

Hedging your technology bets

KELVIN WALTON CONSIDERS HOW COMMODITY HEDGING IS INFLUENCING TREASURY MANAGEMENT SYSTEMS AND THE GROWTH OF THE TREASURER'S REMIT.

Executive summary

- Spiraling energy prices have driven the demand for technology to support treasurers' commodity hedging operations, as the shortcomings of older solutions are revealed.

A few years ago, most treasury management systems made little or no special provision for handling commodities. Many of those that apparently did so had in fact modified foreign exchange management software to some degree, probably in response to the demands of a new client. Only a scattering of corporates – often mining companies – needed such specialist functionality, and typically the supported commodities were precious metals. The larger players, such as oil companies, utilities and airlines, were supported by specialist commodity dealing systems, or by commodity hedging systems, which had been designed to support a specific environment and were built in-house.

The surge in demand for treasury management systems to incorporate commodities hedging is linked to the recent steepening trend in energy prices. More and more companies are now asking treasury to hedge commodity exposures, and treasurers are obliged to look for technology support to do so, given that the mathematical and processing demands of such a requirement may be new to some.

An additional factor that seems to be driving the push towards a technology solution is the unceasing demand from management and auditors for strong and demonstrable control. This emanates from the Sarbanes-Oxley Act in the US, and is now rapidly becoming a global standard.

Technology solutions must be robust and transparent, and

spreadsheet solutions fail to meet the requirements of modern auditors. The same issue can arise with older, in-house systems that may have done the job adequately in the past, but cannot economically fulfil today's technology standards, such as flexible on-demand reporting and properly mapped processes.

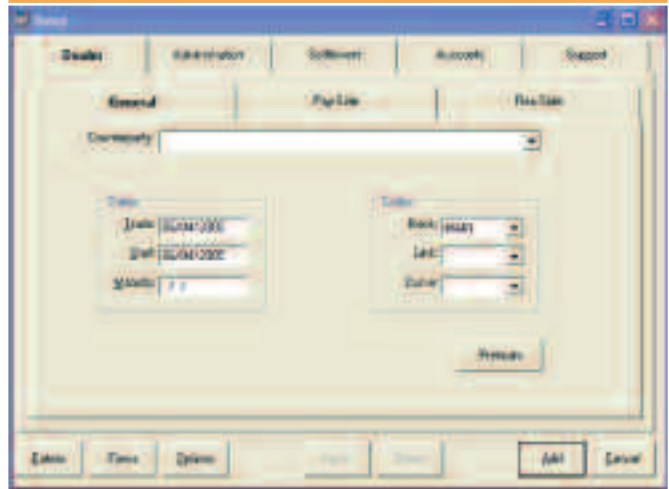
WHICH COMMODITIES? It is not surprising that fuel is the most common commodity for which hedging demands are currently increasing. Technology solutions now, more often than before, meet the requirements of oil and gas hedging. Electricity hedging presents its own more complex and sophisticated demands, and full support for comprehensive electricity hedging operations tends to reside in the more powerful (and therefore expensive) commodity dealing applications. A recent and interesting new demand on technology is support for CO₂ emissions hedging: a requirement that until quite recently would have been seen by many as esoteric or even metaphysical is now an essential feature for an increasing number of companies in the manufacturing and raw material production sectors.

THE BUYERS A further feature of this change in the treasury technology marketplace is the breadth of industrial sectors of the interested companies. The obvious growth area has been among smaller oil companies and airlines, which might not in the past have been able to justify the budget for acquiring and implementing a relatively powerful systems solution. Their enhanced bottom-line risk



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Figure 1. Commodity swap input screen



in a much more volatile climate has provided the catalyst for the investment. The demand has spread to sectors such as oil service companies, which naturally track the commercial prospects, risks and revenue trends of their giant clients.

Similarly, the historical interest of airlines has spread into the more general category of 'transport companies'. More generally, the management of many other kinds of companies (such as retailers) has more frequently pushed commodity hedging higher up their agendas, and they have been prepared to increase their treasury technology investment to help mitigate and manage the perceived risk. What was once exotic is becoming a mainstream requirement.

THE SCOPE OF COMMODITY HEDGING DEMANDS

Treasury management system developers are now under pressure to support commodities transactions. It is generally the case that solutions for futures hedging can be fitted to commodities with relatively little effort. Beyond this well-established marketplace, the generic demand for systems support is for managing the dealing, administration and settlement of standard or plain vanilla commodity transactions performed outside the futures marketplace. These are typically 'contracts for difference' – and are classified as derivatives. Corporates will normally use these derivatives to hedge their risk of buying or selling the underlying commodity in the cash market. As derivatives do not (apart from commodity forwards) involve the physical delivery of the traded commodity, there are some alluring similarities with financial derivatives, which can lead

developers to look for an existing code to help them find viable shortcuts to secure, working solutions. Cash settlements will be required at various points in the lifecycle of a commodity derivative, presenting another parallel with the behaviour pattern of financial derivatives.

The range of plain vanilla derivatives typically required by corporates includes:

- Commodity swaps;
- Commodity swaptions (with multiple premiums);
- Commodity caps;
- Commodity floors; and
- Commodity collars.

In addition, an 'extendable commodity swap' can be created by combining a commodity swap with a commodity swaption.

DESIGN REQUIREMENTS FOR A STRONG SOLUTION

One of the key elements of good system design is that the resultant process should interrelate comfortably with the expert user. Good designers and developers of commodity solutions will avoid shortcuts so that the end result interacts smoothly with the user. Generically, this interaction falls under the technical categorisation of 'look and feel and usability'. This means that the way a solution is presented by a system is critical to its success, as users who dislike or are uncomfortable with it will be distracted

from their core duties, which inevitably leads to errors, disputes and other negative results.

This technical design, or process engineering, issue is particularly relevant to commodity hedging extensions of treasury management systems because of the number of real (but sometimes imperfect) parallels with financial hedging mechanisms. The matter can be apparently trivial (especially in the blinkered view of some technologists), but the end result can be disastrous out in the field.

As a simple example, the financial market terms 'premium' and 'discount' may be roughly interchangeable with the commodity market terms 'contango' and 'backwardation'. But the impact of 'wrong' terminology on a user can be huge and raises the question, if they can't get that right, what else is missing? A sound commodities hedging solution should talk the appropriate language to help gain user acceptance. This kind of attention to important detail should naturally extend to the underlying processes and workflows.

An example of a commodity swap input screen is given in *Figure 1*. This shows the type of commodity hedging transaction input screen with which a busy commodity dealer should be comfortable. To fulfil market requirements, a number of conditions need to be fulfilled, for example:

- Users should be presented with a range of valid reference prices; and
- The system should understand the basis and index conversion algorithms that underlie the specific transaction type.

SELECTING A COMMODITIES HEDGING SOLUTION

The acquisition of a commodities hedging solution presents the treasurer or their project manager with some more subtle issues 'under the bonnet' as well as presentational issues. Many of the fine points of detail are commodity-specific, so the purchaser of an electricity hedging solution will have many detailed technical requirements compared with, say, the purchaser of a fuel oil hedging solution. It would be tedious to go deeply into these issues, which will naturally be areas of deep expertise for those with a direct requirement. For the general reader, examples of commodity-specific process management issues include:

- The solution's ability to manage multiple premiums and multiple exercise dates on commodity swaptions;
- The facility to capture commodity reference prices that are made up of a 'basket' of commodity indices, weightings and conversion factors; and
- The ability to perform accurate calculations of the actual and projected net cashflows from a variety of reference price calculation definitions.

These are only a few of the areas in which commodities are different – and in which a proposed solution must work if it is to offer the expected benefits once implemented.

Many more prosaic items should not be ignored if a complete solution for commodity hedging requirements is to be achieved. These include:

- Integration with complementary elements of the treasury management process, such as cash settlements and forecasts;
- Completeness of reporting, such as mission-specific confirmations and reports;



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- Provision of risk analysis in line with corporate policy;
- Provision of necessary interfacing and integration; and
- Provision of hedge accounting compliance in line with corporate policy.

As ever, there will be a substantial amount of company and treasury-specific analysis needed to produce an effective request for proposals to select a commodity management solution. If the process chosen is inadequate, project risk is naturally amplified.

THE FUTURE For some time treasury technology has been driven by control and regulatory demands. Solutions must not only work, they must be seen to work effectively and fully. In some ways, the field of risk management and regulatory compliance, once apparently distinct, are now understood to be convergent – or even overlapping by prudent corporate treasurers. The growth of demands for treasurers to manage commodity hedging is an interesting example of the trend for expansion of the treasury's mandate to manage and mitigate the risk generated by commodity exposure. This will continue to generate the need for strong technology to support this requirement for some time yet.

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