

MONTRÉAL EXCHANGE

Hedging an expected change in the overnight repo rate target

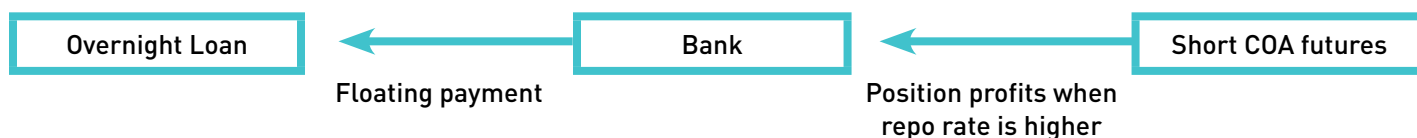
Suppose a repo trader borrows daily C\$150 million in repo funds. Furthermore, let's say that the trader believes that an increase of the overnight repo target rate will occur in the coming months based on the outlook for robust economic activity. Based on this scenario, the trader would like to lock-in the current financing cost against a rise of the overnight repo rate with the use of CRA futures contracts.

Strategy

To achieve his goal, the repo trader sells 49 COA June futures contracts on June 1st and holds them until expiration. The number of futures contract to sell can be determined with the following formula:

$$\text{Hedge ratio} = \frac{\text{DV01 of exposure to hedge}}{\text{DV01 of 1 CRA futures}} = \frac{\$150\text{M} \times 1\text{bp} \times 30/365}{\$25} = \frac{\$1,233}{\$25} = 49 \text{ contracts}$$

Hedging overnight funding: Selling CRA futures to hedge against anticipated higher overnight rates.



Results

Data	June 1 st	June 30 th (last day of June COA contract)
COA futures price	95.50	95.30
COA futures implied rate	4.50%	4.70%
Average rate on overnight repo funds borrowed	-	4.70%

Step-by-step strategy	Formula	Results
On June 1 st : Sell 49 contracts at 95.50		
On June 30 th : Interest rate expense	$\$150\text{M} \times 4.70\% \times 30/365$	\$579,452
Gain on short position at expiration	$49 \text{ contracts} \times 20 \text{ ticks} \times \25	\$24,500
Net interest rate expense	$\$579,452 - \$24,500$	\$554,952
Cost of funds	$\$554,952 \div \$150\text{M} \times (365/30)$	4.50%

Conclusion

The additional funding cost coming from the rise in the overnight repo target rate is offset by the gain in the COA futures, to maintain the effective rate of 4.50%.

* In this example, we assume that there are 30 days in the June COA futures contract.

DV01 = dollar value of one basis point.