

# Helping with hedging

IN THE SECOND OF TWO ARTICLES KELVIN WALTON LOOKS AT HOW TECHNOLOGY CAN HELP IN HEDGE ACCOUNTING.

## Executive summary

- The article examines some of the technology issues surrounding hedge accounting and offers suggestions to support treasurers who are charged with evaluating technical solutions.
- *IAS 39 Financial Instruments: Recognition and Measurement* recognises three types of hedge. Not all treasurers will require technology solutions for all three types. However it seems likely that as compliance increases and more emphasis is put on Sarbanes-Oxley type process then treasurers whose operations have been spreadsheet based are being propelled into the Treasury Management Systems (TMS) marketplace.

ILLUSTRATION: "Two people on a see-saw" Photostogo.com

Treasurers need to be aware of the practical ways in which technology is being put to work to help companies meet their *IAS 39: Financial Instruments: Recognition and Measurement* compliance objectives and obligations. In reality, exposures and hedges often do not simply match into one-to-one relationships. A single financial exposure might well be hedged by multiple interest rate swaps, for example when it is expedient to transact the swaps with several counterparties, to take advantage of the best rates, or for credit limit reasons. Similarly, a single giant swap might be transacted with one counterparty, who has quoted superior terms compared with the rest of the market; the treasurer could then use this swap to hedge several similar exposures. It follows that there will be circumstances when the

exposure-hedge relationship is that of many-to-many.

There are further complications that may apply. Many authorities now countenance the use of 'versions' in hedge accounting. This means that relationships need not be de-designated and re-designated as a consequence of hedge adjustments executed in response to modifications in commercial forecasts – which is, of course, a very common occurrence in practical commerce. There are also situations with respect to net investment hedging (NIH) when the performance of a daily de-designation and re-designation process is mandated for the entire portfolio.

All these relationship issues are functions that seem to be effortlessly performed by contemporary systems. This is because relationship management is in fact a closed-ended data processing problem, and so

**Figure 1.** Fair value hedge



soluble through a properly programmed system, after a period of head scratching and pencil chewing. The end result – a mouse click and a minimal amount of data entry to facilitate the necessary change – belies the one-off effort needed to program and test a flexible, general solution. It is difficult to imagine an efficient exposure-hedge relationship management solution based on anything else but well-implemented Treasury Management Systems (TMS) technology, in a treasury of any significant size and complexity.

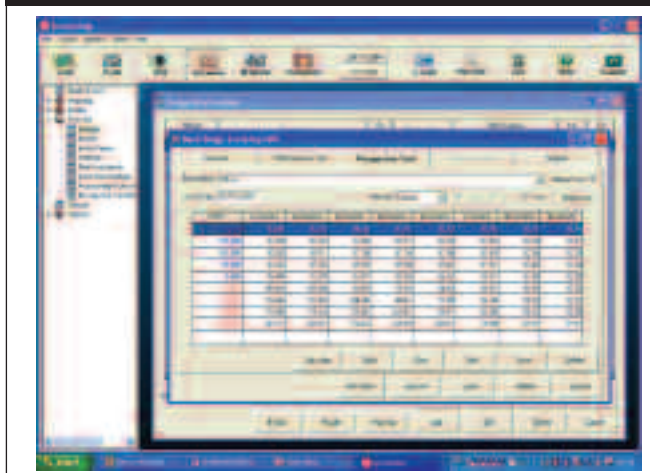
**TYPES OF HEDGE** IAS 39 recognises three types of hedge: fair value, cashflow and net investment. By no means will all treasuries require technology solutions for all three varieties of hedge; for example, a company with no foreign subsidiaries, or with closely matching natural foreign assets and liabilities, may not need to perform any NIH. Solutions for both cashflow hedging and NIH must be able to handle the fuzzy nature of the floating rate exposures which they are managing. Further solution complications include the need to be able to manage the transformation from cashflow hedge to fair value hedge when forecast exposures become committed, and also the need to properly manage the release of reserve.

*Figure 1* illustrates a straightforward fair value hedge, in which a fixed rate bond is hedged by an interest rate swap. In the example, the hedging covers interest rate risk only; in practice, the solution must be able to manage interest rate and/or FX risk.

Just on hedge type alone, it can be seen that there are many levels of complexity in the power and flexibility of the required solution. We can add a further complication for treasurers of European companies who have US listings; they need to comply with both IAS 39 and FAS 133 *Accounting for Derivative Instruments and Hedging Activities*, and the rules are quite subtly different in several cases. It is apparent that the most effective solution for this type of company will need to be able to perform simultaneous IAS 39 and FAS 133 compliance testing. Some less flexible solutions will not be able to manage this. Many treasurers have been unpleasantly surprised by the nature and amount of work needed to support the different kinds of hedge accounting with which they are confronted in the real world. Reality turns out to be much more complex and demanding than many had anticipated, even in so-called 'simple' treasuries.

**PROSPECTIVE TESTING** IAS 39 and FAS 133 require that a mandatory Prospective Test be performed when an exposure-hedge relationship is set up, to analyse and report on its likely future performance. This is clearly a function whose solution is highly suited to the use of technology, first to enforce the execution of the test, then to perform

**Figure 2.** Prospective test



the test itself, and finally to document that the process has been properly executed.

An example of a Prospective Test is given in *Figure 2*. It documents that the exposure/hedge relationship lies within IAS 39 boundaries at inception (80-120%) – and that the relationship is expected to continue to remain within boundaries for its entire duration, under a range of different hypothetical future user-defined yield curve shifts. This type of analysis would hitherto have been seen as a function of risk management as opposed to accounting. It is also clear that a significant amount of computing power needs to be harnessed to test accurately.

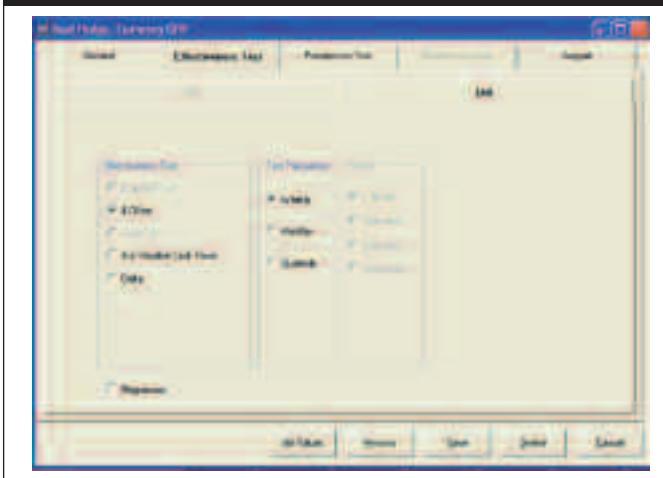
**EFFECTIVENESS TESTING** The prudent frequency for performing hedge Effectiveness Testing depends on the perceived volatility of the exposure-hedge relationship portfolio. One of the key purposes of hedge accounting is to prevent nasty surprises for shareholders as a consequence of a relationship breaking through the effective/ineffective barrier: when this happens, the gain/loss on the derivative must be immediately posted to the profit and loss (P&L) account, with a sudden impact that the finance director and other board members may judge to be unacceptable. Therefore the frequency of Effectiveness Testing – and hence its technical delivery platform – should be determined through management's perception of the magnitude of the risk in the company's financial and commercial context. It further follows that the greater the perception of the level of ineffectiveness risk, the greater the necessary level of assurance there should be in the accuracy of Effectiveness Testing, and the speed of delivery of the results.

*Figure 3* illustrates the selection of an Effectiveness Test. As this is an IAS 39 test only, the Matched Term and Short Cut methods are not available, as they are presently only permitted under FAS 133. Many practitioners are expecting FAS and IAS to merge over time, and this can have an impact on the technology chosen to support hedge accounting; if this convergence is judged to be likely to occur in the near term, investment in a technology solution that will facilitate this transition without additional cost and effort may well be justified.

The various methods of Effectiveness Testing will not apply to all corporates, and it is outside the boundaries of this article to discuss the merits and applicability of each. Each makes some unique demands on the supporting technology, ranging from the instrument mark-to-market required for the quaintly named Dollar Offset method, to the desirability of the generation of a mirrored stream of matching cashflows for the Hypothetical Derivative method (for efficiency and accuracy reasons). It is interesting to note when considering the



**Figure 3. Effectiveness Test**



technological support for hedge accounting that the system solution must be able to handle the simultaneous demands of Effectiveness Testing with the complexities of shifting relationship definitions discussed above. In a good system, the production of the results will appear to be instantaneous and effortless, but it's as well to be aware of the power that must reside 'under the bonnet' to deliver an appropriately powerful and flexible solution to do the job effectively.

Figure 3 also shows a range of frequencies that may be set for Effectiveness Testing; the choice will accommodate the needs of many treasuries. It is certainly good practice (and not just for Sarbanes-Oxley aspirants) to enhance treasury control by making the performance repetitive Effectiveness Testing an automatic function; at least this can help the finance director with his or her insomnia. As we have mentioned above, the optimum frequency for a given treasury is a function of the perceived level of hedge sensitivity; in extreme cases, a real time Effectiveness monitoring solution may be indicated. There are technical solutions which will fulfil this requirement – and they bring the added benefit that they can issue automatic warnings when ineffectiveness boundaries are approaching; the treasury therefore has a better opportunity to intervene in the market and avoid the various hassles that may occur if hedge P&L is suddenly forced to the bottom line.

We have mentioned the importance of transparency and reporting in hedge accounting, and one of the key documentary requirements here is the production of clear and unambiguous Effectiveness Reports; Figure 4 provides a self-explanatory example. It is having the technical ability to produce reports like this quickly and easily that is, arguably, the key to a good solution, that will save laborious analysis and preparation time, and will smooth and assure the audit process itself.

**REGRESSION TESTING** The mathematical process of regression is a great support for preserving the IAS 39 effectiveness of exposure/hedge relationships, regardless of the actual Effectiveness Test variant that is used. In outline, the regression formula analyses the correlation/variance between a series of data points representing Effectiveness Tests, to test whether the overall relationship is within Effectiveness boundaries. It is a legitimate way of eliminating aberrant results, such as a valuation based on market rates which happen to have jumped in response to a rumour which is later discredited. There is presently a debate between the accounting companies on the minimum number of data points that must be derived to legitimise the regression

**Figure 4. Effectiveness Reports**



treatment of a given exposure-hedge relationship; the acceptable minimum presently ranges between 30 and 36 points.

Regression solutions need to be completely transparent, as auditors these days do not take kindly to black box calculators. Therefore an acceptable regression solution must derive and show the underlying statistics that prove that the slope of the regression line validly fits within the IAS 39 effectiveness boundaries. It is very clear that regression demands quite substantial computing power for an acceptable solution; this will be justified if the availability of regression makes a meaningful contribution to enhancing Effectiveness performance.

**REPORTING AND AUDITING** In addition to the report illustrations in this article, it seems essential in today's open environments that the entire hedge accounting should be available to online enquiry and comprehensive, user friendly reporting; and there must be a full audit trail, that allows the entire history of an exposure-hedge relationship to be accurately tracked, no matter how complicated it may be. In our general review of some features of contemporary technology, the desirability of attaching documentation to the hedge audit trail was mentioned. This should be an open-ended facility to avoid any artificial restriction in the capture of vital documentation. One purpose here might be to attach files such as board resolutions authorising a bond issue and its concomitant hedging programme.

**AND FINALLY...** The Enron/WorldCom backlash continues to reverberate globally, way beyond the borders of the US. My personal observation is that auditors will increasingly push for Sarbanes-Oxley levels of process management globally, and this trend naturally overlaps with hedge accounting. Today, many treasuries whose operations have hitherto been spreadsheet based are being propelled or impelled into the TMS marketplace. Buyers are advised to evaluate their alternatives with respect to their completeness, transparency, flexibility and ease of use, in terms both of current hedging scope and policy, and in their likely evolutionary needs in their specific treasury and corporate environment. Under-investment in technology today may have expensive consequences, sooner rather than later.

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