

***Optionality: A New Measure of Value
Valuing a Business When Normal Metrics Don't Help***

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Background

Valuing a private business can be a complex and difficult task—even when the company has an operating history complete with revenues and demonstrated profitability. Standard methodologies, which measure comparable merger and acquisition activity, publicly traded companies and discounted cash flow values, may not fully capture the value of a business' prospects, intangible assets and options.

Limitations of Traditional Valuation Methods

When financial performance is limited and/or the majority of private company value is believed to result from proprietary technologies, barriers to entry, know-how, and future prospects, standard approaches to valuation fall short.

Obtaining a sample of public companies and merger/acquisition transactions to generate relevant and meaningful value multiples can be particularly difficult with early stage businesses. The private company may not have positive financial results; its size is likely much smaller than comparable public companies; and its business unique and specialized in focus.

Similarly, discounted cash flow analysis, which relies on the private business' forecast at its core, is difficult when the company has no history against which to judge forecasted results. A forecast in these situations is often hard to validate, because there is no historical perspective, particularly if the forecast has a “hockey stick” look, growing to huge proportions relative to current results.

Often early stage businesses are valued on a negotiated basis that relies largely on the implied enterprise value resulting from the most recent round of financing. While a useful negotiating tool, this approach does not specifically quantify recent company developments—financial or otherwise—that impact on value.

Optionality

An emerging discipline, “optionality”, values a company on the basis of the potential outcomes of a company's different prospects, including its different business strategies, technologies, and revenue potential—the different *options* that the company possesses as it fulfills its business plan(s).

Eduardo S. Schwartz, Ph.D., and Mark Moon¹ used optionality to explain why Amazon.com's market value exceeded values indicated through use of traditional valuation methodologies. By analyzing and incorporating different “options” for Amazon, for example, revenue growth rates, losses, various income potentials and stock price volatility, the authors developed an implied valuation that approximated Amazon.com's market value at the time. Optionality analysis is a dynamic, quantitative

model that incorporates various potential outcomes that can affect value—more so, in some cases, than traditional methodologies.

The Woodward Group's Case Studies

The Woodward Group, Ltd. (“Woodward”) recently utilized optionality in assessing the value of two companies. The first was a privately owned Internet client, which had received a buy-out offer from a publicly traded New York Stock Exchange company. The second was a private surgical products client.

While assessing the value of the Internet business, traditional valuation approaches, including a discounted cashflow analysis, had yielded a negative, non-meaningful value. Using optionality, Woodward developed standard normal distributions focusing primarily on revenue, capital losses, unique visitors and the potential valuation multiples thereof. These sets of potential outcomes, which included the potential to lose all invested capital, yielded an implied value result that approximated the proposed buyout offer.

Woodward's surgical products client has 22 separate 510K's filed, 3 patents, 15 patents pending and 8 trademarks. It is a prolific research and development effort within a fast growing and typically profitable industry. Because the majority of its products are just entering the revenue generation phase in the United States, the company's historical financial performance does not reflect the full impact of its investments to date. Though this may not limit the company's ultimate value, it does limit the efficacy of traditional financial ratio analyses in *assessing* value.

In evaluating this company, Woodward used optionality to assess the company's emerging products. To do this, Woodward developed standard normal distributions of various outcomes, including (a) revenue and revenue growth, (b) net income outcomes, (c) the number of surgical instruments successfully introduced into the market, and (d) the implied valuation potentials of these outcomes, in addition to risk factors on invested capital, including the potential to lose all invested capital. Taking a standard normal distribution of these outcomes resulted in an implied value approximately 2.5 times the valuation achieved by the company in its most recent capital raise.

Optionality incorporates current knowledge of the potential for different outcomes, all as a function of current market conditions. As a result, it is more dynamic than traditional discounted cashflow analysis, which does not include, for example, a *de facto* bankruptcy outcome or differing valuation multiples applied to asset values that include intellectual property.

Qualitative Issues

In all cases, the factors and potential outcomes selected require a great deal of judgment, and valuation experience. It is important to select meaningful measurements of value. For example, assuming extremely high valuation multiples or growth factors for a rebar fabricator is as ridiculous as isolating book values of Internet companies and predicating value on the basis of those potential outcomes.

In the context of an Internet business, revenues and revenue indications, such as unique visitors, and pages viewed, should be key factors included in developing potential outcomes. Book values and cashflow are generally meaningless for these types of businesses. However, there is evidence that Internet stock values can be explained based on growth in visitors or subscribers, which is highly correlated to revenuesⁱⁱ. As a site becomes more popular and defined as a brand, success begets success and absolute size, in terms of revenues, correlates positively, at least in a public company context, to share value. Hence, emphasizing potential outcomes that address revenues and revenue drivers is critical to the validity of optionality when used to value businesses within this sector.

In a 1998 address to Berkshire Hathaway investors at their annual shareholder meeting, Warren Buffett suggested that Internet stocks are simply not measurable and cannot be valued. The same incorrect line of reasoning could be applied to any early stage company. While more difficult and complex than traditional valuations, early stage companies can be valued in an analytically correct and rigorous manner, using optionality as a critical tool in the process.

About the Author

Tara Stephenson is a Principal of The Woodward Group, Ltd., a “boutique” investment banking firm that, in addition to advising on merger and acquisition transactions and financings, regularly provides valuations and fairness opinions for corporate transactions involving asset purchases, stock purchases and the determination of corporate security values, including preferred stock, options, stock appreciation rights, and convertible securities. The Woodward Group’s offices are located at 6 and 8 South Plum Street in Media, PA; information on the firm can be found at www.woodwardgroup.com.

ⁱ *Rational Pricing of Internet Companies* © 2000, Association for Investment Management and Research. By Eduardo S. Schwartz and Mark Moon. Eduardo S. Schwartz is professor of finance at the University of California at Los Angeles. Mark Moon is vice president and portfolio manager at Fuller and Thaler Asset Management

ⁱⁱ *Analyst Discovers the Order In Internet Stocks Valuations* By Greg Ip *Wall Street Journal*, December 27, 1999.