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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 150 CRA June futures contracts on June 17th and holds them until expiration. The number of futures contract to sell can be determined with the following formula:

$$\text{Hedge ratio} = \frac{\text{DV01 of exposure to hedge}}{\text{DV01 of 1 CRA futures}} = \frac{\$150M \times 1bp \times 91/365}{\$25} = \frac{\$3,740}{\$25} = 150 \text{ contracts}$$

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

Overnight Loan	←	Bank	←	Short CRA futures
	Floating payment		Position profits when repo rate is higher	
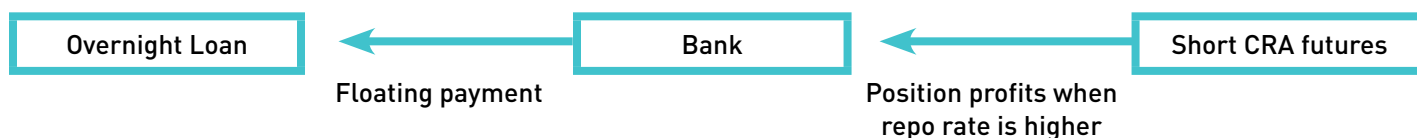
Results

Data	June 17th	Sep 16th (June CRA contract expiry)
CRA futures price	99.50	99.30
CRA futures implied rate	0.50%	0.70%
Average rate on overnight repo funds borrowed	-	0.70%

Step-by-step strategy	Formula	Results
On June 17th: Sell 150 CRA contracts at 99.50		
On Sep 16th: Interest rate expense	$150M x 0.70% x 91/365	$261,781
Gain on short position at expiration	150 contracts x 20 ticks x $25	$75,000
Net interest rate expense	$261,781 – $75,000	$186,781
Cost of funds	$186,781 ÷ $150M x (365/91)	0.50%

Conclusion

The additional funding cost coming from the rise in the overnight repo target rate is offset by the gain in the CRA futures, to maintain the effective rate of 0.50%.

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* In this example, we assume that there are 91 days in the CRA futures contract Reference Quarter.

DV01 = dollar value of one basis point.