R_m - R_f)$ , where  $R_e$  is the cost of equity,  $R_f$  is the risk free rate,  $\beta$  is the beta or relative volatility of the equity vs. a broad index (for instance a 1.3 beta means the equity value of the project will move, on average, 1.3 times that of the broader market as a whole). The required equity market return,  $R_m$ , is the long-term rate that investors require to invest in equities.

Typically, companies such as Ibbotson or Duff & Phelps calculate the equity risk premium (“ $E_{rp}$ ”) which is  $(R_m - R_f)$ . As of the spring of 2013 Duff & Phelps estimates  $E_{rp}$  to be 5%. (Duff & Phelps Risk Premium Report 2013, page 100.) The cost of debt is an after-tax calculation given the tax shield of interest (i.e., interest is deductible for tax purposes). The cost of debt should be appropriate for the risk profile of the company. The formula is  $R_d = R_d(1-t)$  where  $R_d$  is the nominal interest rate on long-term debt and  $t$ =tax rate.

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