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# Swap Futures CONTRACTS

Democratizing interest rate  
risk management solutions

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The world of derivatives provides financial managers with the wherewithal to address risks associated with volatility of interest rates, foreign exchange and basic commodity prices. But use of these tools has largely been restricted to large-scale institutions that typically transact in volumes of many millions of dollars. In fact, futures markets allow for the benefits of derivative tools to be accessible by a much broader audience. This article addresses interest rate exposures associated with existing variable-rate debt—i.e., the most common interest rate exposure problem for most business entities.

While a number of alternative tools might be used to address the risk of rising variable interest rates (e.g., Libor), the most typical solution would be to enter into an interest rate swap with an over-the-counter (OTC) swap dealer. The swap would effectively transform the variable-rate debt into synthetic fixed-rate debt, thereby obviating the preexisting risk. In the general case, a perfect hedge would set the notional size of the swap equal to the principal amount of the debt, where the swap's variable rate, rate-setting dates, and settlements were set equal to those of the exposure being hedged. With such a trade in place, the effective borrowing costs would end up being the swap's fixed rate, plus or minus any spread applied to the debt's variable resetting rate—i.e., synthetic fixed rate funding.

Unfortunately, the typical transaction size in the swaps market is in the range of \$20 million, and entities with significantly smaller exposures may find few willing swap counterparties. Moreover, those dealers who are willing would likely do so with wider bid/ask spreads than those provided to larger users.

#### Eris Swap Futures

Here's where futures markets come in. A relatively new swap future that was designed by Eris Innovations now trades at the CME Group—the Eris Swap Futures contract. These contracts should be expected to approximate the performance of their OTC swap alternatives, but the notional size of the Eris futures contracts, at \$100,000, serves to bring the benefits of the swaps market to a much broader audience.

Eris Swap Futures are available with tenors of two, three, four, five, seven, 10, 12, 15, 20, and 30 years. The listing month of the Eris contract indicates the start date of an associated interest rate swap, with contract expirations dictated by the tenor of the contract in question. For example, the March 2020 five-year Eris contract reflects a five-year swap with a start date of the third Wednesday of March 2020 and an end date (the contract expiration date) that's five years after the contract's swap start date (i.e., the same calendar day in March 2025). Thus, the listing month is not the expiration month. Instead, the expiration date is implied by the start date of the corresponding swap and the contract's tenor.

Critically, the buyer of the Eris futures is the implied receiver of fixed rates (payer of three-month Libor) and the seller is the implied payer of fixed rates (receiver of three-month Libor). Thus, the business entity facing the risk of rising interest rates would want to receive variable and pay fixed. Thus, this entity would want to sell the Eris Swap Futures contract. (Caution: This nomenclature is opposite of that used in the OTC marketplace.)

Eris Swap Futures have cash flow features that are distinctly different from that which would be realized with an OTC swap solution. Specifically, all futures—Eris included—require a daily cash settlement in lieu of the periodic settlements that would otherwise occur with OTC swaps. Here, the reader should understand a distinction between the traditional bilateral swap, where periodic settlements occur throughout the tenor of the swap, versus the swap that is registered with a central clearing facility that imposes cash flow requirements that mimic those of a futures contract. Albeit with some exceptions, cleared swaps are mandated by the Dodd-Frank Act for swaps transacted by financial institutions and major swap users, but nonfinancial hedgers are exempt from these requirements.

In any case, once buyers and sellers “meet” at the futures exchange and agree on a futures price, the contract is consummated and the futures’ clearing house becomes the counterparty for each of the original contract participants. The clearing process requires all open positions to be marked to market at the prescribed settlement time; and gains and losses must be settled daily, in cash. Losers pay and winners receive, with the exchange clearing house acting as the intermediary.

Besides assuring that winners get paid, this daily settlement process also forces the hedger to pay attention. Having to make cash payments signals that the risk inherent in the defined hedged item is not being realized, possibly suggesting that the hedge may deserve renewed consideration. This is not to say that losses on the hedging derivative should necessarily precipitate termination of the hedge. Rather, the decision to hedge simply deserves to be reevaluated. Ultimately, the determination to maintain the hedge should be based on a forward-looking assessment of the prospects of further adverse rate moves, as well as any changes in the hedging entity’s risk tolerances.

The daily settlement amount is called variation margin or variation settlement, and it serves to eliminate the risk of default, or credit risk. Further to that assurance, before a trade can be executed on the exchange, both of the original parties must put up collateral in an amount that is expected (in the eyes of the exchange) to cover the risk of a prospective price change over the coming day with a high degree of confidence. This starting collateral requirement is called initial margin or original margin.

While variation margin must be settled in cash, the initial margin can be satisfied with either cash or, more typically, some acceptable form of non-cash collateral, like Treasury securities. Ultimately, initial margin serves as a stopgap for the situation when variation margin requirements are not satisfied in a timely manner. But assuming they are, initial margin would ultimately be returned to the posting party after the futures position terminates.

The choice of the Eris futures (i.e., which of the contract listings to use) is dictated by the end date of the accrual periods being hedged. Appreciating that Eris futures have expirations at or around mid-month of their listing month, some mismatch of the exposure and the futures contract is inevitable. For instance, suppose, in early January 2020, the company decides to hedge its variable rate exposure of an existing variable rate debt that matures in February of 2023. Most likely, the hedger would sell the futures that expire most immediately after the exposure’s maturity date, but that contract would be liquidated coincidentally with the last reset on the variable rate debt being hedged.

Each Eris Swap Futures contract references an associated swap with a given fixed rate that’s determined on the day the contract is originally listed. That fixed interest rate will be close to the then-prevailing fixed rate of an at-market OTC swap covering the same start-date to end-date horizon. Although these fixed rates aren’t explicitly identified by the CME Group, they are available from Eris Innovations. While these fixed rates must be known in order to model the fair values of these contracts, if arbitrageurs are doing their jobs reasonably efficiently—as should be expected—these fixed rates are of little import to prospective hedgers. Of greater concern would be the timing mismatch between reset dates on the variable rate debt being hedged versus the futures’ variable reset dates.





### Pros and cons

It's important to appreciate what hedging with Eris Swap Futures can do, and what it can't do. The promise of locking in a fixed rate is really something that won't happen without coincident (and equal) repricing of the two respective variable interest rates. Instead, using Eris Swap Futures transforms the exposure of the debt's variable interest rate to exposure to the spread between the two respective variable rates.

For hedges of variable rate liabilities, if the reset dates on debt precede the reset dates on the futures contract, and if interest rates trend upward throughout the hedge, the hedge will overperform (i.e., the variable component of the swap will more than offset the variable expense on the debt). On the other hand, if the futures contract resets first, the hedge will underperform (i.e., the variable component of the swap will more than less-than-fully offset the variable expense on the debt). The reverse would be true in periods when interest rates are generally falling. A more extended interim period between the resets likely allows for a larger difference in each accounting period, but the effect would only be systematic if interest rates trend in one direction throughout the hedge.

More generally, rather than transitioning to a known fixed interest rate, hedgers should expect the effective funding costs post-hedge to be "nearly fixed," varying within a relatively narrow band, with the variance depending on realized differences between the two respective reset rates. Showing this result in reported earnings on the income statement, however, is contingent on applying cash flow hedge accounting, which requires a one-time

effort to draft hedge documentation that includes articulation of quantitative effectiveness testing procedures that would address the sources of ineffectiveness inherent in the hedging relationship under consideration.

Despite the attributes of hedge accounting—notably that it makes the hedging objective and performance more transparent and understandable for the readers of financial statements—for many companies, hedge accounting may not be necessary. The standard, non-hedge derivatives accounting records all derivative results (i.e., the variation margin settlement amounts) in earnings on a current basis. This treatment may be perfectly acceptable. After all, hedge accounting is just bookkeeping. The same economics would be at work, irrespective of the accounting treatment applied. For companies that don't have to deal with the scrutiny of outside investors, and for those who (appropriately) have the requisite confidence that futures will perform as advertised, standard accounting may certainly be an appropriate choice.

### Next best thing

Returning to the economics of hedging, for those companies that don't have the financial standing to participate in the OTC swap market, Eris Swap Futures provide the next best thing. While these contracts won't perfectly synthesize fixed rate debt, they offer a close approximation. In the world of interest rate management, something is generally better than nothing, and Eris Swap Futures can serve this purpose.

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