INTEREST RATE PRODUCTS

Zero Coupon Interest Rate Swap Futures Overview

Zero Coupon Interest Rate Swap futures can be combined to create a plain vanilla swap.

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By: David Boberski, Managing Director
OTC Research & Product Development
david.boberski@cmegroup.com

Zero Coupon Interest Rate Swap futures will be available for clearing through CME ClearPort, which means that it is possible to replicate a plain vanilla par swap with CME Clearing as the central counterparty. In the clearing process, the over-the-counter (OTC) swap transaction will be replaced by a series of standardized futures contracts. The benefits of centralized clearing include position netting, substantial financial safeguards and margin that is held separately from the assets of the clearing firm. CME Group provides a web-based program that gives users the ability to automate the construction of a swap without having to worry about each cash flow. Although there is no need to manually build the swap, users will have the flexibility to do so, making it possible to create bespoke amortizing structures. The Zero Coupon Swap Futures Web Tool is available at www.cmegroup.com/zeroswaps.

Any bond can be decomposed into a series of cash flows, and futures that reference the returns of each cash flow will be substituted for the swaps and cleared by CME Clearing. Buys and sells of the same cash flow will net – just like other futures contracts – making the "tear-up" process that is common in the OTC market unnecessary. In a parallel to zero threshold collateralized swap agreements, these futures may require variation margin to be posted every day, depending on market movements. Performance of each Zero Coupon Swap futures contract is determined by the returns of the fixed and floating legs:

- **Fixed Leg:** Zero-coupon prices are derived from par swap rates
- **Floating Leg:** One day of LIBOR financing cost for the zero coupon price

Essentially, Zero Coupon Swap futures contracts behave as if the zero-coupon prices were financed at LIBOR. The LIBOR rate is the term rate from today to the first quarterly expiration of the contracts. If interest rates didn't change, then every day the zero-coupon price would accrete toward par and one day's worth of interest would be subtracted. Of course, changes in swap rates could also change the price of the zero, and may offset the natural accretion as the zero-coupon price "pulls to par." Unlike the OTC market, the price of each Zero Coupon Swap future is not likely to expire at par, since the price reflects the cumulative LIBOR financing cost. Daily mark-to-market has two components:

- **Futures Price:** Zero-coupon price – Cumulative LIBOR financing cost

For example, if the zero-coupon price derived from the par swap rate for expiration in two years is 98.00, and the cumulative LIBOR financing cost today is 1.00 point, the futures price will be 97.00. Tomorrow, the zero-coupon price might accrete to 98.50 while the LIBOR financing cost rises to 1.25 points, which would lead to a futures price of 97.25. Higher LIBOR financing rates slow the accretion of the zero coupon price.

Zero Coupon Swap futures have the same DV01 as OTC swaps, but there are two differences. First, the LIBOR rate references the price of each Zero Coupon Swap future, rather than a fixed notional amount like OTC swaps. Second, the LIBOR financing rate is the prevailing rate from today to the first quarterly reset, but in an OTC swap the LIBOR rate is constant between resets. Why not simply use Eurodollars? Eurodollars have no convexity, which makes them a natural fit to represent the front-end of the yield curve. In contrast, Zero Coupon Swap futures offer convexity that is similar to a bullet note (when held in the appropriate combination), making them attractive to hedgers of the back-end of the yield curve out to 30 years.

FIGURE 1:
LIBOR rates for the "floating" legs are determined using Eurodollars and BBA Fixings.

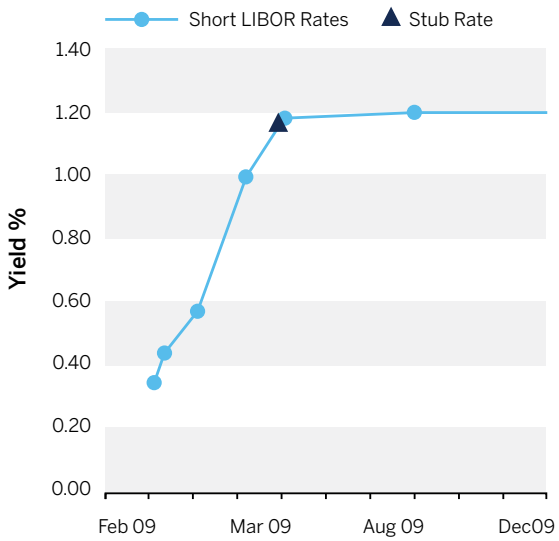

FIGURE 2:
Prices for the "fixed" leg are interpolated so that the implied forward rates are smoothed.

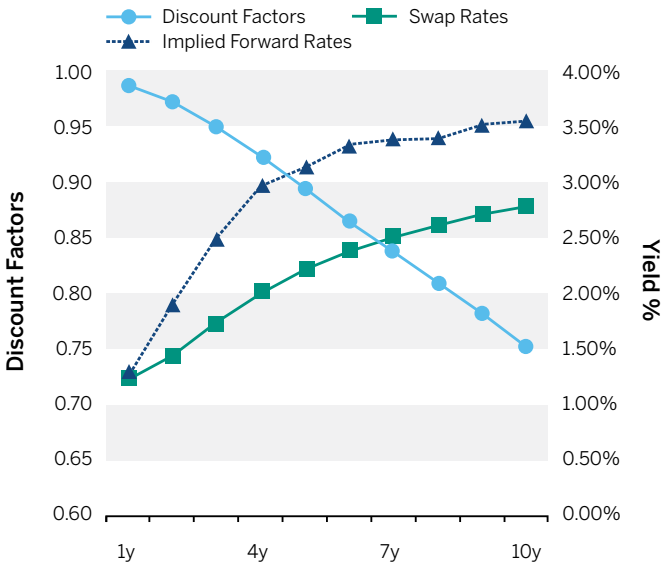

FIGURE 3:
$100MM swap with ATM rate of 1.43%.

Date	Discount Factor	Notional	Present Value
3/09	.9942	0.715 MM	0.710 MM
9/09	.9884	0.715 MM	0.710 MM
3/10	.9818	0.715 MM	0.700 MM
9/10	.9719	100.715 MM	97.880 MM
Total			100.000 MM

A. Quarterly expiration on the 15th of the month.

B. Day count is 30/360.

C. Minimum notional for each cash flow $1,000.

DO ZERO COUPON SWAP FUTURES MATCH THE OTC MARKET?

	Characteristics	
	Risk / DV01	Change Over Time
Fixed Leg	Yes	Yes
Floating Leg	Yes	No*

*Zero Coupon Swap futures act like LIBOR financed bonds, which is better for hedging other cash bonds. LIBOR rates reference market values, rather than a fixed notional. Prevailing LIBOR rates to the first reset are used, rather than a 3-month rate that is fixed between expirations.

For more information on Zero Coupon Interest Rate Swaps, visit **www.cmegroup.com/zeroswaps**.

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