I’ve been seeing a relatively new lending design with increasing frequency: Many banks are making variable-rate loans with embedding interest rate floors. In light of the low level of interest rates, this practice is neither illlogical nor unwarranted; but at the same time, these bankers may also be creating an accounting land mine that could later explode for the borrower.

The problem arises if the borrowing company chooses to hedge the loan’s variable interest rate exposure. For most such companies, qualifying for hedge accounting is of critical concern, in that this accounting treatment allows effective unrealized gains or losses on the derivative to be recorded in AOCI, rather than earnings. Unfortunately, if the hedge isn’t structured correctly, much of these unrealized results could end up being considered to be ineffective, and therefore the intended deferred income recognition won’t happen.

**Pitfall to avoid**

The first pitfall to avoid is using a standard pay-fixed/receive-floating interest rate swap in conjunction with this loan. This plain-vanilla swap design fails on its face because the exposure is one-sided, while the swap’s result is symmetric. That is, the swap’s value (and/or settlements) will be sensitive to movements in interest rates at all interest rate levels, but the exposure exists only for rate movements above the floor rate. Hedge accounting is simply disallowed if the asymmetric interest rate sensitivity of the loan isn’t matched by a similar asymmetry in the interest rate sensitivity of the derivative.

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When the loan has an embedded interest rate floor, the perfect derivative design is an interest rate cap, subject to the caveat that the cap rate cannot be lower than the floor rate. Note, however, that if the cap rate and the floor rate happen to be equal, the effect of adding the cap position to the loan with an embedded floor is that the borrower has created a hedge that effectively synthesizes fixed rate funding—at least economically. In fact, this result is generally the objective of hedging.

Suppose, for example, the variable rate loan requires paying LIBOR with no spread, subject to a 2 percent floor; and assume the borrowing company buys a 2 percent cap. If LIBOR remains at or below 2 percent, the interest expense paid to the banker is 2 percent, and the cap has a zero payoff. Ignoring the cost of the cap for a moment, the cost of borrowing is 2 percent. If LIBOR rises to 3 percent, the floor isn’t constraining, and hence the interest paid to the bank is 3 percent. In this environment, however, the cap returns the difference between the market rate (3 percent) and the cap rate (2 percent), generating a 1 percent cash flow to the benefit of the borrowing company. Again, the cost of funds (and again, ignoring the cost of the cap) is 2 percent (=3 percent - 1 percent). (Note that if the banker charges a non-zero spread over LIBOR, the all-in cost would rise, commensurately.)

Although we’ve economically synthesized fixed rate funding, this result won’t be transparent in terms of the way the accounting works. The disconnect arises as a function of the accounting treatment for the cost of the cap. If we were able to prorate this cap premium and divide this cost equally for each period, we’d preserve the economics by reporting a fixed cost of funds; but the accounting rules specifically proscribe this treatment. Instead, we’re required to reverse engineer this cap and view it as a consolidation of a portfolio of caplets—one for each reset exposure. The cost of the cap is just the sum of the costs of these caplets. These costs, however, will generally be higher for longer dated caplets; and as a consequence, this treatment tends to back-load these expenses, resulting in a rising reported cost of funds throughout the term of the hedge.

A deal breaker

These accounting concerns notwithstanding, the requirement to come up with the purchase price of the cap at the start of the hedge is often a deal breaker; and the aversion to paying this up-front premium is widespread—whether deservedly so, or not. In consideration of this preference, many derivatives dealers have structured an alternative design, reflected in the accompanying chart, below.

It should be clear from this exhibit that the swap dealer pays a cash flow (LIBOR with a floor) to the borrowing company that perfectly offsets the company’s payment to the bank, and in return, the company pays the swap dealer a fixed cash flow. Thus, this design, too, ends up with the company synthesizing fixed rate funding.

So what’s the right accounting for this second design? More specifically, does the accounting for this design preserve the economics and show reported earnings consistent with fixed rate funding? Unfortunately, the answer to this question seems to be a source of controversy, and I’m aware of different companies treating this derivative in different ways. To my mind, however, failing to appreciate the true economics underlying this second design leads to an accounting error. I believe we should consider this design to be equivalent to the company buying a self-financed cap. That is, the dealer sells the cap to the customer and simultaneously lends the customer the funds for the purchase. The fixed payments over time would be composed of two pieces: the repayment of the loan and interest (in lieu of the original up front purchase price for the cap), and the floor rate of interest.

In evaluating hedge ineffectiveness, the typical approach compares the gains or losses of the actual derivative to that of a hypothetical derivative—the hypothetical derivative being one that perfectly offsets the risk being hedged. In the first case, it should be
clear that a standard interest rate cap is the hypothetical derivative—and the borrowing company should be able to execute exactly this design, such that the actual and hypothetical derivatives would be the same. With the first design (i.e., the outright purchase of a cap), the company could elect to base the effectiveness considerations on “total cash flows” (which translates to the expected payoff of the cap to reflect the ending intrinsic values of each of the cap’s expiring caplets) and conclude that the purchased cap will be perfectly effective, such that all unrealized gains or losses would be reflected in AOCI.

The second design is not quite so straightforward. I know from experience that some users of this design are asserting that they, too, are using the hypothetical derivative. This assertion leads to the attractive accounting result where the reported earnings will reflect the economics of fixed rate funding. Unfortunately, I find this assertion fraught with difficulty. The claim that there can be two dissimilar derivatives (e.g., a purchased cap and something else), both claiming to be perfect offsets to the same exposure, is problematic. Asserting that the purchased cap is the hypothetical derivative is unassailable if the notional amount is no larger than the outstanding balance on the loan, and the cap’s accrual periods and settlement conventions correspond to those of the loan. I don’t think the same assessment can be made with such certainty for the second design. Perhaps the more pernicious problem is that viewing the second design as a legitimate hypothetical derivative allows for the capacity to thwart FASB’s guidance relating to accounting for purchased options, virtually at will. In effect, this orientation would suggest that whenever a company purchases an option (or cap, or floor, etc.), they would be able to straight line the cost of that option simply by arranging with their derivatives dealer to pay for the option with constant periodic payments, instead of paying for it all up front.

I don’t think this is what FASB had in mind; it seems to me that companies that take this position may be subject to the risk of a later restatement if and when a new set of eyes examines the issue.

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