

Applying Qualitative Judgments When Valuing Nontraditional or Hard-to-Value Securities

By Robert Barnett, CFA, FRM

Previous to the recent dislocation in the credit markets, accounting standards for financial reporting were already expanding to include fair value measurements on a greater range of assets and liabilities; this was at a time when financial instruments were becoming more complicated, more structured, and less liquid and transparent. Despite some public push-back on “mark-to-market” fair value accounting, the general theme remains intact, and valuation practitioners have to incorporate valuation standards and procedures that properly characterize the nature of a wide range of financial instruments, or securities. What are some of the judgments that will be necessary in this new context as they apply to financial instruments that are slightly more nuanced or “nontraditional”?

In one sense, the accounting and reporting worlds, and even the taxing authorities, have played catch-up in the last 10 years. As the capital markets, financial risk management, and the pool of financial sponsors (e.g., hedge funds and private equity funds) have developed more expertise in financing particular industries and sectors down to specific asset/liability classes, the nature of security analysis and valuation for reporting purposes has become increasingly challenging and technical, especially for hard-to-value, nontraditional assets. New accounting standards and emerging issues have become more technical and detailed in an effort to properly characterize various financial instruments

and to establish valuation criteria that support the liability and equity accounts.

The standards and guidance have evolved from a strong technical accounting base, incorporating the experiences of financial professionals with expertise in valuation matters. Models based on financial-economic theory that capture the characteristics of a nontraditional or hard-to-value security in ways that can be understood and verified by a broad audience (even if a greater technical understanding is required) are being accepted. For the practitioner, this “higher bar” of fair value recognizes that the bodies interested in the accounting and reporting for such instruments are looking to see that selected models capture a security’s features, are consistent with accepted finance and valuation theory, and incorporate inputs that are verifiable or supportable (and not just “rule of thumb”).

Recognizing a hierarchy of valuation responsibilities accomplishes two things: it helps focus measuring and estimating the fair value for reported instruments; and it improves understanding of what information is important to the process of achieving a public record for an instrument’s value as of a particular reporting date. First in this hierarchy is management’s responsibility for its company’s public filings, primarily the firm’s financial statements. Second in line is the company’s accounting firm, responsible for auditing the company’s accounts and finances in accordance with generally accepted accounting principles (GAAP) and attesting to the reasonableness, accuracy, and

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fairness of the statements. Third is the Securities and Exchange Commission (SEC), the primary regulatory body focused on public financial reports and their adherence to accepted standards.

These constituents collectively serve the investing community and the general public by applying standards and assisting with: 1) a reporting process that generates reliable public information; and 2) smoothly functioning markets that promote price discovery and measures of value and the cost of capital.

Both the SEC and national accounting firms have recently flagged valuations of financial instruments for the methodology selected in estimating a fair value. Thus, key to the valuation process is the recognition of what makes a security non-traditional, which is to say, outside a standard discounted cash flow analysis or relative value approach using market-derived measures of value, such as multiples. Model identification is essential to the valuation process. Typical hard-to-value securities have one or more features that may alter their character—transforming a debt-like security to an equity position, say, or altering the future cash flows and payoff diagram. It is important to understand that model selection can be inadequate or even wrong, most often because the model does not sufficiently capture the terms and features of the instruments or their economic character.

A common mistake that we've seen is the use of the most recognized and prevalent option pricing model—Black-Scholes—to value an option or a warrant that has atypical features. This leads to an important observation: a significant percentage of a company's hard-to-value securities often contain option features and have payoff diagrams that are characteristic of an option. A great deal of accounting and valuation attention was given to employee stock options and more generally "share-based payments" beginning in 2000 and culminating in the 2004 statement on share-based payments (SFAS 123R) that requires the expensing of these securities in the financial reports of the issuer. In fact, this statement called for the

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use of lattice and Monte Carlo models, if needed, to properly value the instrument, thereby drawing attention to more “sophisticated” analytics. As a result, valuation professionals developed expertise in applying these types of models, especially the more common feature sets that were considered relevant to a reasonable estimate of fair value.

Thus a considerable body of knowledge and understanding has developed around the valuation of more sophisticated or structured securities that have option-like features. The reader should understand that closed-form solutions (such as the Black-Scholes option pricing model) are wonderful tools because of the simplicity of application, but their uses are rare and almost by definition highly restrictive. A closed-form solution is simply an equation with a list of inputs that the user must measure and apply. For such a solution to be formulated, the conditions in which it is applied must be consistent and understood. Thus, the disconnect for management is the use of a closed-form solution that is ill-equipped to handle a more feature-rich instrument.

Clearly, while getting the value right is important, proper model application has become equally so. It is not a matter of whether the answer may be materially different depending on the approach, but that we can confirm through use of an appropriate model whether the fair value is capable of being materially altered in one way or another. Accounting firms and their valuation groups and the SEC, among others, have focused their attention on model selection and the proper inclusion of inputs and the basis for measuring those inputs. Through practice and application, these groups have advanced the thinking about how to value these instruments and expect that models will be constructed and implemented to properly capture the features and dynamics of an instrument.

Since many hard-to-value securities are analyzed with numerical models, as opposed to closed-form solutions, there is flexibility in how to construct these models. This often means there are judgments to be made regarding the inputs and

their measurement. For example, as it pertains to options and instruments with option features, a volatility/time-based model with a risk-neutral framework would likely be expected, but some of the specifics of the model and estimate of inputs may be left to qualitative judgment.

- How to estimate volatility?
- How many steps to use in a lattice model?
- How many trials to use in a simulation?
- What barrier is representative of early exercise in an employee stock option model?

These are just some examples of questions that arise in the context of a numerical model selection (e.g., lattice or Monte Carlo-based models).

The complexity of financial instruments has risen, in part because of efforts to align the instruments' performance with desired results. This could be a convertible bond with various features that are designed to achieve a lower cost of capital in the form of interest expense or restricted stock grants that vest based on market conditions specifically designed to align company performance with compensation. Other examples include instruments designed to safeguard a particular interest, e.g., an interest in a proposed transaction. These instruments often incorporate complicating features used to address a specific economic or legal interest, which creates a nontraditional and hard-to-value security. Such structuring often requires a numerical model, but fortunately these securities, even with their added bells and whistles have fundamental traits that have been seen before and modeled. Therefore, despite their unique features or specificity in design, securities often have fundamental qualities that suggest a particular valuation approach or framework. Upon this framework, the specific details are captured through the design of the model to estimate its fair value.

Summary. A reasonable valuation will understand all the economic features of the instrument, any dynamic interplay between the features, the financial-economic theory underlying the security,

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the proper model, and the necessary inputs. If all of these are in place, a general consensus around value can normally be reached because of the largely mathematical process involved in estimating fair value. Qualitative judgments will play a role in model selection and the formation of estimates for the inputs, but these can be discussed and evaluated to arrive at a consensus. The underlying premise is that a model is in place that has the capability to dynamically incorporate

an instrument's features, large or small, to properly assess fair value. This is as important to the process as the actual result.

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