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A good financial expert can help in assessing damages in derivative litigation, says author Susan M. Mangiero. The expert can “ascertain whether a model is suitable for the given situation or is instead flawed or inconsistent with existing financial theory,” Mangiero writes. And, she says, the financial expert “can and should evaluate a model within the context of evidentiary rules.”

The financial expert, Mangiero says, “educates the judge and jury about specialized issues.” It may be, she says, that courts will increasingly appoint their own experts to assess the valuation methodology of the parties.

The Role of the Financial Expert in Valuation of Derivative Instruments

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Introductory Comments

At an estimated \$120 trillion plus in notional principal outstanding amounts, derivatives are hard to ignore.¹ Add to this the number of derivatives that are embedded in corporate securities like convertible bonds and the numbers are even more staggering.² Their versatility with respect to structure and applica-

¹ “ISDA Announces 2003 Mid-Year Market Survey Results,” International Swaps and Derivatives Association News Release, September 23, 2003.

² An embedded derivative is inseparable from the host security. It can be stripped out and sold as a standalone instrument.

tion explains part of their explosive growth since the early 1980's. In some cases, use is mandatory. Bank loan borrowers are often required to use derivatives to lock in their cost of money. Alternatively, company policy may force a corporate investor to hedge specified risks with derivatives.

One of the big worries about derivatives is transparency or more precisely, lack thereof. While published statistics and regulatory compliance guidelines provide some insight about who uses derivatives and why, much remains unknown. This is especially true with respect to their valuation. Some models are proprietary, preventing any type of outside inspection. Some models are complex and therefore difficult to validate. Yet, getting the numbers right is critical given their widespread use. As shown in Exhibit One, valuation estimates may be used for economic reasons to hedge against adverse market moves. Other times, they are used as part of regulatory compliance or financial reporting.

EXHIBIT ONE: SOME DERIVATIVE VALUATION USES

Scope	Purpose
Accounting	FAS 133 Compliance
Disclosure	SEC Mandate
Economic	Risk Management
Operations	Trading Limit Authorization
Regulatory	Bank Capital Reserve Adequacy

Chain Reaction

Bad valuation numbers beget bad performance numbers and may lead to losses and litigation, as shown in Exhibit Two for a hypothetical investment fund. This happens in large part because numbers generated by one department are frequently used as analytical inputs by colleagues in other functional areas. Without checks and balances, a valuation measurement error made early in the process ends up costing investors in terms of time, money and lost opportunities.

EXHIBIT TWO: EXAMPLE OF THE DOMINO EFFECT DUE TO INCORRECT VALUATION

<p>* An investment fund's model incorrectly overstates the value of its equity position.</p> <p>* Each bad number is automatically sent to the reporting team <i>and</i> to the traders every day until the error is caught by accident, three months later.</p>
↓
<p>* The daily net asset value is incorrectly reported to investors as higher than it should be.</p> <p>* Traders over-hedge the market risk of the equity position, based on inflated numbers.</p>
↓
<p>* Investors shift money out of fixed income into stock, based on inflated reported asset values. As stocks plummet, investors lose money.</p> <p>* Traders lose money from the incorrect hedge position, further reducing investors' returns.</p>
↓
<p>* Regulatory authorities discover that a measurement error has occurred and start investigating fund practices.</p> <p>* Investors begin legal proceedings against the fund's managers.</p>

In the case of the investment fund, valuation mistakes affect investors directly as they shift money out of assets into equity, thinking that stocks are doing better than they really are. Unfortunately, they are indirectly affected by improper trading decisions—and related losses—as well.

Reactive Versus Proactive

A knowledgeable and independent business consultant, if hired at the outset, would properly validate the model under various conditions, testing whether the output makes sense and is reliable.³ At the same time, internal managers should create policies and procedures to contain any problems before they spread elsewhere.

However, a litigation attorney seldom looks at what should be now or in the future but rather what should have been in the past. Returning to the fund example, the issue is not what can be done to improve operations (unless part of a subsequent settlement). Rather, the need is to determine the damages associated with a lapse in past oversight that led to investor losses.

Role of Financial Expert

A good financial expert can help in assessing damages in several ways. For starters, the individual can ascertain whether a model is suitable for the given situation or is instead flawed or inconsistent with existing financial theory.⁴ More formally, the financial expert can and should evaluate a model within the context of evi-

³ See "Asset Valuation: Not a Trivial Pursuit" by Susan M. Mangiero, *FSA Times*, published by the Institute of Internal Auditors, First Quarter 2004, for a list of questions pertaining to model validation.

⁴ See "Model Risk Looms Large" by Susan M. Mangiero, *The Investment Lawyer*, November 2002 for an overview of problems associated with financial models.

dentiary rules.⁵ The financial expert will know what questions to ask about deal structure and how to use the answers. After all, it is the details, often seemingly minute to the untrained eye, that drive the valuation process.⁶

The financial expert educates the judge and jury about specialized issues. A good case in point is the recently adjudicated interest rate swaps case involving a major bank and the Internal Revenue Service.⁷ The presiding judge hired his own experts to evaluate testimony about valuation methodology from each side. The detailed and lengthy 259 page opinion attests to the intricacy of the case. A complicating factor was whether accepted valuation practice should and does vary according to whether numbers are being used for tax versus financial reporting purposes.⁸

Application and context are important considerations in estimating economic damages due to derivative instrument use. By their nature, derivatives permit a large exposure to a given asset class or type of risk for a small cost. When things are good, this leverage generates much higher returns than are otherwise available. Naturally, this means that adverse market movements can quickly lead to very large losses.

Estimating losses due to speculative use of derivatives is altogether different than when derivatives are used to minimize risk. With the latter, damages may be confined to measuring the imperfection of the hedge, i.e., the extent to which protection provided less than a perfect offset to changes in the value of the investment being hedged.⁹ Transaction costs, taxes and regulatory compliance costs are some of the auxiliary factors that could end up as part of an estimate of economic damages, depending on the circumstances.

Looking Ahead

Whether hiring experts for the court is a harbinger of the role financial experts may be regularly asked to assume is unclear. Logic suggests that more sophisticated—and perhaps convoluted—financial arrangements will require an interpreter to translate "derivatives speak" into statements that are easily understood by someone with limited understanding of the valuation alternatives. Moreover, derivative instrument valuation estimates are integral to the many regulations that banks and companies face now and more rules are underway.

⁵ Standards set forth in *Daubert v. Merrell Dow Pharmaceuticals, Inc.* include testability and peer review, something that is unlikely to come about if a model is based on unusual or illogical ideas.

⁶ Classifying usage by organization type and purpose is helpful for regulatory policy-making purposes. Shareholders benefit by better understanding the role derivatives play in an organization's financial management strategy. Many times, however, the valuation standard requires consideration of the specific terms and conditions of the transaction, independent of context.

⁷ *Bank One Corp. v. Commissioner*, 120 T.C. No. 11 (May 2, 2003)

⁸ John Ensminger, Ira Kawaller, and Lou Le Guyader, "The Bank One swaps market precedent", *RISK*, November 2003.

⁹ Punitive damages are not considered here.