

# Mastering the great balancing act

As multinationals and financial institutions prepare themselves for FAS 133, Lynn Corsetti of Deutsche Bank looks at the impact it will have on foreign exchange risk management.

July 1, 2000 marked the beginning of a major change taking place in the world of financial risk management – the adoption of FAS 133, *Accounting for Derivative Instruments and Hedging Activities*. It not only has far reaching implications for both US multinationals and financial institutions, but will also impact any and all foreign firms who are obliged to follow US-GAAP. It supersedes or amends many of the more familiar derivatives and disclosure standards of recent years, such as FAS 52 and 80. It also supersedes the SEC ruling on complex options. It has already been amended once since the original standard was finalised in June 1998 with the introduction earlier this year of FAS 138.

Its fundamental rationale centres on the assumption that all derivatives create assets or liabilities and should therefore be captured in a company's financial statements at fair value.

Fair value is deemed the only relevant measure for derivatives. There is some leniency provided here in that certain changes in fair value can be held on the balance sheet in other comprehensive income (OCI) until the underlying risk (cashflow) being hedged is recognized in earnings, otherwise all changes in fair value must run through earnings on a current basis. This provides some relief mainly for multinationals, since it allows them to match in earnings the timing of the impact from the derivative with the impact of the offsetting hedged cashflow. But, as this article will cover later, it does not go far enough.

The adoption of FAS 133 has, and will continue to, cause sweeping changes in how companies assess risk and ultimately choose to hedge it. It imposes new requirements on areas of risk management including foreign exchange, interest rates, equities and commodities. This article will focus on the area of foreign exchange and how FAS 133 will

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impact the risk management practices of many of the world's leading multinationals.

#### **Focus for foreign exchange**

Foreign exchange risk managers are focusing on four new concepts brought forward in FAS 133. They are the requirements that:

- all foreign exchange exposures must be defined/categorized based on



Lynn Corsetti

their nature. The classifications are fair value, cashflow and net investment;

- all corresponding hedges must be assessed and measured for effectiveness, prospectively as well as retrospectively. One key caveat – time value in options will almost never be considered effective;
- central treasury hedging is permissible only when a third party derivative is used to offset the exact net internal hedge; and
- all qualifying hedges must be accompanied by a statement of objectives, strategy and nature of the hedged risk. This will be followed by a description of the derivative hedging instrument, the hedged item, and how effectiveness will be assessed.

Of these four concepts, the one causing the most controversy among multinationals is the concept of effectiveness since it is this test which will decide whether a derivative's fair value changes can be deferred in OCI or whether it must flow through earnings directly. Qualifying tests include dollar offset, regression, VAR or other simulation models. In addition, although the short cut method as defined in FAS 133 is not specifically designed for foreign exchange, the Derivatives Implementation Group (DIG) issue G-9 allows a derivative to be considered automatically effective if certain critical terms match.

As such, in many cases, hedgers using simple forward contracts will be able to assume that their hedges are perfectly effective since all the critical terms of the forward and the underlying exposure are identical. Users of plain vanilla purchased options will also be able to assume that their hedges are perfectly effective as long as they exclude the impact of the change in time value on the change in fair value of the option.

**There may be trouble ahead**

Any ineffectiveness, whether it be the entire FV change, because the derivative does not qualify as a hedge up front (prospective assessment), or in part if it does not offset 100% (but stays within 80-120%) during periodic retrospective assessment, must be recognized currently in earnings. Time value in options will be the leading cause of ineffectiveness.

This poses a significant problem for most multinationals that must consider the economic as well as the accounting impact of their foreign exchange risk management strategy on the company's underlying business. Economic globalisation forces even market leaders in an industry to be price competitive. This creates a need to keep some form of flexibility (optionality) in their risk management programs. FAS 133 is somewhat at odds with this mandate, as it forces this optionality to be recognized through earnings on a current basis. And, given the more rigid investor environment of today, a company's stock price can be adversely affected due to the earnings volatility this may cause.

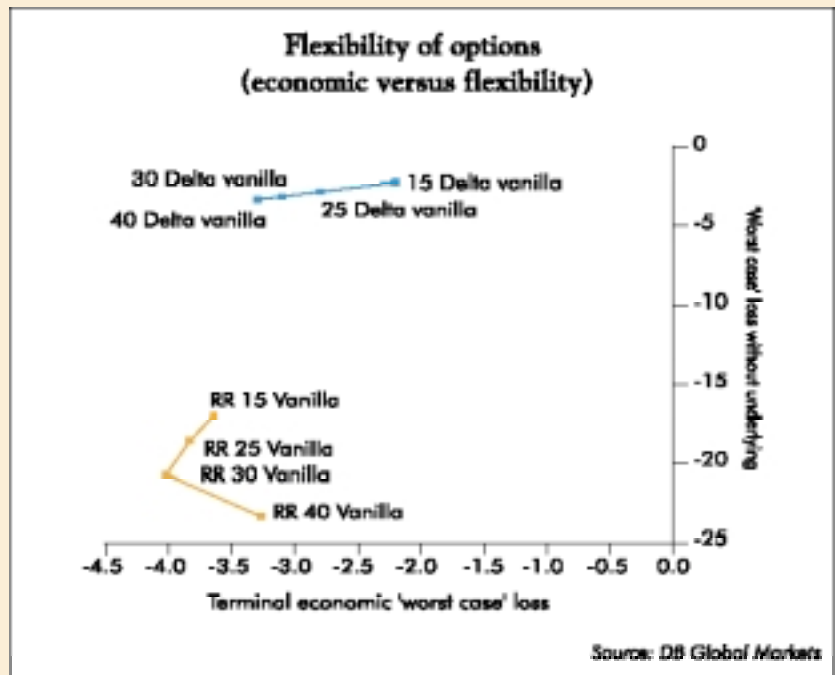
With this in mind, treasurers today must find a programme that balances both the economic and accounting objectives of the company. Figure 1 illustrates this 'balancing act' using a simple portfolio of one year USD/JPY risk hedged with varying deltas of vanilla USD calls and risk reversals. The flexibility of the hedge is examined against potential EPS volatility. The two standard deviation loss ('worst case loss') is the proxy we chose to measure earnings volatility.

**The benefits of flexibility**

Figure 1 looks at a worst case loss if the underlying disappears. This is an attempt to capture the flexibility of options, or in other words, the opportunity cost of not using them. The forward in this case would have a worst case loss of 26.5% as compared to 0% for no hedge. Note that the maximum loss of a purchased vanilla option is equal to its premium, while the risk reversal could lose much more.

Taking this 'balancing act' a step further, many multinationals are choosing to bridge the gap between options and cash by adding structured forwards and certain other multi-legged option structures to their hedging portfolios. These structures can reduce the potential

**FIGURE 1**



'worst case' earnings impact to a level which is acceptable to upper management and explainable to the investor community.

One of the advantages of FAS 133 is that it requires the methodology used for assessing and measuring effectiveness to be consistent with the entity's

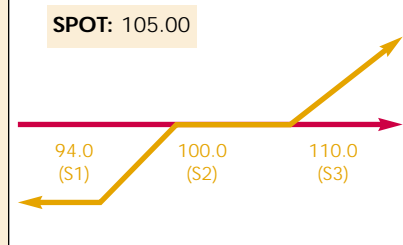
**Example 1: Seagull structure**

**Hedge objective:** to hedge against adverse moves above the USD call strike and changes below the written USD put strike only through the pur-

chased USD put strike.

**Analysis:** at inception, the time value of the Seagull structure is balanced between the interior short USD put and the exterior long USD call and USD put positions. However, over the first quarter, the distribution of future spot expands, increasing the time values of the long positions while simultaneously decreasing the time value of the short put. Therefore, the average impact on earnings during the first quarter is a gain of 1.17% of notional. As time passes, the time value from the long positions 'decays', in effect creating an earnings loss from the long positions. In addition, as the distribution of future spot spreads further in later quarters the probability that the long positions are 'in the money' becomes greater, transforming more time value into intrinsic. From quarter one until maturity the position on average provides a very modest earnings loss. The maximum worst case loss is 3.48%. ■

**FIGURE 2**



**TABLE 1**  
**Seagull earnings impact**

	Q1	Q2	Q3	Q4
<b>Average</b>	1.17%	-0.20%	-0.36%	-0.43%
<b>Best case</b>	3.28%	2.87%	2.73%	1.62%
<b>Worst case</b>	-0.83%	-3.48%	-3.08%	-2.20%

stated risk management objective. Since there are no limits to what those hedging objectives might be, there is greater flexibility for hedgers to use more complex structures and instruments. The key here will be in how companies define their hedge objective – as long as entities are able to match their effectiveness tests with their stated objectives, these hedges should qualify as hedges under FAS 133.

In these cases it is recommended that time value be excluded from assessing effectiveness. Remember that time value will never be considered effective and, if included, may create enough noise to disqualify the structure as a hedge.

In examples 1, 2, and 3 we have examined three potential structured product alternatives to:

- give examples of acceptable hedge objective statements; and
- to demonstrate how these structures will reduce earnings volatility.

In each case the underlying is a one-year cashflow where the company is short USD/JPY.

**On the horizon**

Finally, to close on an optimistic note, the Financial Accounting Standards Board (FASB) has recently been approached to look at another amendment to FAS 133. This proposed amendment, if approved by the FASB, would be a big plus for corporate foreign exchange risk managers, as it would allow for the premium in a purchased option structure to be straight line amortized into earnings over the life of the derivative.

The caveats are that the derivative has been positively assessed for effectiveness and that the intent is to hold the option to maturity. The difference between the unamortised premium amount and the time value component of the fair value calculation would be recorded in OCI.

It's a long shot, but worth a letter to the FASB. ■

*Lynn Corsetti is Managing Director of Deutsche Bank AG, New York Branch. Lynn manages the corporate foreign exchange sales efforts in the Americas. Prior to this she spent 11 years at RJR Nabisco Inc., where she was responsible for the company's foreign exchange risk management programme.*

**Example 2: Participating forward**

**Hedge objective:** to hedge against 100% of the adverse changes above the strike and only 50% of all changes below.

**Analysis:** the participating forward can be thought of as a forward on one half of total notional, combined with an additional call on one half of the notional. Therefore, the hedger is protected against all USD appreciation while participating by one half of notional in any USD depreciation. The changes in value of the forward are entirely intrinsic value and have no earnings impact whatsoever. The changes in time value of the call are on average amortised over the life of the option resulting in consistent earnings losses of between 0.61% and 0.33%. Because there is optionality on only half of notional the worst case earnings loss is in all periods is roughly one half of the 40 delta vanilla put. ■

FIGURE 3

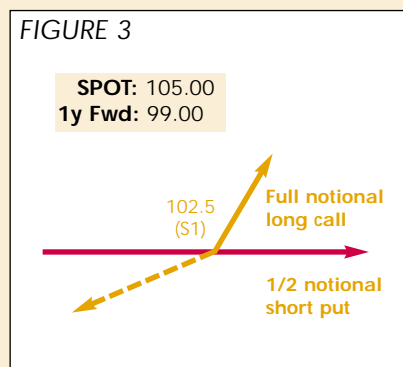


TABLE 2

**Participating forward earnings impact**

	Q1	Q2	Q3	Q4
<b>Average</b>	0.61%	-0.49%	-0.38%	-0.33%
<b>Best case</b>	0.32%	0.69%	0.56%	0.00%
<b>Worst case</b>	-1.58%	-1.61%	-1.48%	-1.23%

**Example 3: Range bonus forward**

**Hedge objective:** to hedge against changes from the bonus rate while within the range and changes from the penalty rate once outside the range.

**Analysis:** the range bonus forward combines a traditional forward with a bonus feature dependent upon spot staying within a specified range. As with previous examples, the changes in value associated with the traditional forward have no earnings impact whatsoever. However, the changes in value from the bonus range are time value and will flow to earnings. What is striking about this is, that as time passes without spot having previously exited the range, the time value of the bonus range is increasing, creating an expectation of positive earnings in each of the four quarters. Furthermore, the worst case loss in any one quarter is limited by the bonus amount (the difference between the bonus strike and ATMF). ■

FIGURE 4

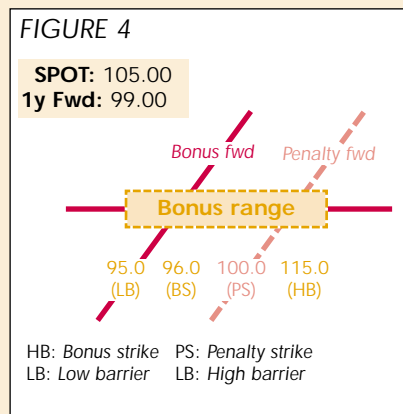


TABLE 3

**Range bonus forward earnings impact**

	Q1	Q2	Q3	Q4
<b>Average</b>	0.06%	0.28%	0.80%	1.04%
<b>Best case</b>	0.24%	0.74%	1.15%	1.66%
<b>Worst case</b>	-0.33%	-0.81%	-1.82%	-2.86%

Source: Kevin Wrenn, DB Global Risk Strategy Group