

## Strip Hedge Using Eurodollar Futures

Suppose that on July 28, 1999, a bank plans to make a one-year fixed-rate loan for \$50 million beginning on September 13, 1999, with loan payments to be made in quarterly installments. The fixed rate is 7.50%. The bank plans to fund the loan by using quarterly borrowing in the spot Eurodollar market. This funding takes place in 47 days. To execute a strip hedge for this borrowing, the bank would sell 200 Eurodollar futures contracts, 50 in each of the four available, different delivery months. To execute a stack hedge, the bank would initially sell 200 futures contracts in the nearby delivery month, rolling the position forward into the next available nearby as expiration arrives.

Since the bank will borrow \$50 million in September and approximately every 90 days three times thereafter, the bank initiates a strip hedge by selling 50 Eurodollar futures contracts in each of four delivery months: September, December, March, and June. The short positions in these 200 futures contracts are all entered on July 28th. Thus, a strip hedge can be thought of as a portfolio of single-period hedges. In the strip hedge, the hedger has hedged borrowing costs for four successive quarters.

**Table 6.1 Strip Hedge Using Eurodollar Futures**

<u>Date</u>	<u>Spot LIBOR</u>	<u>Sept. 1999</u>	<u>Dec. 1999</u>	<u>March 2000</u>	<u>June 2000</u>
7/28/1999	5.3125%	S 50 @ 94.555	S 50 @ 94.19	S 50 @ 94.185	S 50 @ 93.95
9/13/1999	5.65%	L 50 @ 94.35			
12/13/1999	5.85%		L 50 @ 94.15		
3/13/2000	6.00%			L 50 @ 94.00	
6/19/2000	5.90%				L 50 @ 94.10
Futures LIBOR rate: (on 7/28/99)	<b>5.445%</b>		<b>5.81%</b>	<b>5.815%</b>	<b>6.05%</b>
Gain (Loss) in Euro\$ Futures:	\$25,625		\$5,000	\$23,125	(\$18,750)*.
<u>Quarter</u>	<u>Firm's Borrowing Rate</u>	<u>Quarterly Interest Expense</u>	<u>Gain (Loss) on Futures Positions</u>	<u>Net Interest Expense</u>	<u>Effective Borrowing Rate</u>
Sep 99 - Dec 99	5.650%	706,250*.	25,625	680,625	<b>5.445%</b>
Dec 99- Mar 00	5.850%	731,250	5,000	726,250	<b>5.810%</b>
Mar 00 - Jun 00	6.000%	750,000	23,125	726,875	<b>5.815%</b>
Jun 00 - Sep00	5.900%	737,500	(18,750)	756,250	<b>6.050%</b>
				Average:	<b>5.78%</b>

\* The \$18,750 loss occurs because the futures price rose from 93.95 to 94.10. This is a loss of 15 ticks. With each tick worth \$25 and the bank short 50 futures contracts: (-15 ticks)(\$25/tick)(50) contracts = -\$18,750.

\*\*  $(\$50 \text{ million})(0.0565)(90/360) = \$706,250$ .