OIS™

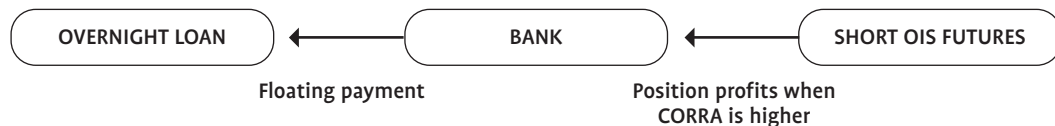## Hedging an expected change in the overnight repo rate (CORRA)

Situation

Suppose a repo trader borrows daily $200 million in repo funds. Furthermore, let's say that the trader believes that an increase of the CORRA 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 OIS futures contracts.

Strategy

To achieve his goal, the repo trader sells 40 OIS June futures contracts on February 15th and holds them until expiration. The number of futures contract to sell can be determined with the following formula:

$$\text{Hedge ratio} = \frac{\text{Number of days in the contract}}{45.625} \times \frac{\text{Exposure in CAD}}{\text{Notional of contract}} = \frac{46^*}{45.625} \times \frac{\$200M}{\$5M} = 40 \text{ contracts}$$

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

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OVERNIGHT LOAN  ←  BANK  ←  SHORT OIS FUTURES
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Floating payment   Position profits when CORRA is higher

Results

DATA	FEBRUARY 15th	JUNE CONTRACT EXPIRY
OIS futures price	99.00	98.75
OIS futures implied rate	1.00%	1.25%
Average rate on overnight repo funds borrowed	-	1.25%

STEP-BY-STEP STRATEGY	FORMULA	RESULTS
On February 15th: Sell 40 OIS contracts at 99	-	-
On June 5th: Interest rate expense	$200M X 0.0125 X 46/365	$315,068
Gain on short position at expiration	40 contracts X 250 ticks X 6.25	$62,500
Net interest rate expense	$315,068 − $62,500	$252,568
Cost of funds	$252,568 ÷ $200M X (365/46)	1.00%

Conclusion

The gain in the OIS futures position is offset by the rise in the CORRA rate, to maintain the effective rate of 1%.

* In this example, we assume that there are 46 days between Bank of Canada Fixed Announcement Dates (FADs), with the second FAD occurring at the expiration of the OIS futures contract.

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