Case Studies from Commodity Derivatives Debacles

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Available at SSRN: **http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2617705**

Until recently, one could only gain expertise in commodity-derivatives relationships if one had worked in niche commodity-processor companies or in banks that specialized in hedging project risk for natural-resource companies. The contribution of this paper is to help fill the knowledge gap in the risk management of commodity derivatives trading. The paper emphasizes the constant challenges to a trader when attempting to navigate the very dynamic flows of both the commodity markets and the prevailing risk environment. The paper also emphasizes that operational controls are paramount in an age of increasing legal and regulatory risk, particularly for firms involved in large-scale commodity derivatives trading.

This digest article focuses on the risk-management lapses at three large institutions involved in commodity derivatives trading, including an international oil company, a Canadian bank, and a Futures Commissions Merchant.

International Oil Company

In 2007, an International Oil Company in the Chicago suburbs ran afoul of market-conduct laws and rules, as enforced by the Commodity Futures Trading Commission and by the U.S. Department of Justice, for trading activities of the previous five years.

There is a strict body of law prohibiting market manipulation by commodity traders, especially when retail customers are put at risk. The International Oil Company had attempted to corner the market in physical propane and senior management had consented to the strategy. For example, in the CFTC complaint, the compliance manager at the company's business unit responsible for propane trading is quoted as approving the propane-purchasing strategy.

The total monetary sanction against the company was approximately $303-million, "the largest manipulation settlement in the CFTC history," according to CFTC (2007), which included both civil and criminal penalties. The civil and criminal fines *far* exceeded the market risk of the activities, illustrating where the risk-management priorities need to be for large participants in the commodity markets.

The key risk-management lesson from this debacle is to establish clear-cut compliance and ethics programs, not just for the trading staff but also for senior management. Also, prospective traders entering into large-scale derivatives trading operations need to be as (or more) knowledgeable about regulatory rules and laws, as they are with sophisticated market risk-management techniques.

Canadian Bank

At the end of April 2007, a Canadian bank announced trading losses of $350 to $400 million Canadian dollars. These losses were later revised upwards to $680-million Canadian dollars, which was higher than the bank's revenue from trading during the previous year. Unfortunately, the bank's auditors had found that the bank's over-the-counter natural-gas book had been seriously mismarked. The auditors reported that they had never seen such a large discrepancy between the marks that were used, and market value.

Another way of framing the significance of the bank's natural-gas trading loss was that in its filings with the U.S. Securities and Exchange Commission (SEC), the bank had stated that its average one-day Value-at-Risk in its commodity book was only C$8.8-million during the quarter that ended on January 31st, 2007, according to BMO (2007). We have to conclude that for large-scale commodity-trading efforts, the complexity may not be in market-risk monitoring, but in relatively simply described operational controls, which must be rigorously applied throughout a large organization.

Futures Commissions Merchant

On February 28th, 2008, a large Futures Commissions Merchant (FCM) revealed an unexpectedly large $141.5-million loss from a wheat-futures trading position taken by one of its registered representatives in Memphis, Tennessee for the representative's proprietary (own) account. The representative had amassed more than 15,000 futures contracts covering 75 million bushels of wheat on the Chicago Board of Trade, between midnight and 6 a.m. on February 27th. Apparently, the clearing firm did not have automatic limits in the sizing of futures trades executed electronically, when the operator was a registered representative of the firm.

As a consequence of the wheat loss, the FCM's CEO stated that "the company would introduce limits on positions taken by all customers and traders," reported Cameron and Lucchetti (2008). The FCM also took other remedial actions to restore customer and shareholder confidence in its risk-management infrastructure. The lessons from this trading mishap are to impose strict position limits in all electronic trading systems and to restore customer confidence by taking immediate action.

Summary of Risk Management Lessons for Large Institutions

None of these three examples involve complex mathematical issues; they can each be summarized briefly and simply as fundamental control problems. That said, this statement is admittedly not fair to individuals at large organizations. Employees at large companies operate in *extremely* complex social environments. Frequently, for individuals working at large companies, one can liken employment to a sumo-wrestling match. From the outside, it does not look like anything much is getting done, but just staying in the ring is actually the accomplishment.

The real conclusion from these case studies might be an insight from a textbook, which is not considered a risk-management primer: Good to Great. In the main, a large organization can only do well when it implements a handful of simple concepts, which it consistently applies in scale, and across time, by individuals who all share common business values. In the case of large commodity derivatives trading companies, an emphasis on:

(1) complying with regulatory rules and laws;

(2) valuing instruments based on pricing sources genuinely independent of the trading team; and

(3) imposing strict position limits in all electronic trading systems

are clearly core principles that all stakeholders in institutionally-sized commodity trading firms should embrace.

Conclusion

The perhaps surprising conclusion of this article is that the risk-management lapses at three large institutions were due to simply described operational control problems. After learning the risk-management lessons from these debacles, readers will hopefully be helped in avoiding such mishaps in their own careers.

Endnote and Acknowledgement

Some of the concepts in this article were previously discussed in Till (2008). In addition, the comprehensive article benefitted from comments from Hendrik Schwarz.

References

[BMO] Bank of Montreal, 2007, "CAN 6-K for 5/29/07 Ex-99-1," Securities and Exchange Commission File 1-13354.

Cameron, D. and A. Lucchetti, 2008, "MF Global Takes a Large Loss On Unauthorized Wheat Trades," *Wall Street Journal Online*, February 28.

[CFTC] Commodity Futures Trading Commission, 2007, "BP Agrees to Pay a Total of $303 Million in Sanctions to Settle Charges of Manipulation and Attempted Manipulation in the Propane Market," Release 5405-07, October 25.

Collins, J., 2001, Good to Great, New York: HarperBusiness.

Till, H., 2008, "Case Studies and Risk Management Lessons in Commodity Derivatives Trading," in H. Geman (ed) Risk Management in Commodity Markets: From Shipping to Agriculturals and Energy, Chichester (UK): John Wiley & Sons Ltd., pp. 255-291.

Keywords

Risk management, commodity derivatives, trading, regulatory, hedge fund