Defining Risk Management

A Strategic versus Tactical Approach

By CYNTHIA KASE

One does not have to look far to see the term "risk management" in print. It's a popular topic in the business and financial press, but what does it mean? Risk Management to one person may mean hedging spot cargoes of petroleum, to another it means marketing derivative instruments, and to yet another it means locking in a price for the production of a commodity by selling forward to a large cash customer.

So, it is fair to say that the term risk management is like "success" — it means different things to different people.

Risk management can be broadly defined as "the judicious application of trading and hedging techniques to limit costs and protect revenue from erosion by fluctuations in prices or price relationships without introducing new and even greater risks".

That being said, it is important to realize that there are distinctions among different approaches to risk management.

One distinction, often a clouded one, is that between risks which affect costs and revenue in a global or overall sense, and those which affect particular transactions. The former let's call "strategic risk management" and the latter, "tactical risk management."

The Big Picture vs Specific Situations

Strategic risks are those which affect the overall budget or revenue stream, and apply to risks imposed by fluctuations in market prices over the longer term. For example, a strategic view might consider whether crude oil is in the $22 per barrel or $16 per barrel range, and how much the market is expected to fluctuate over the next year. The strategic risk manager would not be concerned with specific price moves on particular parcels or shorter term fluctuations. Strategic risk must be evaluated at the highest levels of an organization and addressed as part of a company's overall planning strategy.

Tactical risks are those which affect a particular piece of business or transaction. Like strategic risk, tactical risks are related to price levels, but on a shorter term. On a tactical level, attention might be given to timing a particular purchase by the supply department, or with identification of the best market in which to obtain oil or gas.

In addition to price risk, arbitrage risk can best be managed at this level. This is the risk that the market which offered the best price at the time a destination or origin decision must be made will no longer be the best market when the oil or gas transaction is executed.

Case One: The Airline

This past spring, a number of airlines became involved in a fare war. It could have reasonably been expected that lowering fares would boost both business and jet fuel consumption. Also, the energy market had bottomed out in January and began a classic upward price trend. Given the expected impact of increased air travel on jet fuel demand and prices, and seeing prices begin to rise, locking in jet fuel prices ahead of announcing lower fares could have been an integral part of the execution of an airline's general business strategy.

Since fuel costs constitute roughly 20% to 30% of an airline's cost structure, and profit margins are generally less than 5%, fuel costs can mean the difference between a profit and loss.

Further, an airline hedging jet fuel prices could have estimated in advance how much fares could be lowered while still covering overhead. Indeed, according to derivative industry sources, a forward swap on jet fuel starting on May 1, basis New York Harbor, purchased in March, could have been locked in at roughly 55¢ to 56¢ per gallon. Actual jet fuel prices since May 1 have averaged more than 62¢ per gallon as of this writing.

Thus with about a 10% savings, ticket prices could have been reduced an average of 2% to 3% without sacrificing margins.

While the forward thinking airline may have ensured that on a long-term average price basis jet fuel costs were hedged, a supply department trader still must decide exactly when to purchase a specific physical cargo to offset the hedge. While the hedge protects the airline on a global, average price basis, barges and cargoes are purchased in discrete lots, thus introducing short term or tactical risk.

The tactical trader can use a variety of fundamental and technical analytical approaches to decide when to time his discrete purchases. The object in this case is to time purchases to coincide with market dips and retracements.

Case Two: The Offshore Refiner

Offshore refiners often are loath to sell products at prices which reflect destination markets. Many such refiners incorporate price floors or alternate pricing formulas which are designed to ensure that they get the

highest netback price available in any of the world's many markets. However, buyers will then generally discount their price formulas by a hidden penalty higher than the average amount an alternate market may impose. This is because, unlike the refiner who may be selling product on a more-or-less prorata basis, the buyer is most likely purchasing a limited number of cargoes and can not "average-out" his risk. Thus he chooses to discount the formula based on a number of standard deviations over the historical statistical mean.

Simplifying the Formula Can Limit Risk

In order to limit the risk of this type of discounting engendered by the customer's attempt to limit his risks, in essence "paying" for the customer's price insurance, the refiner can make a strategic business decision to simplify pricing formulas, taking responsibility for managing these risks on the tactical level.

- In the case of the refiner with a number of alternate markets, pricing based on the delivery market allows the refiner to receive the highest reasonable price in a given market, eliminates the need for buyers to imbed risk insurance penalties into their bids. The refiner must now choose the best destination market on a case by case, or tactical basis.

For example, once a cargo is scheduled for production, the tactician can hedge the cargo forward into the best market. If the market is still most attractive once the cargo is loaded, the cargo can be delivered into that market. Otherwise, the hedge can be lifted, and the cargo can be sold and delivered into the market offering the best price.

Case Three : The BTU Marketer

In our third example, we consider the case of a company which conducts both oil and natural gas marketing. Such a company which has had separate marketing organizations selling heating oil, residual fuel oil, natural gas and liquefied petroleum gases might make a strategic decision to consolidate its marketing efforts and offer its customers with alternate fuel capabilities fixed-price contracts based on the British thermal unit price. Under this system, the fuel supplier and the customer agree on a price for energy; whether the energy takes the form of fuel oil, natural gas or propane is irrelevant. This market approach is attracting increased interest from fuel vendors and their customers.

A variety of alternative fuels might be deliverable against such contracts. The seller's main concern is to optimize his margin by supplying his lowest cost fuel, followed by transportation availability. However, the seller might also be limited by the buyer's requirements.

For example, some companies need clean burning fuels. An optics company's contract might be limited to natural gas and propane, both of which have associated futures contracts. A chemical plant using fuel for drying solids in rotary kilns might be restricted to heating oil and natural gas, again both listed on the New York Mercantile Exchange. Some buyers capable of using residual fuel oil as well as other liquid fuels and natural gas, might be located in a non-attainment air quality area and thus have limitations on the amounts of fuel oil which can be burned.

On the strategic level, the decision would be made as to what portion of the price exposure to lock-in ahead of marketing efforts and how much to hedge as deals are transacted. This strategy would define the structure of the hedge, the instruments and the mix of commodities to be used for the hedge (heating oil, natural gas, crude oil, propane).

The execution of the marketing plan would be handled tactically by a supply manager or trader. For example, if propane prices were high in relation to natural gas, a decision might be made to postpone including propane in the strategic hedge, thus shifting the management of the propane to natural gas basis risk to the tactical level. Then on an ongoing basis, when the tactician identifies time periods when propane is low in cost relative to natural gas, he may hedge the spread relationship to adjust the strategic hedge.

Locking in "swing" portions of pipe-line transportation might also be left to the tactician as he is able to fine-tune the mix of fuels he expects to deliver.

In conclusion, in defining the differences between strategic and tactical risk management, risk management functions can be carried out by those best suited to execute them. Strategies which will enhance overall revenue can become part of a company's regular planning activities. Tactics which will fine-tune general strategies and adjust them to insure that the plan remains appropriate to market conditions will ensure the proper short term implementation of the intended strategy. ■

Cynthia Kase, a former chemical engineer with technical and fundamental market experience, advises energy and commodity derivatives clients on trading and risk management strategies and designs systems to support this activity. Among her clients is the Saudi state oil company, Samarec, for whom she has designed a propane inventory management system.

She managed refined product trading for Chevron Corp.'s international trading group, and later served as Chemical Bank's vice president for commodity risk management.

She is a member of The International Association of Financial Engineers and the Market Technicians Association.

Ms. Kase resides in Staten Island, N.Y.