

Perilous markets demand enterprise-wide risk management

Rampant volatility, illiquidity, dramatically shifting relationships between physical products and financial instruments and the scarcity of credit are stressing energy and commodity markets like never before. Against this backdrop of uncertainty, says Ken Knowles, executive vice-president of financial and risk solutions at leading vendor OpenLink, only a true enterprise-wide risk management system is up to the task

Risk managers have never faced a greater set of challenges than they do currently – this much is clear from *Energy Risk's* annual *Risk Management Survey*, which was published in last month's issue. Conducted in conjunction with OpenLink, the survey laid bare the multitude of difficulties faced by energy and commodity risk managers and traders.

It is little wonder that recent times have made truly effective risk management increasingly difficult to achieve. Just think about what has happened in the crude oil market, for example. At the start of last year, some analysts were predicting a price level of around \$200 per barrel over the next 12–18 months.

By July 2008, crude oil was trading at around \$147 a barrel. But then, the ongoing financial crisis, coupled with sharp downward revisions of forecast economic growth precipitated a collapse.

By the end of the year, oil was trading at below \$40. Dramatically weakened demand prompted the market to lurch into a contango – the likes of which we have never seen before. At the start of December, spot prices were trading at a discount of nearly \$14 to one-year forward futures contract prices.

The collapse in oil prices and dramatic steepness of the forward curve have caused some familiar hedging strategies to unravel. In normal circumstances, this level of contango would prompt market participants to put oil into storage and sell it forward to lock-in a handsome profit. But, amid the ongoing credit crunch, smaller trading desks, oil companies and hedge funds with a limited presence in the physical market are unable to secure financing that would allow them to obtain additional storage capacity. Unsurprisingly, banks are not falling over themselves to accept crude oil as collateral for a loan right now.

“It's clear that for energy and commodity risk to be managed effectively, risk managers need to think holistically about market and credit risk alongside the relationships between physical and financial markets,” explains Ken Knowles, executive vice-president of financial and risk solutions at OpenLink. “In this challenging market environment, true enterprise-wide risk

management is a necessity.”

OpenLink's Findur and Endur solutions are targeted at financial capital markets and energy markets participants, respectively. Both are built upon the same OpenLink core architecture and functionality. Endur allows users to manage the entire life cycle of a trade: front to back office; from trade capture right through to settlement; and the logistics associated with delivery of the physical product.

'Enterprise-wide' needs to be more than a catchphrase

It is somewhat surprising that, despite the fact that just over two-thirds of the *Risk Management Survey* respondents claimed that their firm has an enterprise-wide risk management programme (nine percentage points above the 58% that said they did in the 2007 survey), many respondents made it clear that, in a variety of ways, they were still struggling to measure and manage risk effectively.

Indeed, on a scale of one to 10 (one representing 'very dissatisfied; 10 representing 'very satisfied') half of the survey respondents categorised their level of satisfaction with their current risk management and trading software in the one to five range.

These results suggest that maybe not all enterprise-wide risk management systems are created equal. As some risk managers may have discovered during the recent turmoil, market stress has a habit of exposing shortcomings in solutions that, although effective in some ways, are not truly integrated.

Ever since it was founded by Coleman Fung in 1992, OpenLink's vision, explains Knowles, has been to use a unified architecture to create systems that are both integrated and extensible. “Our solutions have developed organically using the same core architecture and functionality,” he explains. “Flexibility is as the heart of what we do. That is borne out by both the diversity of our client base and the variety of ways in which our clients deploy our solutions.”

OpenLink's diverse client base includes market participants of virtually every type and size: including central banks; major pension plans; hedge funds; banks; energy companies; and corporations.

Knowles says that OpenLink has seen increased interest from existing and prospective non-energy/financial corporate clients in recent months. "Extreme energy and commodity price volatility are having a significant impact on corporate earnings and business strategy," he explains. "Corporate treasury functions increasingly want to manage energy and commodity risk in an integrated fashion with their other key risks such as funding risk and foreign exchange risk."

All of this points towards some further important issues faced by all energy and commodity risk managers – issues that can only be dealt with in a flexible integrated solution environment, like the one OpenLink offers. "Risk managers don't necessarily know specifically how they'll need to adapt their systems, models and approaches in the future. What they can be sure of is that they will have to adapt," says Knowles. "Enterprise-wide risk management systems need to walk a fine line: rich out-of-the-box functionality is a must, but the system cannot be preconfigured in a way that inhibits change management."

Given that natural tension, it makes perfect sense that an emphasis on configurability and extensibility in enterprise-wide risk management – of which OpenLink's systems are an exemplar – is especially important at the moment. Risk management needs are changing rapidly due to market conditions and a shifting economic environment and, to be effective, enterprise-wide risk management systems must be adaptable. Users of truly integrated solutions own an invaluable kind of software-related 'real option' explains Knowles – something that allows them to avoid having to throw out their existing system and start from scratch when their needs change.

Meeting today's challenges head-on

There are some important and challenging questions that risk managers must ask themselves right now given recent experience. Some of these relate to the market turmoil directly, others have more to do with internal risk management processes, systems and even culture. Do we have the freedom to choose to roll out an enterprise-wide system horizontally or vertically? Can it be integrated seamlessly with existing internal and external systems? How can I better communicate risks to senior management? Can we assess the embedded optionality of physicals within our overall risk management framework? What are our credit exposures and how are they influenced by market risk? Do we really know what specific trades are driving our profit and loss (P&L)?

Knowles says that being able to back-test and do attribution analysis to see where components of P&L were generated at a granular level is, as has always been the case, incredibly useful. "With a deeper insight, models and the assumptions used in models can be refined dynamically, which is a functionality that

is vital amid intense volatility." But, given the dramatic peak-to-trough moves exhibited by energy and metals markets over recent months, it is little wonder that the importance of stress-testing and scenario analysis has been in the ascendant.

"OpenLink provides its users with tools that greatly simplify setting up flexible rules-based shocks. Combinations of rules-based shocks, correlated random shocks, historical shocks and more arbitrary shocks are facilitated within our system," he says. "Answering questions like: 'What is our exposure if oil is at \$100 a barrel?' is often the kind of analysis that is most useful when communicating with senior management. It's much more intuitive than trying to talk to them about value-at-risk, for example."

In other words, a powerful risk management system can actually address one of the more subtle issues highlighted by the *Risk Management Survey* – namely the difficulty of ensuring that risk management is seen as a core part of the corporate culture, which is viewed as important by senior management.

As highlighted in the survey, the issue of credit risk has once again – some seven years after the collapse of Enron – taken centre stage. Knowles says that the failure of major derivative counterparties and heightened systemic counterparty credit risk concerns is naturally leading to increased interest in measures that look at the sensitivity of credit exposures to market rates. Indeed, the whole concept and practice of collateralisation is becoming much more sophisticated and nuanced in light of recent experiences, he adds: "The need to fold collateral management into an overall risk management framework is a pressing one. The collapse in spot prices witnessed in key energy and commodity markets in recent months has made this need perhaps more urgent – further exemplifying the necessity of having an effective enterprise-wide risk management system."

About OpenLink

Founded in 1992, OpenLink is a leading developer of cross-asset trading, risk management and related operational and portfolio management software. OpenLink's diverse client base of over 130 customers worldwide includes 10 of the top 25 largest energy companies by market capitalisation, eight of the largest financial institutions and seven of the largest central banks, as well as major hedge funds and public utilities. Headquartered on Long Island, New York, and with offices in New York, Houston, London, Berlin, Vienna, São Paulo, Sydney and Singapore (opening in 2009), OpenLink has more than 620 employees worldwide.

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