Sound Valuation Practices
By Sara Statman, Oct. 2007

As trading positions must be frequently and accurately valued, the first step is to consider which exposures can be marked-to-market (MTM) daily by accessing a liquid two-way market. Trading firms and funds should establish and maintain adequate systems and controls to ensure that valuation estimates are prudent and reliable. Where possible, valuations should be MTM daily, at conservative close-out prices and market bids should be verified through several reputable brokers; screen or exchange prices should also be used as an additional cross-reference. For this to be meaningful an independent person working outside front office must make this assessment - not a trader, whose bonus depends on booking profitable trades. These valuation estimates must be integrated with other risk management systems, such as those handling credit and operational risk.

In addition, there should be documented policies and procedures concerning the valuation process, for example sources of market information, the frequency of independent valuation, the timing of closing prices, procedures for adjusting valuations and so forth. Documentation must also clarify where responsibilities lie for gathering and analyzing information related to such valuations. The reporting line must be independent from front office and should ultimately report into the board.

Valuations should also take into account costs associated with close-out prices for concentrated or stale positions; the amount of time required to hedge a position and risks associated with a position; the average volatility of bid/offer spreads; the number and availability of independent market quotes and average trading volumes, as well as associated volatility. Care should be taken when volumes are low or particularly volatile. When markets are concentrated, any unwinding by competitors could have serious adverse effects on portfolio values.

Marking-to-model is defined as any valuation which has to be benchmarked, extrapolated or otherwise calculated from a market input. When marking to model, more caution is required. For illiquid assets that are marked-to-model, one must identify and hedge material risks using hedging instruments with an active two-way market. This is important as hedging with other illiquid instruments may lead to the hedge being invalid if it cannot be executed when required.

Model inputs should be sourced for independence and accuracy and where possible several pricing sources should be taken. Pricing sources should be reviewed regularly to ensure these sources remain appropriate. In addition, any valuations based on mark-to-model should use generally accepted valuation methodologies and if the model was developed in-house it should have been developed, tested and approved, independently of front office. This includes the mathematics, assumptions, as well as the software implementation.

Positions must be actively monitored for any adverse changes in market conditions. If market liquidity dries up, what is its impact on positions? If hedging adverse conditions is only possible during liquid markets what effect will this have on existing positions? Other factors to consider during these assessments would be the quality and availability of market inputs, required for the valuation process; the level of market turnover and position sizes. During the recent credit crunch, bids for CDOs almost disappeared or were sharply discounted, which would make any valuation questionable.

There should be documentation covering pricing sources, the model's key assumptions and how it derives key model parameters. Documentation should also cover trading strategies at the instrument, position and portfolio level, as well as expected holding periods and this should be approved by senior management. Firms should also implement clearly defined policies and procedures with respect to which dealers have the right to enter into and manage positions and limits per strategy; how positions are actively managed; how position limits are set; whether these limits are appropriate for the risk undertaken; and they should monitor any divergence of positions from stated trading strategies, turnover, as well as stale positions.

Reports sent to senior management should explain that valuations have been marked-to-model. The reports should detail the methodology, pricing sources, assumptions on which the model is based, as well as flaws in the model, to help senior management deal with model risk and determine the materiality of any risks, as well as adjustments required to take into account model uncertainty. Formal change control procedures are required to ensure any changes to the model are carefully implemented and the change control process should be reviewed regularly. The model should also be reviewed frequently to determine the accuracy of its assumptions and close-out prices vs. model prices.

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