

## INTEREST RATE PRODUCTS

# Trading the TUT Spread: Capitalizing on Changes in the Yield Curve

Spreading 2-Year and 10-Year U.S. Treasury futures helps you capture your outlook on the U.S. Treasury yield curve.

U.S. Treasury futures provide cost-effective and efficient means of capitalizing on anticipated changes in the shape of the yield curve. For example, recent upheaval in the slope of the Treasury yield curve suggests there may be opportunities to trade the 10-Year under 2-Year (TUT) spread, using 2-Year and 10-Year Treasury Note futures contracts.

### The Current Market Context

The 2-year to 10-year segment of the on-the-run U.S. Treasury yield curve has steepened sharply. From December 31, 2007 to February 15, 2008 the spread between the cheapest-to-deliver (CTD) 2-Year and 10-Year notes widened by nearly 70 basis points. (The CTD and its impact on the TUT spread is discussed later in this paper.)

In early 2008, with the Fed expressing determination to continue lowering its fed funds target rate for the foreseeable future, and with the U.S. Federal deficit seeming to grow with each new report, some analysts have been calling for continued yield curve steepening.

If you expect the steepening to continue, you can capitalize on this outlook by buying the yield curve using 2-Year and 10-Year T-Note futures. Note that with a futures strategy of this kind, you buy or sell the yield curve in terms of what you do with the shorter maturity futures contract. Thus, if you anticipate a steeper yield curve (i.e., a widening yield spread), then you would buy the curve by buying 2-Year T-Note futures and selling 10-Year T-Note futures. Conversely, if you expect the yield curve to flatten (i.e., a narrowing yield spread), you would sell the curve by selling 2-Year T-Note futures and buying 10-Year T-Note futures.

### Structuring a TUT Spread

With a properly constructed TUT spread, gains or losses on the spread should be the result of changes in the yield curve as opposed to changes in the direction of interest rates. To filter out this directional effect, you can ratio a yield curve spread using the dollar value of a basis point (DV01) for each contract to assure that each leg will respond equally, in dollar terms, to a given yield change.

On December 31, the 2-Year T-Note futures contract was trading at 105-04 and had a DV01 of \$38.77. This indicates that a 1 bp shift in the yield of the underlying Treasury note will move the price of one 2-Year T-Note futures contract \$38.77 in the opposite direction. (Note that the 2-Year T-Note contract has \$200,000 notional value, whereas other Treasury futures, including the flagship 10-Year T-Note contract, have \$100,000 notional value.) The 10-Year T-Note futures contract was trading at 113-12+ and had a DV01 of \$68.61. A 1 bp shift in the yield of the underlying Treasury note will move the price of one 10-Year T-Note contract \$68.61 in the opposite direction.

You can determine the appropriate ratio for this strategy by dividing the 10-Year T-Note futures DV01 by the 2-Year T-Note futures DV01. In this case,  $\$68.61/\$38.77 = 1.77$  contracts. That is, for every 100 10-Year T-Note contracts sold, you must buy 177 2-Year T-Note contracts to establish a DV01-neutral spread position.

## Possible Spread Results

This kind of ratioed spread should produce essentially no result if both yields change by the same amount. It should produce a significant gain only if the yield curve steepens, as it did during the December 31 to February 15 interval. The following chart shows how the spread would have performed.

Assume you had bought the TUT on December 31 in this 177-100 ratio. Note that the minus sign in the “Number of Contracts” column indicates the short leg of the spread. The table shows that from December 31 to February 15, the TUT steepening would have generated \$408,844. (This does not take into account transaction costs.)

## The TUT Steepens

UNDERLYING CONTRACT	DECEMBER 31 PRICE	FEBRUARY 15 PRICE	CHANGE (32NDS)	CHANGE (\$)	NUMBER OF CONTRACTS	RESULT (NEAREST \$)
2-Year T-Note Futures	105-04	107-04+	64.5	\$4,031.25	177	\$713,531
10-Year T-Note Futures	113-12+	116-14	97.5	\$3,046.87	-100	(\$304,687)=
Net Result						<b>\$408,844</b>

## Impact of the CTD

This kind of spread should generate a positive result any time the yield curve changes in keeping with your forecast; however, this trade is speculative and will generate a loss if the spread narrows.

One factor that can affect spread trade performance is a change in the CTD. Each Treasury futures contract tracks the CTD issue, which may or may not be the on-the-run cash Treasury security. In other words, changes in the steepness of the cash curve may not correspond on a one-to-one basis with changes in the futures. During the seven weeks of this example, the CTD did not change for either the 2-Year T-Note or the 10-Year T-Note.

## Cost-Effective and Efficient

Trading TUT spreads is a practical way to take a position on your forecast of changes in the shape of the yield curve. Again, this spread will generate essentially no result in the case of a parallel yield curve shift. Furthermore, because TUT spreads implemented with U.S. Treasury futures receive margin credits, this kind of trade can be a low-cost means to capitalize on your yield curve outlook. For example, based on exchange margins as of March 1, 2008, a TUT spread initiated at a ratio of five 10-Year T-Note futures to eight 2-Year T-Note futures would be eligible for a spread credit of 80 percent.

Moreover, because these two key benchmark products are now listed on CME Globex, you have virtually 24 hour access to initiate, reverse, or adjust your position.

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