risk management
COMMODITY HEDGING

# Rise above the turbulence

## Executive summary

- Typically, companies identify three sources of price risk: interest rates, foreign exchange and commodities. In almost all cases, interest rate and FX risk is hedged through derivative contracts. However, commodity risk is not always hedged, with the company often deciding to remain exposed to that risk.

The approach of not hedging commodity risk may be questionable when one considers the relative volatilities of the respective asset classes. Interest rates, for example, currently have volatilities of around 10%. Foreign exchange (FX) rates have volatilities of around 15–20%. Contrast those levels with crude oil volatilities of around 50–60%, copper volatilities of approximately 50%, and wheat at 40%.

Exposure to commodity price risk with that level of volatility can result – and, indeed, has done so – in significant impacts to revenue for producers of commodities, which in turn affects the costs to consumers of commodities. There are numerous examples of commodity volatility having had a significant negative impact on corporate earnings and share price.

The volatility of commodity prices and their potential impact on corporate earnings provide a strong case for hedging commodity exposures to achieve greater stability of cashflows. However, the exact value of a commodity hedging programme will depend on how it is defined by the management. Hedging programmes that are poorly defined can result in negative outcomes which are actually contrary to the original aims of the programme and overall corporate objectives. This article will outline the necessary steps in constructing a successful hedging programme, drawing on the experience of Etihad Airways, the national airline of the United Arab Emirates.

Etihad has been actively hedging commodities since 2007, and has developed a bespoke hedging programme. The programme involves the use of analytics to understand the risk levels in the jet fuel markets, as well as utilising different instruments and strategies to best meet the company's business objectives in light of those risk levels. In January 2009 Etihad went live with SunGard's Kiodex Risk Workbench, a commodity trading and risk solution, to improve the management of its hedging programme.

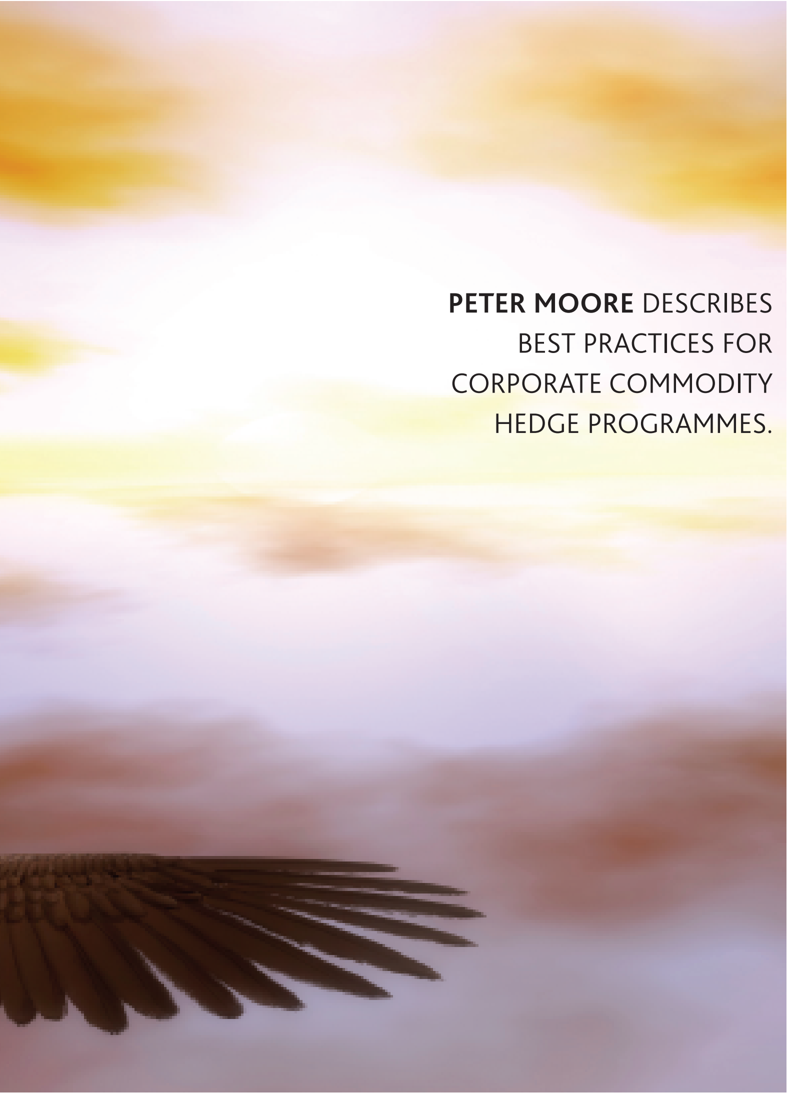
**FAMOUS FIVE** There are five steps to establishing an effective hedging programme, as follows:

- **Step 1: What are we hedging for?** This first step is arguably the most important: a clear definition of the objectives of the hedge programme. A company's senior management should provide the owner of the hedging programme, typically the corporate treasurer, with clear measures of success. Examples could be to ensure the cost of jet fuel does not exceed 30% of revenues over the next year, or the price of aluminium purchased should not exceed $2,000 per ton over the next year. Without clearly defined, quantifiable objectives, the outcomes from hedging cannot be accurately measured as successful or unsuccessful.

According to Ricky Thirion, vice president of treasury at Etihad Airways, the mandated objective of Etihad's fuel hedging programme is "to achieve cost certainty, while protecting the business plan fuel rate and managing seasonal risk. This is done to minimise the impact of fuel price volatility on our earnings."

The objective should not be to make a profit from hedging. It may be perfectly acceptable to make losses on hedges, as long as they are offset through gains on the underlying commodity exposure. If a company's hedging programme is expected to make a profit, then it is not hedging any more, and is instead speculating on commodity price movements. This can decouple the hedge profit and loss (P&L) from the underlying commodity P&L, which may actually result in greater volatility of corporate earnings.

- **Step 2: How much to hedge, and what to hedge with?** With a mandate set, the next step involves devising a strategy that will meet



**PETER MOORE** DESCRIBES BEST PRACTICES FOR CORPORATE COMMODITY HEDGE PROGRAMMES.

these objectives. There are two key considerations. The first is how much of the projected commodity exposure to hedge, allowing for a predetermined level of flexibility. The second consideration is to determine which instruments and markets the company should use. There are a wide variety of listed and over-the-counter (OTC) commodity instruments available for companies to employ, each with differing profiles. Each approach has its pros and cons, but before making a selection, it is important to understand the effectiveness of each in hedging the underlying exposure under different scenarios.

Those scenarios can be generated in a number of ways, but two popular ones involve using cashflow at risk and user-defined scenario analyses. Etihad Airways provides an illustration as to how this can be successfully done using tools provided by SunGard's Kiodex.

The Kiodex Risk Workbench helped Etihad to determine hedging quantities as well as the best method to execute these hedges in the market, says Ricky Thirion. "Using Kiodex's proprietary cashflow at risk model, as well as its advanced scenario analysis tool, helps us to simulate how different hedging strategies will perform under different scenarios," Thirion says. "This helps Etihad to identify the hedge ratio and the instruments to use, ensuring that we meet our hedging objectives – even in a worst case scenario."

■ **Step 3: Executing the hedging strategy.** Corporations often prefer to execute their commodity hedges through OTC transactions with banks, as they can get a tailored product that precisely matches their underlying exposure and minimises basis risk. However, OTC commodity trades can be difficult to value due to a lack of relevant market data. Therefore companies have to rely on their dealer to offer a fair market price. Overpaying for hedges can negatively impact a company's earnings.

In order to mitigate these risks, Etihad Airways calculates fair value prices for its jet fuel hedges prior to executing on the OTC market. It can do this using the comprehensive independent market data produced by Kiodex. "Kiodex's independent market data helps us to execute deals at fair market value, which means we avoid paying more for our hedges. At the same time, our auditors are satisfied that we can value our positions using a truly independent source of market data," states Thirion.

■ **Step 4: Check that the hedges are on track.** Throughout the life of a hedge, it is important to revalue the trades, track the P&L and monitor the risk, ensuring that the hedges remain effective versus the underlying exposure. This enables the company to ensure it can monitor its own credit risk vis-à-vis the dealer. Additionally, the company has to comply with FAS 133 or IAS 39 hedge accounting standards.

In order to monitor the executed hedges, Etihad Airways utilises the reporting functionality within Kiodex. These reports allow Etihad to get up-to-date information regarding outstanding positions, portfolio performance and risk. Etihad is also able to view exposure on a counterparty level, helping it to control and monitor credit risk.

"The full suite of reports enables us to update our hedging decisions in real time, allowing us to confidently predict that our hedge objectives will be met," states Thirion. "In addition, the reports allowed us to get off spreadsheets, which means that this information is easily tracked and securely stored and therefore much easier to verify by our auditors."

■ **Step 5: Quantifying the final outcome.** Once the hedged trades have settled, the next step is to net the realised cashflows from the derivative hedge trades against the physical commodity purchases or sales. This provides the net commodity cost to the business, and enables management and the board to evaluate whether the hedging programme was a success versus the original corporate objectives.

"The extensive settlement data that is fed into Kiodex means that we can easily close out our trades and ensure that the valuations match those provided by our counterparties," says Thirion. "We're then able to quantify the realised amount we paid for jet fuel and report back to senior management. We can then also easily determine what portion of fair value should be posted to our balance sheet under hedge accounting rules as opposed to our income statement, while at the same time storing this information for our auditors."

**AN EFFECTIVE HEDGING PROGRAMME** For companies with commodities exposure, volatile commodity prices can have a significant impact on earnings. Hedging this exposure is an effective way for a corporate treasurer to manage the company's commodity risk. There are certain steps the treasurer must take to make the hedge programme effective, starting with clearly defining the purpose of hedging, through to formulating an appropriate strategy, ongoing monitoring of the hedges, and finally being able to communicate the results of the hedge programme.

Furthermore a successful hedge programme is not a static process, and the hedger must have the ability to see how commodities risks are changing, how that impacts the company, and update the strategy accordingly.

Thirion says: "With better information on market fuel prices and hedging price dynamics, we are able to achieve more certainty on fuel costs, and better protect our earnings from unanticipated fuel price fluctuations whilst having all the controls in place to satisfy our corporate governance."

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