Stack 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.

Table 6.2 **Stack Hedge Using Eurodollar Futures**

Date	Spot LIBOR	Sept. 1999	Dec. 1999	March 2000	June 2000
7/28/1999	*5.3125%*	*S200@94.555*			
9/13/1999	5.65%	L200@94.350	S150@93.985		
12/13/1999	5.85%		L150@94.150	S100@94.145	
3/13/2000	6.00%			L100@94.000	S50@93.765
6/19/2000	5.90%				L50@94.100
Futures LIBOR rate**:**		**5.445%** (on 7/28/99)	**6.015%** (on 9/13/99)	**5.855%** (on 12/13/99)	**6.235%** (on 3/13/00)
Gain (Loss) in ED Futures:		$102,500	($61,875)	$36,250*	($41,875)

Quarter	Firm's Borrowing Rate	Quarterly Interest Expense	Gain (Loss) on Futures Positions	Net Interest Expense	Effective Borrowing Rate
**Sep 99-Dec 99	5.650%	706,250	25,625	680,625	**5.445%**
Dec 99-Mar 00	5.850%	731,250	(20,625)	726,250	**5.810%**
From Sep/Dec:			25,625		
Mar 00- Jun 00	6.000%	750,000	18,125	726,875	**5.815%**
From Sep/Dec:			25,625		
From Dec/Mar:			(20,625)		
Jun 00- Sep 00	5.900%	737,500	(41,875)	756,250	**6.050%**
From Sep/Dec:			25,625		
From Dec/Mar:			(20,625)		
From Mar/Jun:			18,125		
				Average:	**5.78%**

* The $36,250 gain occurs because the futures price fell from 94.145 to 94. This is a profit of 14.5 ticks, worth $25/tick. The bank was short 100 futures contracts. 14.5 ticks X $25/tick X 100 contracts = $36,250.
** The futures price on 9/13/99 is 94.35. It follows that:100-94.35 = 5.65; (0.0565/4)X $50 million = $706,250; (680.625/50.000.000) (4) = 5.445%

To calculate the effective borrowing rate in the stack hedge, as in the lower half of Table 6.2, gains and losses from previous quarters' futures trading must be allocated to the current quarter. For example, one-fourth of the $102,500 gain from the Eurodollar futures hedge in place during the Sep 99/Dec 99 quarter must be allocated to the Dec 99/Mar 00 quarter. The net interest expense during this quarter will reflect a $25,625 ED futures gain from the previous quarter as well as a $20,625 ED futures loss in the current quarter (one-third of$61,875).