

Feedstock Commodity Price Risk Management

An increasingly
volatile issue

Volatile feedstock prices are making life increasingly difficult for companies in a range of sectors – from chemicals, metals and manufacturing, to aviation, oil and gas. In the past, periods of high volatility tended to be seen as a force majeure event – something beyond the anticipation or control of company management. Not so today: Analysts and investors increasingly expect companies to be prepared for price fluctuations and able to navigate through them competently. Where earnings are seen to be linked too closely to market prices – either positively or negatively – companies have found themselves penalized.

One response is for companies to actively pursue a commodity hedging program, but this can often have serious, under-appreciated weaknesses. Companies may end up over-paying for a relatively small amount of risk transfer, or transferring more risk than is necessary and surrendering potential upside. A better approach is to use hedging as one element in a comprehensive market price management program, which can usually be built upon existing analytics.

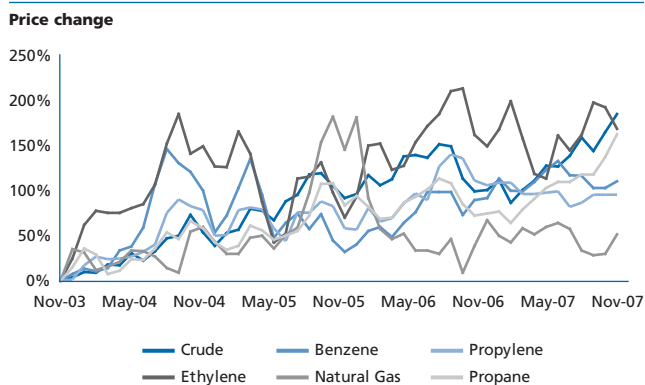
To outline an effective path forward for corporations, we will highlight some of the specific issues currently faced by the chemicals sector, and outline why a more considered and robust response is required to meet this challenge.



Hard times for chemicals producers and consumers

The recent surge in global demand for energy and resources has increased feedstock prices and volatility for many of the key commodities relied on by producers and by the manufacturing sector. Figure 1 illustrates that many of these commodities have reached record high price and volatility levels in the past few years.

Figure 1: Feedstock price levels



Facing higher levels of earnings volatility, organizations need to develop an approach that will more effectively manage that uncertainty. Companies with more reliable, predictable feedstock costs – and similarly predictable earnings – have a 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 reward stability.

We would argue that a key part of the puzzle is for companies to begin modeling their own future earnings. Leading corporates are already able to do this, enabling them to communicate more confidently with both customers and investors. Simulating company earnings requires an advanced understanding of the market characteristics that impact revenues and profit – for example, price levels, the causes of significant price movements, and an appreciation of the price elasticity of specific products. Developing this understanding is not a simple task. In some

cases, a material driver of company earnings will not have a liquid market, making it harder to anticipate changes in pricing. One way to cope with these situations is to identify a proxy hedge and evaluate how that structure may affect earnings. Accounting considerations – especially those arising from FAS 133 and its rules on the valuation and reporting of derivatives – also need to be factored into the overall picture.

In the face of this apparent complexity, a hedging program can seem appealingly simple – conventional wisdom suggests that companies can establish a rolling system of hedges and then more or less ignore price movements above or below a certain level. However, our experience shows that a majority of companies are actually very inefficient in their use of financial hedging instruments. In some cases, the cost of hedging is greater than the risk being transferred. In others, hedging appears more like speculation. Derivatives are a valuable tool, but they should be used within the context of a more systematic appraisal of a company's sensitivity to market prices and a clear policy on where and when hedging is required:

- Ensure organizational clarity on the goal and objectives of the hedging program and the true corporate risk appetite with regards to acceptable bands of earnings volatility
- Develop the analytic capabilities required to accurately measure net exposure across multiple business units, projects, and regions, taking into account all available natural hedges
- Develop analytic tools to compare multiple hedging strategies (feedstock types, tenures, hedge ratios etc.) that enable the organization to optimize risk reduction vs. foregone upside
- Ensure that best practice governance and infrastructure is in place to support the required analytics and trading activities

Once the above are well developed, a market price management program can become an effective tool in mitigating feedstock price exposure. In addition, companies should also explore various other alternative risk mitigation strategies, such as:

- Purchasing input commodities in situ, or as intermediate materials
- Partial or outright ownership of supply chain participants to enhance security of supply
- Strategic contracting
 - Combines aspects of both derivative hedging and supply chain management
 - Contracts contain significant embedded optionality, tied to price or volume indices
- Inventory can be used as a short to medium term hedging vehicle
 - Optimal size and locations driven by cost, other risk mitigation components
 - Can be part of contractual supply structures

While these methods can shift and reshape certain key risks, they do not change the fact that to be successful the user must have a strong understanding of their overall net exposure and the analytics in place to measure the effectiveness of any proposed strategy or combination of strategies.

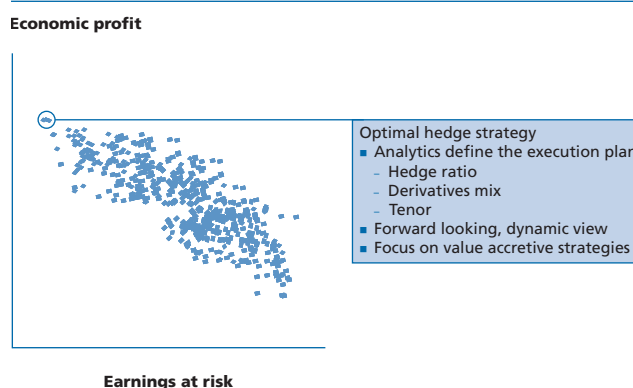
Measuring Success

To effectively determine the effectiveness of their feedstock price risk management program, an organization must be able to evaluate four key components of each strategy:

1. The extent to which downside volatility has been reduced
2. Cost
3. The amount of upside potential surrendered
4. Risk transfer impacts

The over-arching aim is to apply a risk-return analysis to different types and combinations of price management strategies. When a company can measure its expected net earnings with and without those strategies in place, it then becomes possible to see how much is being gained – or lost. This is highlighted in Figure 2 which is based on analysis of one Oliver Wyman client's hedging strategy. The key metrics here are Earnings at Risk (EaR) on the x-axis, and the remaining Economic Profit on the y-axis.

Figure 2: Economic Profit (EP) vs. Earnings at Risk (EaR) for multiple hedge strategies (July-December 2007)



Source: Oliver Wyman Analysis

This type of analysis highlights the wide divergence in effectiveness which different hedges provide and enables a company to select an optimal strategy in line with the desired EaR risk reduction.

How Oliver Wyman can help

Oliver Wyman's Corporate Risk Practice is exclusively focused on providing breakthrough insight to leading organizations, based on our deep specialization and experience in the risk and value management space. We work closely with senior management, to create clear and tangible value by passing on knowledge about leading edge practices.

Leading edge analytics

Oliver Wyman possesses leading edge analytic capabilities that have been developed jointly with the world's premier banks, energy and chemical companies. Using risk modeling techniques we have helped our clients gain a deeper understanding of earnings volatility drivers, which in turn have uncovered effective volatility mitigation strategies. Examples of the benefits of our analytic approach include:

- Evaluation of true net exposure, taking into account both feedstock and currency volatility as well as the potential business pricing responses which may provide natural hedges throughout the business
- Evaluation of current hedging program to identify gaps and fit with corporate objective
- Review and enhancement of analytic tools and capabilities
- Review and enhancement of governance structures to ensure adequate controls and monitoring are in place
- Insight into the practices and strategies that have worked across other firms
- Deep knowledge of the commodities trading sector

Best practice governance structures

Oliver Wyman has significant experience in supporting the development of best practice trading functions. In aligning functions with best practice, Oliver Wyman has internalized an understanding of how to manage potential regulatory issues – like those arising from FAS 133 or MiFID – with specific regard to commodity risk management. Oliver Wyman also has significant framework design experience including; structures and interfaces, management risk reporting and the development of organizational linkages.

Oliver Wyman is committed not only to impact – the immediate realization of value – but also to knowledge transfer, delivering long-lasting organizational progress.

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