

VALUATION observations



Valuing Early-Stage Companies and Equity-Based Compensation Units

By *Kelly C. Noll, CFA*
Craig T. Hickey, CFA
and *Jerry P. Cullins*

Early-stage companies often grant equity (or synthetic equity) awards to employees, consultants, and board members both for incentive purposes and as additional compensation when the company has limited resources. In addition, these companies are often limited to raising capital by using non-traditional securities such as convertible notes and preferred stock. As a result, early-stage companies tend to have complex capital structures that require specialized valuation approaches.

In this article, we first address common items a valuator should examine in the valuation of the company as a whole, which is one of the most important inputs in the valuation of equity-based compensation. We then look at examples of equity-based compensation and the most widely-accepted approaches to value them.

Valuation of the Company

When assessing the value of equity-based compensation, the first step is to value the company as a whole (i.e., enterprise value) and then value a 100% equity interest. Below are key questions to

consider when valuing early-stage companies:

1. *Has the company recently raised capital?*

The existence of a recent capital raise may provide a strong indication of value since it is based on what investors perceive the value of the company to be. Based on the capital raise, a valuator can “back-solve” for the value of the total company using the Option Pricing Method (“OPM”). The OPM utilizes the same assumptions as the Black-Sholes Option Pricing Model (“BSOPM”) and allocates the equity of the company as if each security in the capital structure represented a “call option” on the company. Therefore, it would take into account certain thresholds (i.e., “breakpoints”) where each security would begin participating in the upside of the company. However, we note that due to the pace of technological innovation and high growth rates that are common in early-stage companies, the value of the company implied by a recent capital raise becomes stale quickly.

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2. Cash flow forecast- the centerpiece of the valuation.

When no recent capital raises have occurred, backsolving into the Company's equity is not possible. Therefore, the key method of valuation is a Discounted Cash Flow ("DCF") Method because 1) a DCF incorporates the Company's unique business plan and projections and 2) with early-stage companies, there are typically little to no comparable companies with which to attain pricing benchmarks. As such, it is imperative to obtain a forecast from management (or help management develop one if not available), as this will serve as the most important input to the valuation. While forecasts for high-growth and early-stage companies are inherently speculative and difficult to develop, any credible valuation will require a forecast that reflects management's best estimate of future performance.

3. Has a discount rate been properly applied?

Many valuation professionals are accustomed to applying an equity discount rate in the 15% to 20% range for most middle market seasoned businesses via the Capital Asset Pricing Model ("CAPM"). However, early-stage companies are inherently more risky as their products have often not yet reached commercial acceptance and financial forecasts are speculative. As such, venture capital rates of return are oftentimes the best proxy for a

discount rate. Venture capital rates are typically in the range of 25% to 50%. We caution, however, that using too high of a discount rate (such as if the company is in the later stage of venture capital financing) may lead to an undervaluation. Additionally, DCF valuation models can be extremely sensitive to small changes in a discount rate. As such, a valuation professional should take care to ensure the company's stage of investment is properly analyzed and a discount rate is properly applied.

4. Have required infrastructure expenditures been adequately considered?

As companies rapidly expand, so too can the requirement for infrastructure investment. A valuation professional must take care to make sure that the company's projected growth correlates with the associated expenditures to meet that growth, otherwise the company may be overvalued.

Types of Equity-Based Compensation

Once the equity value of the underlying company has been determined, a valuator can then determine the fair value of any equity-based compensation. Examples of equity-based compensation may include the following:

1. **Stock Options.** A contract that gives the holder the right, but not the

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obligation, either to purchase (to call) or to sell (to put) a certain number of shares at a predetermined price for a specified period of time. Employee stock options tend to be call options in that they permit employees the right to purchase shares of the company at a pre-determined strike price.

2. **Restricted stock and restricted stock units ("RSUs").** Restricted stock is a share of stock granted to an employee for which sale is prohibited for a specified period of time. Most grants require certain vesting conditions be met (e.g., 25% vested annually over four years) to earn the rights to the shares, thus they are non-vested at the time of grant. RSUs represent a promise to deliver shares to the employee at a future date if certain vesting conditions are met. Thus, the difference between RSUs and restricted stock is primarily the timing of the delivery of the underlying shares. A company that grants RSUs does not deliver the shares to the employee until the vesting conditions are met. Restricted stock and RSUs commonly result in immediate dilution to the common shareholders.
3. **Stock-appreciation rights ("SARs").** A contract that gives the employee the right to receive an amount of stock or cash that equals the appreciation in a company's stock from an award's grant date to the exercise date. SARs generally do not involve payment of an

exercise price. The appreciation may be given in either in the form stock or cash (will be defined in offering).

4. **Employee stock purchase plans ("ESPPs").** Designed to promote employee stock ownership by providing employees with a convenient means (usually through a payroll deduction) to acquire a company's shares.
5. **Long-term incentive plans ("LTIPs").** Generally a cash settled plan that is earned by employees over a number of years. An example is a cash award that will be earned by employees if the Company's stock price achieves a specified target at the end of 5 years.

Option Pricing Methods

Properly valuing equity-based compensation can be difficult given that oftentimes the capital structure of early-stage companies is complicated due to multiple rounds of non-traditional financing such as preferred equity and convertible debt. Also, there are specific assumptions related to the valuation of equity-based compensation such as vesting and forfeitures which add complexity to the calculation. Common methodologies to value equity-based compensation include the BSOPM, the Binomial Option Pricing Method, and the Monte Carlo Method. These valuation methods are described below and are generally the preferred

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methods when valuing equity based compensation according to Accounting Standards Codification (“ASC”) 718, *Compensation—Stock Compensation* issued by the Financial Accounting Standards Board (“FASB”). These valuation methods also satisfy the tax requirements for valuing nonqualified deferred compensation (IRS code section 409A).

1. *Black Scholes Option Pricing Model* - The BSOPM relies on six variables: 1) underlying asset price (discussed above); 2) strike price (i.e., exercise price); 3) remaining time to maturity; 4) risk-free rate of return; 5) the dividend yield of the underlying asset; and 6) the volatility (or level of risk) of the underlying asset’s price.

Most consider the primary benefit of the BSOPM that the formula is relatively simple in mathematical terms, so it does not require a sophisticated computer program to make calculations. In addition, some auditors prefer this method as with only six variables in the equation, the assumptions are less time-consuming to audit. However, the simplicity of the BSOPM is also its biggest drawback. In the case of more complex capital structures, the BSOPM may not be effective in capturing all of the possible variables such as conversions, participation rights, and down-round protections to other equity classes. For more complex capital structures,

other valuation techniques may be more appropriate, as discussed below. This is also consistent with SEC comments that caution against using the BSOPM for anything other than “plain vanilla” options.

2. *Binomial Option Pricing Model* - The binomial model (also known as lattice framework) assumes that underlying security prices can only either increase or decrease with time until the option expires either in-the-money or worthless. Due to its simple and iterative structure, the model presents certain unique advantages. For example, since it provides a stream of valuations for a derivative for each node in a span of time, it is useful for valuing derivatives such as American options which allow the owner to exercise the option at any point in time until expiration (unlike European options which are exercisable only at expiration). A downside of the model, however, is that it can often contain hundreds of nodes which can be time-consuming to audit. Further, a valuator should include a sufficient number of nodes as the concluded value becomes highly sensitive if an insufficient number of nodes are used.
3. *Monte Carlo Method* – While the other option pricing valuation methods conclude on a single value, the Monte Carlo method is a technique that allows

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the analyst to run many “what-if” scenarios (often hundreds of thousands of scenarios in a matter of minutes) to arrive at a probability-weighted distribution of possible asset values. In doing so, the users of the model are able to better account for the inherent uncertainty in predicting the future value of the underlying asset. Further, the user is also able to model the impact that other securities would have on the value of the equity-based compensation. The Monte Carlo Method is especially useful in valuing options with anti-dilution provisions and performance vesting scenarios because of its flexibility and ability to handle more than one variable within the analysis. Distributions can also be adjusted to more accurately reflect the appropriate payout.

In summary, early-stage companies frequently need valuations to establish and administer equity-based compensation plans to comply with financial reporting (ASC 718) and income tax (IRS 409A) requirements. Failure to do so can have tax consequences and a material impact on the financial statements. These valuations can be challenging, but can be successfully performed by seasoned experts. GBQ Consulting’s valuation group has significant experience in the valuation of early-stage companies and equity-based compensation valuations. The authors of this article can be reached using the contact information provided herein. 



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CONTACT

Kelly C. Noll, CFA
Manager, Valuation Services
knoll@gbq.com
614.947.5227

Jerry P. Cullins
Senior Manager, Valuation Services
jcullins@gbq.com
856.533.2392

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Craig T. Hickey, CFA
Senior Manager, Valuation Services
chickey@gbq.com
614.947.5315

EDITOR

Brian D. Bornino, CPA/ABV, CFA, CBA
Director of Valuation Services