KEY INSIGHTS:

- Interest rate swaps are the derivatives of choice, but there are alternative contract designs.
- Economically perfect hedges are easy to construct—but what if conditions change?
- A better way to proceed would be to maintain the original swap and overlay a basis swap, thereby making the hedging derivative the two swaps, combined.

CHOICES ABOUND

Saving money when banks offer *'chooser options'*

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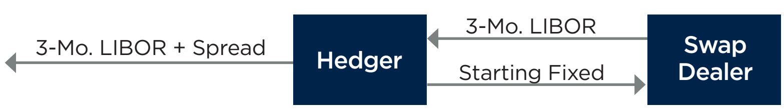
Many companies with variable-rate funding look to derivatives to transform their variable interest-rate exposures to synthetic fixed-rate debt. And while the interest rate swap is the derivative of choice, alternative contract designs warrant consideration.

In all cases, we start by examining the terms of the variable-rate debt. An economically perfect hedge may be possible if we can find a derivative with a variable interest rate that matches the variable interest rate on the funding. This matching, however, requires not only a common variable interest rate on the financing and the swap, but also common accrual periods, rate-reset timing and day-count and payment conventions. In such cases, the variable cash flows of the debt and the swap will perfectly cancel, and the swap's fixed cash-flow obligations survive. Importantly, if the debt imposes a spread over, or under, the variable interest rate common to the debt and the swap, this spread survives as well. Thus, the effective interest rate realized, post-hedge, would be the fixed rate of the swap, plus or minus any spread over or under the variable interest rate common to both the debt and the swap.

Economically perfect hedges—where the effective post-hedge interest rate is predictable, with certainty—are easy to construct when the variable interest rate on the debt is one that commonly serves as the interest rate on the variable leg of a standard, fixed-float interest rate swap. Most common among these situations are the pairing of LIBOR-based bank debt and fixed-versus-LIBOR swaps. An example is depicted in Figure 1, reflecting the case of a borrower that hedges an exposure to three-month LIBOR funding, plus a spread. The arrows point in the direction of the required cash flows. The display demonstrates how the swap synthetically synthesizes fixed-rate funding at an effective rate equal to the swap's fixed rate, plus the original spread over the LIBOR funding.

Figure 1: A Perfect Hedge Example



Effective Rate = 3-Mo. LIBOR+Spread– (3-Mo. LIBOR) + Starting Fixed
Effective Rate = Spread + Starting Fixed

Source: Kawaller & Company

Many LIBOR-based bank loan agreements provide borrowers with a "chooser option," permitting the borrower to choose the variable interest rate from a set of alternatives—say, one-month LIBOR, three-month LIBOR, or six-month LIBOR. Critically, however, fixed rates quoted on swaps with different variable reset frequencies won't necessarily be the same. For instance, the fixed rate for fixed-versus-one-month LIBOR swap may not be equal to the fixed rate for a fixed-versus-three-month LIBOR swap.

Thus, assuming the bank applies the same spread to all of the available LIBOR reset maturity choices, the best choice would be the swap having the lowest fixed rate. And that swap selection would then dictate the choice of the reset maturity/frequency on the debt. For example, assume the fixed rate on a fixed verses one-month LIBOR spread is 2.25 percent, while the fixed rate on the fixed versus three-month LIBOR swap is 2.35 percent. Also, assume the bank imposes the same spread over LIBOR for both reset maturities. Thus, choosing the fixed versus one-month LIBOR swap and funding on the basis of one-month LIBOR would save 10 basis points per year during the hedge horizon, relative to trading the fixed versus three-month LIBOR swap and funding with three-month LIBOR.

Once a swap is designed and executed, changing the debt's reset election from the original selection would necessarily introduce some uncertainty, as the variable rate on the debt and the variable rate on the swap may no longer match. In that situation, the effective rate realized can no longer be expected to be the swap's fixed rate plus or minus that bank-imposed spread over/under LIBOR. Rather, the resulting effective interest rate would be subject to variability as a consequence of unequal changes in the two respective variable interest rates. Thus, in order to continue to achieve a known effective fixed rate after electing to change the reset maturity and frequency of the debt, the swap contract must be adjusted, as well, to re-establish the required matching.

Changing conditions

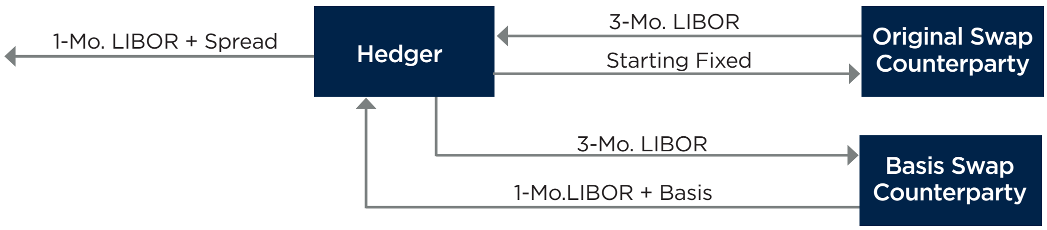
What if conditions change? Suppose the market favored the three-month swap (and hence funding on the basis of three-month LIBOR) at the start of the hedge. Then, suppose market conditions changed, such that if a new swap were to be put in place today, the preferred choice would be, say, fixed versus one-month LIBOR. Economically, the sharp-pencil decision would be to exit the starting swap and replace it with a new swap, again, selecting the swap with the lowest fixed rate and switching the variable reset maturity accordingly.

In transitioning to this new hedge, however, the devil is in the details. With the new swap in place, the effective fixed rate that would be realized over the remaining horizon of the swap would be the fixed rate on the new swap adjusted by the prorated retirement value of the original swap not reflected in prior earnings. The liquidation price of the original swap will be critically important to this outcome and, unfortunately, such liquidation prices are often dictated by the dealer in a way that may be disadvantageous to the hedging entity.

A better way to proceed would be to maintain the original swap and overlay a basis swap, thereby making the hedging derivative the two swaps combined (i.e., the original swap plus the basis swap). A basis swap involves two variable cash-flow obligations. This solution is illustrated in Figure 2. We assume the borrowing entity (i.e., the hedger) originally entered into and hedged a variable-rate debt tied to three-month LIBOR plus a spread. Subsequently, the hedger saw an opportunity to reduce funding costs by replacing the three-month LIBOR funding with one-month LIBOR funding and coincidently adjusting the derivative.

In this case, the basis swap requires the hedger to pay three-month LIBOR and receive one-month LIBOR, plus a basis, such that when all the cash flows of the original swap and the basis swap are combined, all LIBOR-based cash flows are fully offset. The ending

Figure 2: Revised Funding with Amended Swap



Effective Rate = 1-Mo. LIBOR+Spread – (3-Mo. LIBOR) + Starting Fixed +3-Mo. LIBOR – (1-Mo. LIBOR + Basis)

→ Effective Rate = Spread + Starting Fixed - Basis

Source: Kawaller & Company

effective fixed rate is (a) the spread over LIBOR charged by the lender, plus (b) the fixed rate on the original swap, less (c) the basis received under the basis swap. It should be clear that the size of the basis in the basis swap is all that would be needed to assess whether the terms available in the market at any given time would warrant electing to exercise a chooser option and how much of a savings would result.

Note that the display assumes that the original swap and the basis swap are entered into with two distinct counterparties. In fact, the original swap dealer could amend the original contract to explicitly reset the variable rate to the replacement LIBOR maturity and to lower the fixed rate on the contact by the amount of the basis swap's basis. In effect, this amended swap terminates the original swap and replaces it with a new swap of precisely the same market value.

With any adjustment to any hedge relationship, if continuance of hedge accounting is desired, new hedge documentation is needed. The revised hedged item would become the interest payments based on the newly chosen reset rate and payment frequency, and the hedging derivative would be the replacement swap (or swaps combined). Assuming the original hedge received hedge accounting treatment, at the point of redesignation, some accumulated other comprehensive income (AOCI) would have been generated by the original swap, and this amount would have to be reclassified to earnings over the term of the original hedge horizon. The effective funding costs post-redesignation would thus be made up of (a) the debt's variable funding costs, (b) earnings from the replacement hedge, and (c) earnings from the reclassification of the original swap's ending AOCI.

Economically this combined result would be expected to translate to the original swap's fixed rate, less the basis on the basis swap. However, the accounting result may differ somewhat from period to period due to an accounting rule. This rule forces entities that hedge with swaps to measure hedge ineffectiveness by comparing the performance of their actual hedges with those of a hypothetical swap that has a zero value as of the hedge designation date.

Unless we replace the original swap with a new at-market (zero net present value) swap, we face the prospect of having to record some measure of ineffectiveness in current income—or not. Gains or losses of any amended hedging derivative won't be the same as the gains or losses of the hypothetical derivative. However, the difference only affects earnings when the actual derivative's results exceed those of the hypothetical derivative, i.e., the excess of actual hedge gains (losses) over hypothetical hedge gains (losses).

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