



Sale Buy Grow

Gold	\$647.00	\$904.51	39.80%
Platinum	\$381.00	\$509.78	33.80%
Silver	\$774.00	\$1,061.93	37.20%
Copper	\$616.00	\$837.76	36.00%
Steel	\$449.00	\$537.90	19.80%
Beryllium	\$743.00	\$754.89	1.60%
Manganese	\$598.00	\$795.34	33.00%
Aluminum	\$289.00	\$354.61	18.60%
Chrome	\$666.00	\$727.17	9.20%
Nickel	\$421.00	\$453.84	7.80%
Bauxite	\$730.00	\$791.32	8.40%

Cotton	\$162.00	\$196.34	21.20%
Flax	\$172.00	\$212.00	23.20%
Textiles	\$243.00	\$330.48	36.00%
Wool	\$261.00	\$359.68	37.80%
Fur	\$116.00	\$118.59	2.20%
Sateen	\$201.00	\$246.43	22.60%
Silk	\$177.00	\$184.79	4.40%

Oil	\$609.00	\$811.19	33.20%
Gas	\$518.00	\$711.98	37.40%
Electric power	\$578.00	\$781.04	35.30%



ROBERT BARNETT

PROFITS INTERESTS ARE VALUED AS OPTIONS, AND WHEN ESTIMATING THEIR FAIR VALUE CONSIDER THE TOTAL EQUITY FRAMEWORK, INCLUDING VESTING INTERESTS.

Key Points
in Valuing

PROFITS INTERESTS

The

and (2) the future equity distribution is enough to provide the capital units with a complete return of their contributed capital and the accrued preferred return.

Two-Part Discussion

The valuation of profits interests begins with a two-part discussion. The first part is more familiar involving the aggregate valuation of the enterprise or LLC through traditional methods, including the income and market approaches frequently applied in valuing corporate entities. An estimate of the total equity value is made after giving appropriate consideration to debt. The second part involves a separate undertaking that considers the values of the individual capital and incentive units in the context of the total equity value. As an equity class, incentive units are highly customizable and take many different forms. However, one general valuation approach is universally applicable—*option-pricing models*. This is the first important insight to the valuation of profits interests.

Complicating Factors. Knowing the broader valuation approach is certainly a good first step, but deeper consideration may be required as there are several possible complicating nuances distinguishing a profits interest from a traditional stock option and, therefore, the suitability of one option-pricing model over another. For instance, it will be seen that a stand-alone Black-Scholes model is not applicable when valuing an incentive unit. This may be surprising given that it is suggested that an option pricing model is the appropriate approach to estimating an incentive unit's fair value, and the fact that the Black-Scholes formulation is the most famous and frequently applied option pricing model. However, this idea will be built on below, as the context for now is incomplete.

ROBERT BARNETT is senior vice president at Valuation Research Corporation, specializing in the valuation of financial instruments for financial reporting, portfolio valuation, and general planning needs. Mr. Barnett's experience frequently involves complex or highly developed equity structures, stock-based compensation, convertible securities, and derivatives. Many valuations are performed in the context of a transformative financing such as initial public offerings, large private placements, and conversions from an LLC to a corporate entity. He can be reached at rbarnett@valuationresearch.com.



Black-Scholes Model

The Black-Scholes model is referred to as a closed-form model, and also as an equation or a solution. Given a certain set of criteria and defined relevant inputs, the Black-Scholes model is a solution to a desired outcome, that of pricing an option. The model is inflexible and must strictly fit, and adhere to certain conditions. However, the principles underlying the concept and approach to valuing an option may be applied in less restrictive environments, through the use of a numerical method, in simply a broader, more generalized approach to option pricing. Thus, such a departure from use of the Black-Scholes model is not a departure from its underlying pricing fundamentals; it is rather just a relaxation of the strict formulation to allow for other intervening components relevant to the valuation. The nature of profits interests usually requires a more generalized application, but it will be seen that one common approach is a multi-layered application of the Black-Scholes formula, often one that requires a simple external correction or adjustment that is highlighted below.

Inputs. A Black-Scholes model—and by extension any option pricing model—requires five basic inputs, and may include a sixth input if dividends are expected; each input is considered below with respect to incentive units:

1. *Stock price (S)*. There is not one; and this is the big reason a stand-alone use of Black-Scholes is not considered to be an applicable model. An incentive unit is not a derivative of another class of stock the way a stock option

is a derivative of a share of common stock. Instead, an incentive unit is a derivative of the company's total equity value vis-a-vis the capital units at any point in time. The stock price then must be the company's total equity value which by extension requires that all the equity classes be considered in the approach.

2. *Strike price (X)*. There is not one, at least explicitly. Rather, there are implied strike prices that allow the option pricing approach. These generally consist of the capital units' contributed capital plus preferred return, as well as various participation thresholds associated with equity returns to the capital units. These thresholds represent performance vesting conditions, also referred to as a market condition, for the incentive unit classes.
3. *Term (T)*. Incentive units do not have a contractual life like an option. Instead, the term is the expected timing to a future liquidity event, generally a sale (M&A) or an initial public offering (IPO). Typically, time-vested incentive units receive accelerated vesting for any portion that is unvested at the time of a liquidity event, while performance units are vested or forfeited based on the ending equity value at the time of a liquidity event.
4. *Volatility (b)*. Volatility here refers to the total equity volatility. The effect of leverage should generally be considered given the tendency for an LLC to have a meaningful amount of debt, and a greater leverage ratio than oth-

er industry participants. Profits interests are the most volatile equity class of units in an LLC, since their access to distributions is limited to upside valuations of the total equity.

5. *Risk-free rate (r)*. Risk-free rate is the appropriate discount rate in an option pricing model and is measured for a holding period commensurate with the expected term or time to liquidity.
6. *Dividend (y)*. Since there is not a "stock price" there also is no dividend yield, at least in the traditional sense of the Black-Scholes model. However, there frequently is a preferred return afforded to the capital units. This is explicitly considered and, similar to a dividend yield on a stock, serves to reduce the value of a dilutive security. LLCs may pay large one-time dividends to provide return to the capital unit holders. Such dividends serve to reduce the total equity value, but also lower the participation thresholds for all classes of incentive units. These one-time dividends are not modeled unless specifically anticipated; any dividends prior to the valuation date are included in the threshold measures.

Similar to Options. A discussion of the inputs to an option pricing approach includes both the unique aspects of profits interests and the similarities of this class of equity to an option. Concretely, the payoff mechanism associated with the profits interests makes an option pricing approach the correct one. Thus, the valuation methodology is a volatility/time model, not a discounted cash

flow. The larger implication is the irrelevance of the required rate of return, which fits exactly with the nature of these securities having no contributed capital. The risk-free rate serves as the appropriate discount factor and may readily be observed in the market and applied to a term commensurate with the expected time to liquidity. This avoids a potentially significant problem—that of estimating the risk-adjusted required rate of return.

Model Framework

Having established option-pricing as the correct approach for valuation of profits interests, the next step is to apply the approach to estimating fair value at any point in time. To start, think about the incentive units at a high-level. Like an option at the "extremes," meaning having either very low equity values (deep out-of-the-money) or very high equity values (deep in-the-money), a profits interest will track closely either to a zero value or to a fully diluted unit adjusted for the capital units' contributed capital. This is similar in concept to a traditional stock option which can never be valued less than zero, nor greater than the underlying stock. The equity values in between make the model useful.

Total Equity Value. Model selection and construction begins with consideration of the company's total equity value. The total equity value serves as the underlying asset (S), which necessitates the inclusion of all outstanding capital and incentive units in the modeling process. This underscores the theme that

