CGB Ten-Year Government of Canada Bond Futures

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New Year, New CGB Opportunity?

Portfolio Managers interested in futures basis arbitrage should examine the cheap futures contracts created by a rapid selloff in October that should begin to converge to fair value. Similarly, cash bond managers may be able to take advantage of cheap CGB contracts by substituting bonds for futures in their existing portfolio. New positions that include a long position in 10-year maturities to speculate or hedge should consider using CGB contracts instead of cash bonds to take advantage of the cheap contracts at this time.

Selloffs Often Create Cheap Futures

We've remarked multiple times in the past that the large open interest in Canadian 10-year (CGB) futures contracts and the propensity for the contract to be used as the "go to" product for clients seeking liquidity has created a tendency for the CGB to trade cheap to bonds during or after a bond selloff and rich to bonds during or after a sustained rally. Additionally, this phenomenon seems to be accentuated if a reversal in the price/yield trend lures price insensitive clients such as trend-following algorithm strategies into the product. The resulting liquidity demands skew the relative value between bonds and futures after a period as bond dealer balance sheets become overburdened by one-sided flows.

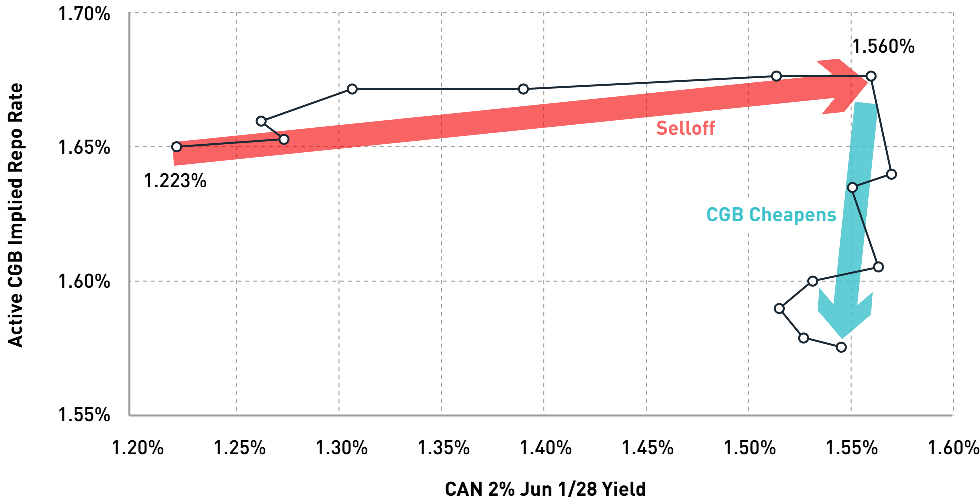
Recent Experience

Canada 10-year yields touched a low[1] on October 3rd and began a sustained selloff as yields reversed and rose a very substantial 35 basis points in a matter of just 6 business days. This is shown in Figure 1 where the yield of the cheapest-to-deliver (CTD) bond is plotted on the x-axis and the implied repo for the CGB contract is plotted on the y-axis.

Initially, the liquidity demands associated with new entrants chasing the trend and speculators/hedgers adjusting positions via CGB contracts appear to have been met by the dealer community, since the large selloff didn't affect the relative value of the CGB versus bonds (red arrow). However, when yields didn't reverse, the selloff began to impact the relative value of futures versus bonds, which drove CGB's implied repo down to a level of about 1.58%, or almost 20 basis points below fair value[2] of 1.73% by October 25th (blue arrow).

1 Yields were lower in mid-August to early-September, but the sustained selloff began in early October.
2 Since the embedded options have almost no value in the current environment, fair value of the implied repo rate on the CGB contract should be almost identical to the yield on similar riskless trades to the delivery date of the contract. In this case we use Overnight Index Swaps as a comparator.

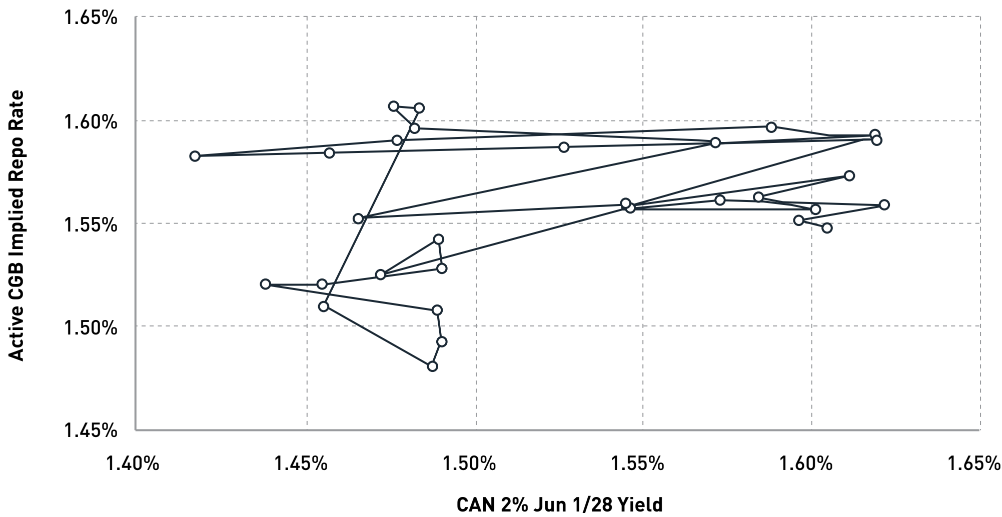
FIGURE 1
Oct4-Oct25: Selloff & Impact



Source: BMO Capital Markets Fixed Income Sapphire database, Montréal Exchange

As we can see in Figure 2 which plots the same metrics as Figure 1 but between October 26th and December 9th, yields were volatile but trendless during a period of consolidation. Futures stayed quite cheap when yields failed to reverse sharply, and dealing desks likely remained in basis positions they accumulated during the early October selloff. Implied repo on the active contract ultimately fell below 1.50% despite a comparable Overnight Index Swap (OIS) rate to the same date of at least 1.72%

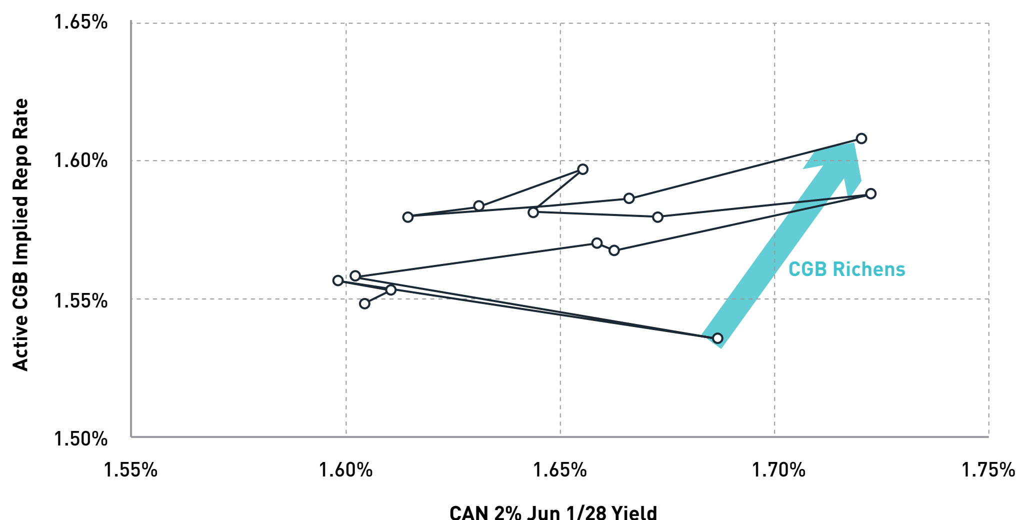
FIGURE 2
Oct26-Dec9: Consolidation Period



Source: BMO Capital Marketsi Fixed Income Sapphire database, Montréal Exchange

Finally, as the year ended and choppy markets allowed accumulated positions to be slowly unwound and bank dealing desks to free up balance sheet, the cheapness of contracts began to alleviate as shown in Figure 3. Between December 10th and the end of the year, despite yields remaining in a range of 1.6% to 1.75%, futures richened from an implied repo rate of about 1.58% to 1.61% (blue arrow), roughly 3 cents of gross basis. At the end of 2019 gross basis (not shown in the Figure) was about 8.5 which equates to an implied repo rate for the CGBH20 of 1.61% to the end of March 2020, or about 11 basis points cheap compared to OIS.

FIGURE 3
Dec10-Dec31: Recovery Begins



Source: BMO Capital Marketsi Fixed Income Sapphire database, Montréal Exchange

Three Potential Paths

Canadian yields reversed substantially after the turn of the new year with a 6 basis point bond rally on January 2nd followed by another 10 basis points the following day when news of the US-Iran conflict escalation emerged. At the time of writing it isn't clear if this is a sustainable rally or a short-term reaction. However, the path of interest rates is not necessarily significant for the CGB basis at this point as an investor can reasonably expect to profit regardless of the direction of rates.

Bond Rally

Perhaps the most obvious scenario is a continued rally in bonds as markets price in risk of war in the Middle East or further escalation of tensions there. Although Canadian bonds don't necessarily have to rally on such developments, given the resource oriented nature of Canada's economy, a further rally in bonds for any reason would likely result in a rapid reversal of the cheapness observed in CGB relative to bonds as liquidity-seeking CGB buyers begin to richen CGB relative to bonds.

Yields Steady

The second scenario is one where yields trade in a steady range for a period with no unanticipated developments that move bond prices by more than 10 basis points up or down. In this scenario, even assuming the cheapness in CGB doesn't abate, the investor would benefit from a slow burn towards a gross basis of about 2 cents, the fair value[3] of CGB on February 25th, the next roll date, given the current level of OIS markets. The basis seller, or the buyer of CGB in lieu of holding the cheapest-to-deliver bond in his/her portfolio, reaps just less than 4 cents of profit[4] after accounting for carry.

Bond Selloff Continues

Of course, the bond selloff could continue which, if extreme enough, could cheapen CGB again to bonds. However, we remind investors that, at delivery, the cheapest-to-deliver bond and the CGB are identical assets and both gross and net basis must be zero on the delivery date. Even at the late-November roll date for the CBGZ19 contract, as CGB relative value was suffering from the selloff in October, the gross basis declined inevitably toward 4 cents. For CGBH20 on January 3rd using closing prices, that would imply a gain relative to the CTD bond, after carry, of just under 2 cents[5].

3 Again, embedded options are virtually worthless.
4 Net basis would decline from 4.2 cents to about 0.5 cents.
5 Net basis would decline from 4.2 cents to about 2.4 cents.

Execution

Leveraged portfolios that can short bonds easily may choose to sell the futures basis, simultaneously selling the CTD bond short and buying an equal risk amount of the CGBH20 contract. If/when the values converge, the trade is reversed.

Cash portfolios that cannot short bonds execute almost the same trade but sell existing holdings, perhaps the CTD or even 2027 or 2029 maturities depending on the risk tolerance of the portfolio[6], and replace these bonds in the portfolio with an equal risk amount of CGB. The proceeds of the sale not needed for margin purposes on the futures contract should then be invested to the delivery date for the CGBH20 contract.

Managing Bank of Canada Risk

One risk for both types of portfolio is a surprise cut in the target rate by the Bank of Canada (BoC). While other interest rate products such as OIS markets and BAX contracts[7] don't price in such an event, it could produce losses for portfolios, depending on how the manager has arranged the trade.

For the leveraged portfolio, arranging financing in the repo market[8] to the CGBH20 delivery date eliminates this risk. Financing in the overnight repo market ignores the risk of a BoC rate cut but would probably result in higher profits if the Bank does not cut rates.

For the cash portfolio, investing the excess cash from the bond sales to the delivery date mitigates the rate cut risk. Some additional cost may be incurred to close the short-term cash investment when the manager closes the CGB trade.

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6 Selling any bond other than Canada 2% 2028 creates some additional risk. Selling 2027s, for instance, introduces a yield curve flattening bias to the position while selling 2029s introduces a steepening bias. One can remove much of this yield curve risk by selling BOTH 2027s and 2029s and buying the CGB, if existing positions permit.
7 See the Montréal Exchange's Canadian Interest Rate Expectations Watch Tool for BAX pricing.
8 Lending cash, borrowing the bonds that were sold short.