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The smart way to manage financial risk

IAS 39 - Under the Hood

Issue 4

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In keeping with our development of a comprehensive risk management solution, Visual Risk provides regular articles on the new IAS39 Accounting Standard. The aim of the articles is to build an understanding of the Standard from the ground up, beginning with its rationale, reviewing the basics of hedge accounting and then examining some of the Standard's intricacies in more detail.

Hedge accounting in practice

In Issue 3, we looked at the mechanics of effectiveness testing. The next two Issues will look at two specific examples from the point of view of an exporter with a revenue inflow of 1 million USD. The first example, covered in this Issue, is a forward exchange contract (FEC) which matures 1 month prior to the revenue flow. The second example, which will be covered in Issue 5, is a USD put option expiring on the same date as the flow.

Before IAS 39, one accounting method for these instruments was to accrue either the forward points in the case of the forward, or the premium in the case of an option, to P&L over the life of the instrument. Under IAS 39, this is no longer the case; derivatives must be marked to market and this smoothing effect on earnings may not be possible anymore. Using this example, this article will show how initial definition and testing have a major bearing on potential subsequent earnings volatility.

System Implications:

There are numerous possibilities in terms of hedge definition and effectiveness testing. A system should enable a user to easily test various permutations prior to selecting a hedge accounting approach for different derivatives.

Example 1 – FEC hedging revenue flow, mismatched dates

In this example an exporter has the following:

- An FX forward, selling USD 1m for AUD for settlement on 19 August 2005 at a rate of 0.7500.
- A highly probable revenue flow of USD 1m, with an expected receipt on 19 July 2005.
- A test date of 31 March 2005.

In this case for an *expected* but not *contractual* flow, the exporter designates the forward as a hedge of the revenue flow in a cash flow hedge. This hedge should be tested for prospective effectiveness; due to the mismatch in dates there is clearly some residual risk.

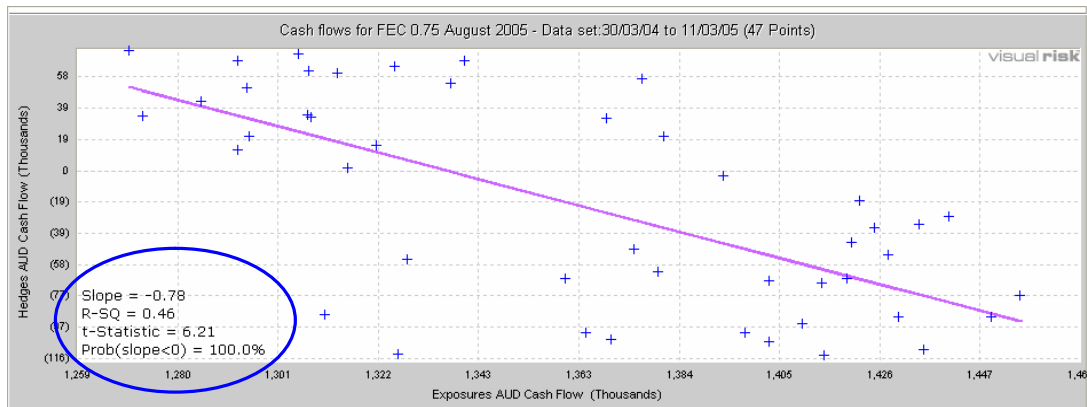
According to the Standard, the prospective test condition is that "the hedge is expected to be highly effective in achieving offsetting changes in fair value or cash flows attributable to the hedged risk"¹. This raises the issue of how to calculate the change in cash flows of hedging instruments and hedged items where no cash flows have occurred yet. Generally the accepted test is to look at actual cash flows that will occur. (In the same way, if the test were comparing indices or some underlying risk factor, then comparing the actual values rather than changes in values can be done.)



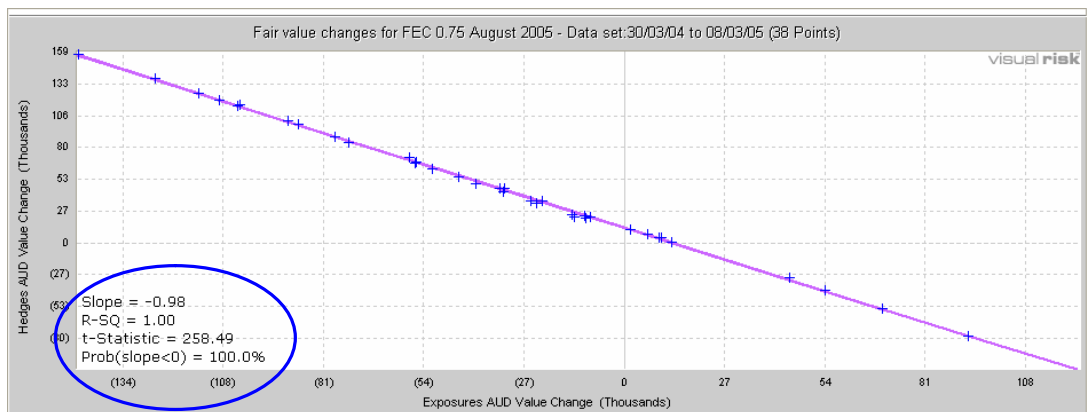
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In this example, the test compares the cash flows that would occur using simulations based on historical data. The regression chart shows the final cash flows of the forward and the exposure based on historical data for the 12 months prior, with a data sample taken each week. The regression test does not perform well due to the considerable variability of the spot rate in the 1 month gap between the maturity of the forward and the receipt date of the exposure. The usual requirements for a pass based on a regression analysis is a slope between -0.8 and -1.25 and R-Squared greater than 0.8.



To overcome this common problem of timing mismatches between cashflows and hedges, a different test can be used. Rather than comparing cash flows, the test compares the change in *market value* of the exposure with the change in market value of the forward over a predefined period (usually corresponding to an accounting period). The chart below shows these value changes in a regression analysis which is a clear pass with a Slope of -0.98 and R-Squared of 1.00. The justification of this approach is that, in practice, the exporter will roll over or pre-deliver the forward to settle the revenue flow on its receipt date and this test better reflects that practical reality than a standard cashflow test.



Once effectiveness has been demonstrated, the accounting entries for this relationship may vary depending on how the changes in the value of the exposure are measured. A cash flow hedge is accounted for by comparing the cumulative movement in the value of the hedging instrument with “the cumulative change in fair value (present value) of the expected future cash flows of the hedged item from inception of the hedge.” [para 96(a)(ii)]. Any excess movement in the hedging instrument goes to P&L.



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One possibility is to define the hedged risk as movement in the AUD/USD spot rate and then to value the exposure and hedge based on the spot rate. In this case, the movement in the forward points is an excluded value that will go directly to P&L but not necessarily in a predictable manner. Any change in interest rate differentials will result in a P&L variation when compared with a traditional linear method of accruing forward points; however this should be relatively small.

A final approach is to use the hypothetical derivative method. The idea behind this is to use the change in value of the hypothetical perfect hedge (in this case an FEC maturing on July 19 2005, exactly matching the receipt date of the expected USD revenue) as a proxy for the change in value of the future cash flows of the hedged item. If this approach is used, there would likely only be very small movements going through to P&L.

System Implications:

The ability to value exposures and hedges on different dates will be critical. A system should be able to do what-if analyses to determine the potential P&L impact of hedges, and provide alternative methods of calculating retrospective effectiveness in order to minimise potential earnings volatility.

The hypothetical derivative method should be available and a system should be able to automatically create this derivative at the correct fair value on designation date.

Value-at-Risk may be useful for more complex portfolios, or where some derivatives are not designated in a hedge relationship.

¹ All references to the Standard are to Accounting Standard AASB 139 (July 2004).

Next Issue

Our next Issue of Under the Hood will discuss the second example of an option hedging an expected foreign exchange revenue flow.

Previous Issues

Previous Issues of Under the Hood and other newsletters from Visual Risk can be downloaded from our web-site at:

http://www.visualrisk.com/01_company/newsletters.htm