

# **Bank Asset/Liability Management**

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## **Hedging with Swaps: When Shortcut Accounting Can't be Applied**

By  
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For bank asset/liability management, when using derivatives, “hedge accounting” treatment is an imperative. It assures that gains or losses associated with hedging instruments will contribute to earnings simultaneously with the risks being hedged. Otherwise – i.e., without hedge accounting – these two effects will likely impact earnings in different accounting periods, resulting in an elevated level of income volatility that obscures the risk management objectives of the hedging entity.

For most managers with interest rate exposures, the desired treatment can be assured if appropriately tailored swaps contracts serve as the hedging instrument. Under these conditions, entities may apply the “Shortcut” treatment, which essentially guarantees that the accounting results will reflect the intended economics of the hedge and that no unintended income effects will occur. For example, synthetic fixed rate debt (created by issuing variable rate debt and swapping to fixed), would generate interest expenses on the income statement that would be indistinguishable from that which would arise from traditional fixed rate funding. Synthetic instrument accounting is persevered with the shortcut treatment. Qualifying for the shortcut treatment also has another benefit of obviating the need for any effectiveness testing, thereby eliminating an administrative burden and reducing some measure of the associated hedge documentation obligation.

In many cases, it's pretty easy to satisfy the criteria to qualify for the shortcut treatment when the interest bearing instrument and the swap are both initiated in coordination. When the two piece of the hedging relationship are not coordinated, applying the shortcut treatment may be problematic.

A fairly common reason that shortcut treatment is denied, particularly if the swap happens to be a seasoned instrument at the time the hedge designated is initiated, is that the swap's fair value may not be zero at the start of the hedging relationship, thereby violating one of the shortcut's prerequisite conditions. Critically, failing to qualify for shortcut does not mean that hedge accounting is proscribed. It may still be possible to qualify for hedge accounting, provided the hedge can be demonstrated to be effective – both prospectively and retrospectively. Even if these hedge effectiveness tests are

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satisfied, though, some degree of ineffectiveness will undoubtedly occur, which, in turn, will foster a commensurate amount of unanticipated recognized income effects.

### *Cash Flow Hedge Considerations*

Assuming the notional amount of the swap is identical to the notional amount of the interest bearing hedged item, solving the anticipatory effectiveness test for a cash flow hedge (i.e., a hedge of uncertain interest expense or revenues associated with a variable rate funding or investment mechanism) requires only that the variable rate on the swap be shown to be highly correlated with the variable rate associated with the hedged item. In performing this analysis, however, a critical consideration that must be taken into account is any timing differences between the two respective rate setting dates. For example, variable rate on the hedged item resets on the first of the month and the reset date for the swap is the 15<sup>th</sup> of the month, the analyst would want to start with daily observations of the two time series and then pair the observations appropriately. In this case, the hedged item's interest rate series would be lagged by 14 calendar days (or, most likely 12 business days), before assessing the correlation.

While never explicitly stated in FAS 133, the nearly universally accepted threshold condition is that the R-Square generated from this correlation analysis must be no less than 0.8 to satisfy the prospective effectiveness test.

Regression analysis may also be used to test effectiveness retrospectively. The analyst would simply augment the data set incorporating the latest data from the period just ended and re-run the regression. In all likelihood, the updated results would yield an R-square only slightly changed from the initial results. This second (and subsequent) regression(s) would actually serve a dual function – to satisfy the retrospective testing requirement for the period just ended, and to satisfy the prospective testing requirement for the period just starting.

Independent of the effectiveness testing requirement, a separate issue is the question of how to *measure* hedge ineffectiveness. This issue is relevant both to determine the appropriate income statement entry and also for disclosure purposes. DIG issue G7, “Cash Flow Hedges: Measuring Ineffectiveness of a Cash flow Hedge under Paragraph 30(b) When the Shortcut Method Is Not Applied,” spells out three alternative, acceptable procedures – only two of which are possible in the case when, at the inception of the hedge, the swap has a value that is not “somewhat near zero.” Although the “hypothetical derivative method” and the “change in fair value method” are both acceptable for all situations, in this author's view, the former is typically easier – both conceptually and computationally. Under this method, the entity must define the perfect hypothetical derivative at the onset of the hedging relationship, and through the life of the hedge, the total gains and losses on the actual swap would be compared with those of the hypothetical swap.<sup>1</sup>

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<sup>1</sup> Total gains and/or losses should be calculated to include both changes in the fair value of the swap over any interval and any intervening cash flows that may have been realized during the period.

### *Fair Value Hedge Considerations*

For a portfolio manager who wants to use swaps to hedge the full interest rate risk of his portfolio – not the benchmark rate -- the hedge wouldn't be a one-for-one match of the notionals, and he/she thus would fail to qualify for shortcut. In this case, a hedge effectiveness test would need to be performed to qualify for hedge treatment. Passing the hedge effectiveness tests is complicated, however, because the two relevant instruments (i.e., the fixed rate asset or liability) and the swap are both changing their respective maturities over time. For example, if the two are five-year instruments at the start of a quarter, they would be four-and-three-quarter year instruments at the end of the quarter, etc. Devising a statistical test that will capture this aging process is a non-trivial effort. A simple regression that compares time series for five-year fixed rate debt and five-year swap rates, however, would clearly be deficient.

FAS 133 does allow for other non-regression effectiveness tests, but these are more idiosyncratic, and the process of having an auditor sign off on a “non-standard” procedure might be difficult. Taken at its word, the standard only requires that the analyst demonstrate that it is reasonable to expect that the gains or losses of the derivative will be highly effective at offsetting the changes in the fair value of the hedged item, but getting all the relevant parties to agree on what it takes to get to this point may not be easy. A promising direction, however, would be a scenario analysis that demonstrates that, given the modified durations of the two respective instruments, the combined effects of the two value changes in the coming period is likely to be confined to some acceptably small value (e.g., two or three percent of the notional amount of the swap). The analysis should show results over a range of possible interest rate changes based on some historical perspective, reflecting the potential for some measure of the possible difference between the magnitudes of the rate changes of the two components of the hedge.

For instance, by viewing the historical rates for a constant maturity fixed rate asset or liability and a constant maturity swap, the analyst might conclude that a 75 basis point change was a good estimate for a “largest change” rate move; and at the same time the “largest change” in the rate difference might be, say, 35 basis points. The scenario analysis might be arranged with four cases:

1. The hedged item's rate changes by 75 basis points; the swap's rate changes (in the same direction) by 75 basis.
2. The hedged item's rate changes by 75 basis points; the swap's rate changes (in the same direction) by 40 basis points (=75-35).
3. The hedged item's rate remains unchanged; the swap's rate changes by 35 basis points.
4. The hedged item's rate changes by 35 basis points; the swap's rate remains unchanged.

Assuming the combined results for all the scenarios fall within the prescribed limit, the expectation of high effectiveness would be deemed to be satisfied.

Retrospectively, a demonstration that the combined results did in fact fall within the acceptable boundary should be sufficient to allow for hedge accounting – again, subject

to the concurrence of the external auditors. Critically, prospective test boundary conditions would have to be updated each period, as the maturity and the associated modified durations of the respective instruments decline with age.

Unlike the case of cash flow hedging, measuring ineffectiveness for fair value hedging is straight forward: As the gains or losses of the derivative and the change in the fair value of the hedged item both affect earnings, ineffectiveness may be calculated by simply assessing the difference between the two.

### *Conclusion*

Failure to qualify for shortcut treatment adds a layer of complication to the process of accounting for derivatives, but sometimes, this extra effort is unavoidable. Generally, if shortcut can be achieved by substituting one swap for another, this remedy is worth the effort – both because the documentation for the hedge is simpler and because applying shortcut minimizes the prospect of hedge accounting being interrupted. When cases arise where shortcut is not an option, however, entities should expect to devote extra care and attention to designing hedge effectiveness tests and measuring the resulting hedge ineffectiveness.