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When To Use Options Analysis In Damages Assessments

By **Ronnie Barnes** (August 31, 2018, 1:31 PM EDT)

Ronnie Barnes

Valuation is an integral part of damages assessments in a multitude of cases. To provide a robust quantum of damages — whether it involves valuing a project, firm or financial security, or quantifying the impact of alleged wrongful behavior on the value of an investment — an expert must choose an appropriate method. In many cases, the "go to" valuation approach is the discounted cash flow, or DCF, methodology, in which the future cash flows that an investment is expected to generate are discounted back to the valuation date at a rate that reflects both the time value of money and the riskiness of the cash flows.

Financial Options

The use of DCF, however, is not always appropriate, and it is important that a damages expert has other valuation methodologies in his or her toolbox. One such methodology goes under the broad heading of "options analysis." This can be traced to the 1973 publication of two papers that earned their authors the Nobel Prize in Economics, and that discussed the valuation of so-called financial options.[1]

The simplest examples of financial options are call and put options on listed shares, which give the owners the right, but not the obligation, to buy or sell the underlying shares at a prespecified price on or before a prespecified date. But since 1973, the range and complexity of financial instruments that can only be valued using a sophisticated version of the BSM model have increased enormously, leading to numerous disputes regarding the valuation of these instruments.

A recent high-profile example is the case between the Libya Investment Authority and Goldman Sachs International.[2] The LIA paid $1.2 billion to enter into a number of complex trades that would provide it with a payoff if the prices of various shares increased. In fact, these share prices fell significantly, leading to the LIA losing its entire investment. The LIA claimed that the trades were unfairly priced and led to excess profits for Goldman Sachs.

Another case example involved securities issued by the acquiring firm in mergers with two target firms. A basic analysis of these securities showed that they could be broadly categorized as put options, meaning that they would decline in value as the price of the underlying stock increased. The plaintiffs alleged that the acquiring firm inflated its stock price after the mergers, thereby reducing the value of the securities.

A more detailed analysis, however, showed that differences in the contractual terms of the two securities meant that over certain ranges of the acquiring firm's stock price, an increase in inflation would decrease the value of one security but increase the value of the other. Consequently, the holders of the two securities were in direct conflict with each other and therefore could not form a class.

Options analysis was also important in a securities litigation brought against a firm whose share price fell significantly on the announcement that it had previously guaranteed the debt of a now near-bankrupt affiliated company. It has long been recognized that a debt guarantee can be viewed as an option — to be exercised only if the company whose debt is being guaranteed is unable to make the contractually specified interest and principal payments. In this instance, it was possible to show that at the time the guarantee was granted, it had little value since the affiliated company was in good financial health. The guarantee was in essence an option that was far "out of the money" — i.e., was very unlikely to be exercised.

Later, when the affiliated company was in poor financial condition, the guarantee functioned similar to an option that is "in the money" — was quite likely to be exercised. To the extent that the plaintiffs bought the guarantor's stock at a price that was inflated because it did not reflect the value of the guarantee, the inflation was low as the guarantee's value was small. Ultimately, when the share price reacted to the announcement, the guarantee was more valuable and thus, the share price decline was much greater. A valuation based on the share price decline therefore, would drastically overstate any inflation when the plaintiffs purchased the shares.

Real Options — the Option to Abandon

Importantly, viewing a valuation through an options "lens" can extend beyond financial options to what are often referred to as "real options." Broadly speaking, these options arise from the fact that management of a firm or a project is not — or at least should not be — a passive activity. As time goes by, management may have a number of strategic opportunities that, if exercised optimally, can add significantly to the value of the firm or project. Any valuation — whether in the normal course of business or in a dispute resolution setting — that fails to take such options into account runs the risk of significantly underestimating value.

One such example is the valuation of a copper mine that does not incorporate the fact that management has the option to temporarily close, or even abandon, the mine if copper prices fall to a level that makes extraction uneconomic. Such options have many of the characteristics of a put option. The option to abandon may be viewed as the option to give up the value of the mine if it continues to operate, and in return receive what is typically referred to as the "abandonment" or "salvage" value. Clearly, exercising this option makes sense only if the abandonment value is higher.

Real Options — the Option to Defer

A second example of a real option is the option to defer or delay. This was of critical importance in an arbitration involving claims that a biopharmaceutical company had breached a contractual obligation by failing to use diligent and commercially reasonable efforts to complete the development and commercialization of a new drug in the United States. The company had met and exchanged information with the U.S. Food and Drug Administration to clarify regulatory requirements for four years without commencing a pivotal Phase III study.

At first, this situation appears to have little to do with options. However, closer investigation revealed that changes in the FDA regulatory requirements for a related drug resulted in increased potential costs, time to completion and regulatory uncertainty for the new drug. In situations when uncertainties can be resolved or reduced prior to making an investment decision, the optimal decision may be to delay the investment — in other words, to exercise the option to delay. Viewed in this way, it was possible to show that the company's decision not to launch clinical trials was commercially reasonable given its economic incentives.

Conclusion

To (mis)quote one of the leading Corporate Finance textbooks: "Why is a damages expert who has learned about options analysis like a baby with a hammer? Answer: Because to a baby with a hammer, everything looks like a nail."[3] This article should not be seen as an argument for the overthrow of DCF, or that options analysis is needed in all valuations. The claim is, in fact, much more modest — namely, that it is important to be able to identify the situations in which each methodology is appropriate and to know how it should be utilized in each case.

Ronnie Barnes is a principle at Cornerstone Research Inc.

Disclosure: Cornerstone Research was retained in the merger and biopharmaceutical case examples discussed in the article.

[1] F. Black and M. Scholes, The Pricing of Options and Corporate Liabilities, 81 J. Pol. Econ. 637 (1973); R. Merton, Theory of Rational Option Pricing, 4 Bell J. Econ. & Mgmt. Science 141 (1973). The valuation model introduced in these papers is often referred to as the Black-Scholes-Merton (or BSM) model. Scholes and Merton received the Nobel Prize in 1997—Black died in 1995, and the prize is not awarded posthumously.

[2] Libya Investment Authority v. Goldman Sachs International [2016] EWCH 2530 (Ch).

[3] R. Brealey, S. Myers, and F. Allen, Principles of Corporate Finance 279 (12th ed. 2017).