Commodity Hedging – the advent of a new paradigm

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The events of 2008 have shaken up the risk management approach of multinational corporations (MNCs) and have given renewed emphasis to the way they handle a range of financial risks, such as commodity purchasing, liquidity, FX and funding. These issues have come to the fore for heavy users of commodities following the rollercoaster ride in the prices of oil, metals, and soft commodities. Though the high prices of 2008 have now subsided, today’s situation remains woefully uncertain for the MNCs:

- Though price levels have in general dropped from their peak, volatility remains high and, in some cases, even higher than in 2008
- The consumption rate of most commodities is now lower than in most of the previous decade as a consequence of the economic downturn
- In consequence, the present hedge positions have a market value which is far below the levels at which they were entered into.

As a result of this situation, many firms have experienced hedging outcomes that are as unexpected as they have been painful, with the end result that they have seen significant M-t-M losses on their books. This has increased scrutiny from the board, and made ever greater calls on the expertise of the treasury function in general and on the treasurer in particular. In such conditions, as one treasurer told us, “Complacency is not an option”.

Faced with higher levels of earnings volatility, organizations need to quickly develop an approach to effectively manage this uncertainty. Companies that are able to achieve more reliable, predictable raw materials costs – and similarly predictable earnings – will have a clear competitive edge, both in their primary business, where customers can be confident that their own costs are not going to be volatile, and in the capital markets, where debt and equity investors will reward stability.

Responding to a new reality

There appears to be a great degree of commonality in the issues that MNCs are facing. All are now in a situation in which their hedging approaches have clear shortcomings. This has led to an increased desire for financial transparency in commodity management, which throws up some maybe unexpected observations:

- Presently, organizations have a one-dimensional view of prices/market conditions
- Many hedge/price risk management decisions do not reflect the current market context and are therefore not responding well in unexpected market situations (e.g., forward buying in 2008 at the peak of the market)
- The instruments being used currently do not adequately reflect the market conditions, nor the true risks being faced (do you need to hedge price or volatility?)
- Treasurers therefore have little transparency in regard to the risk-return trade-off of the various strategies under consideration
- They lack the optimization capability necessary for making informed choices between the various hedging alternatives.

In this situation it is not surprising that treasurers are increasingly realizing that new approaches are required to manage the price risk.
risk arising from commodities and raw materials. This is far from being an industry specific issue – corporates in a range of industries that include packaging, FMCG, chemicals, energy, and airlines are all in a similar situation with regard to their commodity/raw materials price risk management and hedging capabilities.

Faced with these significant challenges, the response of a number of MNCs has been rapid. We have already seen several organizations respond to the impact of the 2008 ‘pop and drop’ price developments by reviewing their organizational set-up for commodity procurement and hedging. Certain organizations have brought financial and treasury expertise into the procurement organisation, whilst others have established cross-functional ‘crisis teams’, quickly bringing together in-house data analysis and expertise.

There is also a dawning realization that managing physical purchasing and financial hedging in separate silos has the potential for creating both unexpected positions and

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Manufacturing Company - case study

The manufacturing company in this example experienced significant cost pressures during the commodity price boom and was therefore seeking to add new capabilities to its procurement and hedging practices. Given the nature of its portfolio of raw materials purchases, equal emphasis was also given to finding new ways of contracting non-hedgeable raw materials.

To ensure cross-functional synergy, the manufacturing company’s initiative was jointly sponsored by the CPO and the CFO. The initiative’s main objectives were to manage cost volatility, provide differentiation/competitive advantage, and to improve the company’s negotiation position with suppliers.

During the initiative the organization developed the analytical capability to reduce raw materials volatility by:

- Evaluating a range of hedging instruments based on analysis of the underlying exposure as well as the hedge effectiveness and liquidity of the hedge instrument
- Negotiating new pricing mechanisms (e.g., switching options for raw materials with alternative production processes) based on an enhanced understanding of the risk reduction that could be achieved and therefore what they were willing to pay to achieve this
- Seeking contracts based on suppliers input costs – where input costs are hedgeable (e.g., energy) – to ensure that the input volatility can be managed
- Evaluating all contract options using a consistent risk-return framework in a similar manner to the hedge optimization described above. This would form the basis for the negotiation strategy
- Evaluating the effectiveness of the range of available hedge instruments on an ongoing basis to see which instruments offer the best risk reduction at the lowest cost

Significantly, these new capabilities are jointly owned by purchasing and finance. This analysis is now being used for renegotiating supply contracts from top suppliers, modifying procurement and supply-chain discussions at the executive committee level, and for targeting the delivery of cash flow with a reduction in the level of risk of 10-12%.
increasing basis risk. This gives rise to a situation in many organizations, in which there is significant misalignment between the authority level required to enter into physical contracts and that required for financial contracts, despite the fact that both decisions can ultimately have the same financial impact.

The outcome of this ambiguous situation is often as unwanted as it is unexpected. One organization found itself lumbered with an unpredicted loss-making long position as a consequence of its procurement organization entering into a two-year fixed-price supply contract at the top of the market, without this being considered in the risk committee – at the time, the risk committee thought that the organization was hedged at the lower end of the limits specified in the risk policy. If the procurement organization had sought to achieve the same outcome with a financial instrument, rather than by a physical contract, a more thorough business case and review process would necessarily have been put in place.

These problems have shown the need for a new organizational approach. This need has forced purchasing, finance and sales to cooperate more closely to ensure that the most cost-effective solutions are found for the procurement of commodities and managing price volatility. To date, a significant obstacle to cross-functional cooperation has been the lack of a single common language and metrics for measuring the performance and KPIs of these functions. Shared terminology and aligned objectives are critical to ensuring that the functions are able to work together more effectively.

New approaches to commodity hedging

A number of corporations, such as those in FMCGs, have highly diverse purchasing requirements for commodities and raw materials that span the whole gamut of hedging markets, from the most liquid to those that are illiquid or non-existent. With the lessons of 2008 in mind, these organizations are now seeking to apply hedging techniques to the purchasing of raw materials. In this process they are extending the definition of hedging in managing commodities/raw materials volatility using both financial and physical contracts.

In the case of those raw materials for which hedge instruments are not readily available, MNCs are seeking to change the way they contract these inputs and are now evaluating the relative attractiveness of the available contracts from a risk-return perspective. As a result we now see organizations exploring a range of contract options. These options typically seek to change the basis for the pricing or the tenor of the contract:

- Changes to the price basis of the contract:
  - Move to index linked
  - Use an underlying commodity/input that correlates well with the raw material being bought (e.g., link the pricing of energy-intensive raw materials to an energy commodity that can be hedged)
  - Transfer the risk management issue to the supplier (e.g., using fixed price contracts) thereby increasing their focus on managing cost volatility
- Create optionality, e.g., by including switching options in supplier contracts, giving the purchaser the option to switch at a particular point in time, based on their market assessment.
- Changes to the tenor of the contract:
  - Move from spot to term
  - Term contracts that include options to extend the period and/or exit.

In order to explore the negotiation of these new types of contract, MNCs require a new analytical framework that can provide them with increased functionality. These analytics will need to possess characteristics that are significantly more advanced than those in place in most organizations today. The new analytics are of three broad types:

- Commodity price projections
- Exposure analysis (e.g., CF@R)
- Hedge/contract optimization

Before the storm of 2008, most organizations used a single-line price projection. This was based either on observed forward prices or fundamental analysis undertaken in-house or bought in. However, single-line price curves such as these do not recognize the prevailing market context (i.e., is the oil price more likely or less likely to go up or down at the current point in time?) nor do they reflect our knowledge of the historic price developments of these commodities. A more insightful way to view future prices is to incorporate past market behavior (e.g., volatility) to predict future price paths around the forward curve or consensus forecast; see Figure 1. In addition, stress analysis scenarios can be used to better understand how prices behave in unusual circumstances (such as the pop and drop phenomenon of 2008).

More sophisticated forms of price path analysis form the basis for developing a better understanding of the underlying commodity exposure. These new forms of analysis enable the treasurer to gain greater insight into the downside risks of raw materials price increases and help facilitate more effective comparison of the cost and impact of the alternative hedge transactions. Typically, we see Cash flow at Risk (CF@R) or EBITDA at Risk (EBITDA@R) used to measure the level of risk (see Figure 2), while Economic Profit (expected profit less hedging costs and foregone upside) is used as the measure of return.

Given the almost infinite number of hedging alternatives (in terms of the hedge ratio, instrument mix, and duration) many organizations are also using simulation techniques to make the evaluation process less resource intensive and more responsive; see Figure 3.

The benefits from these tools range from a more reflective discussion and consideration of market conditions; the probability of not meeting budget due to commodity price movements; the acceptable range of earnings and/or cash flow volatility, and enhanced evaluation of the available hedge alternatives. Ultimately, these benefits will lead to the organizations delivering their targeted risk reduction in the most economical manner by evaluating hedge ratio, instrument mix and duration against an uncertain future (as embodied in the price projections).

**Conclusions**

The present increased focus on commodity costs and the drive for improved commodity hedging approaches presents an opportunity for treasurers to add more value to their organizations and to ensure that better risk analysis is high on the executive agenda.

The implementation of these new analytical approaches needs to go hand-in-hand with organizational developments that facilitate cross-functional data flows and decision-making. Any lack of integration between the physical procurement and hedging activities will lead not only to sub-optimal risk reduction but also to unexpected volatility and, in the worst case, higher risk exposure.

The events of 2008 have given momentum to an emerging best practice framework in commodity risk management. Our experience shows that this framework has the potential for widespread application and can be deployed across both hedgeable and non-hedgeable commodities. It is our belief that those corporations that have been smart enough to have already put in place these practices stand to gain significant competitive advantage in the months ahead.