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Long Haul Hedge Accounting

Depending on the nature of the interest rate risk exposure at a bank, the question of hedge accounting for derivative instruments may be a non-issue, or it may be critical. Specifically, within a trading environment, where positions are marked-to-market with changes posted to current income, hedge accounting is neither necessary nor appropriate – the reason being that without hedge accounting the effects of both the exposures and the associated derivatives are recorded through earnings each period.

For issues pertaining to the bank's overall A/L structure, on the other hand, where the component assets and liabilities are *not* marked to market through earnings, without hedge accounting the earnings impact of the derivative might likely be recorded in a different period from that of the hedged item. This mismatch of timing fosters a higher level of reported income volatility than that which would occur had the timing of these two related effects been concurrent. Hedge accounting overrides *regular* derivatives accounting and allows for these two income effects (i.e., the derivative's income effect and the *hedged* item's income effect) to be posted to earnings in the same accounting period.

FAS 133 is the accounting standard that governs the accounting treatment for derivatives and hedging transactions. Under these rules, two types of hedge accounting are permitted for hedges of interest rate risk: fair value hedges and cashflow hedges. The former applies to those cases where the hedged item is a recognized asset or liability having a fixed interest rate. The latter applies when the hedged item is an uncertain cashflow that is expected to occur in the future (e.g., in connection with a prospective debt issuance or purchase, or a scheduled settlement based on a yet-to-be determined interest rate, say, in connection with a variable rate loan). The most ubiquitous tool in the interest rate risk management arsenal is the plain vanilla interest rate swap, which synthetically allows hedgers to transform their variable interest rate exposures to fixed rate exposures, or vice versa. Thus, when converting from fixed to floating, fair value hedge accounting would be appropriate; and when converting from floating to fixed, cashflow

In This Issue:

hedge accounting would be appropriate.
This article focuses on a particular problem having to do with fair value hedges in special cases when the *shortcut treatment* is unavailable.

Shortcut accounting treatment assures that the same income effects will be reported as those that had previously been termed *synthetic instrument accounting*. That is, when swapping from fixed to floating, shortcut fosters a post-hedge interest expense or revenue that replicates that which would arise from a variable rate security; and, conversely, when swapping from floating to fixed, shortcut generates a fixed amount of reported interest income/expense per period. Qualifying for shortcut, however, may be problematic. It requires that the swap must be specifically tailored to the exposure, meeting a number of precise conditions. Among other things, the swap's notional amount would have to match the debt's principal and the accrual periods and reset periods of the swap and the debt would also have to be the same. (Commonly understood code words are that the *critical terms match* for the hedged item and the hedging derivative.)

Unfortunately, it is not all that unusual for many hedgers to find that they cannot qualify for shortcuts and, thus, if they want to use hedge accounting, they are forced to use the *long haul* method.

Under the fair value treatment, (a) the derivative's gains or losses are recorded in earnings; and (b) the hedged item's carrying value must be adjusted *to reflect the risk being hedged,* with this change, too, flowing through earnings. Critically, this adjustment to the carrying value of the debt being hedged is something other than the change in the debt's market value; and while the technology to calculate market value changes is nearly universally available, the calculation required under fair value hedging is different – and it is one that had rarely (if ever) been needed, prior to this standard being in effect. Isolating the effect of the benchmark rate change, as opposed to the entire market value change, has proven to be somewhat of a challenge.

The first task is to determine, and specify in the hedge documentation, exactly the nature of the risk being hedged. To cut to the chase, while several possible designations might be made, in this instance when the objective is to swap from fixed to floating, the risk being hedged would likely be specified to the risk associated with changes in the LIBOR-based swap rate (i.e., benchmark interest rate risk). Thus, we are faced with the question of what exactly *is* the benchmark rate, and what is the magnitude of its change, either during the period or cumulatively.

Generally, there is little confusion about the benchmark rate as in the case of cashflow hedges, where exposures are related to short term interest rates. For instance, if the exposure relates to three-month LIBOR, the three-month LIBOR is the appropriate benchmark rate; if the exposure relates to one-month LIBOR, one-month LIBOR is the correct benchmark; etc. And once we know the benchmark rate, measuring the change is trivial.

For fair value hedges, where hedged items are longer-term bonds or notes, an all-too-frequent error is to cite one-, three-, or six-month LIBOR as the benchmark rate; but doing so would be incorrect. The *right* benchmark rate would be the LIBOR-based swap rate, or the rate associated with a Treasury security, having a maturity corresponding to the maturity of the hedged item; and importantly, this maturity is a moving target in that, as time passes, the maturity date edges closer and closer, day by day. Thus, for example, measuring the benchmark rate change over the quarter would require identifying the benchmark rate at the end of the quarter (i.e., the benchmark rate associated with a shorter maturity) minus the benchmark rate at the start of the quarter (i.e., a benchmark rate associated with a longer maturity).

For instance, suppose the hedged item were a five-year bond, at the start of the hedge. In this case, the benchmark rate would be the fixed rate of the at-market (i.e., zero-value) plain-vanilla interest rate swap with a five-year term. As of the end of the quarter, though, this maturity would have shortened, say, to four years and 10 months (which assumes the hedge was initiated one month into the quarter). Now the relevant benchmark rate would be the fixed rate of the at-market interest rate swap having a term of four years and 10 months. The fact that this new benchmark swap may likely have incomplete accrual periods will certainly add complexity to this problem. In any case, once we discern the ending value for the benchmark rate, we can easily determine the magnitude of the benchmark rate change.

Once we know how much the benchmark rate has changed, we would be able to calculate the impact of this rate change on the carrying value of the debt. Paragraph 120C of the standard provides the guidance on *one way* of calculating the amount. This procedure can be summarized, as follows:

1. Determine the change in the benchmark rate over the period in question (i.e., from the start of the hedge to the end of the accounting period or, subsequently, over the period from the start of the accounting period to the end of the accounting period.)
2. Determine the hedged item's yield to maturity as of the start of the hedge (or the start of the accounting period, if the hedge has been ongoing).
3. At the end of the accounting period, make a present value calculation for the hedged item by discounting all remaining cash flows of the hedged item using the original yield to maturity of the hedged item, adjusted by the change in the change in the benchmark rate.
4. The change in the carrying value of the hedged item would simply be the difference between the carrying value from step three, minus its market value at the start of the hedge (or, again, the market value at the start of the accounting period, if the hedge has been ongoing).

Unfortunately the methodology described above becomes difficult to implement when the hedged item is other than a plain vanilla coupon-bearing bond. For example, suppose the bond is callable or putable, or suppose the bond is amortizing. In these cases, identification of the benchmark rate is problematic.

A technique that could be applied broadly is one that does not specifically identify the benchmark rate per se, but instead applies the entire LIBOR-based yield curve to the analysis — which, of course, presumes that these yield curve data are readily available. Under this approach, the change in the carrying value would be calculated as follows:

1. Find all LIBOR zero coupon interest rates over the span of the maturity of the hedged item.
2. As of the start of the hedge (or subsequently at the start of each accounting period), find a shift parameter (X), whereby if you discount all of the hedged item's cash flows using its appropriate LIBOR-based zero coupon rate (i.e., the zero coupon rate having the same maturity as the horizon to the cashflow) plus X, you will match the market value of the security (MV_0).
3. At the end of the accounting period, MV* is found by discounting all remaining cash flows buy their respective new LIBOR-based zero coupon rates, again adjusted by the original X.

As before, the change in the carrying value would again be MV* - MV_0.

Even this approach is not without problems. It, like the prior method, suffers from the undesirable feature that it requires different discount rates when valuing the swap cash flows versus those used when valuing the bond cash flows. That is, swap cash flows are discounted using rates taken from the LIBOR-based swap yield curve, but bond cash flows are discounted using rates from a different yield curve, i.e., the LIBOR-based yield curve shifted in such a way as to assure a starting present value equal to the price of the bond. Using different discount rates is at the root of the *appearance* ineffectiveness — an ineffectiveness that would magically disappear if the valuation methodology applied the same discount rates to the two valuations.

The appearance of ineffectiveness is problematic because it could force the discontinuation of hedge accounting, despite the fact that the hedge is performing perfectly in an economic sense. Is there any safe harbor? Could the above methodology be modified to allow for a common discount rate being applied to the two respective cash flows? Perhaps so, but it is not clear. The standard expressly opens the door to alternative methodologies, but without specifically sanctioning the use of a common discount rate, the prospect of reporting entities electing this alternative is likely to be limited.

Whatever course we take, we are left crossing our fingers. Under long haul hedge accounting, we can never be sure that hedge accounting will be applicable seamlessly, or that the hedge will not have to be adjusted and re-documented though time. This ambiguity would be erased, however, with the application of the shortcut treatment — assuming the prerequisites for this treatment are satisfied.

But a final word of caution: FAS 133 is said to be a form-driven standard. Inadequate or incomplete hedge documentation is a sufficient basis for denying hedge accounting – or possibly causing an income restatement. Whether the shortcut treatment is applied or not, exacting documentation requirements must be satisfied. As far as hedge documentation is concerned, almost right doesn't cut it!

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