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September 2020

MONTRÉAL EXCHANGE

Think Outside the Benchmark

In this article, we demonstrate how 5-year (CGF) and 10-year (CGB) Government of Canada Bond Futures contracts can be used by active managers to access opportunities for yield pickup even if the maturity of the purchased bond would normally lie outside of benchmark[1] for the portfolio.

Spread Product Opportunities

The COVID-19 pandemic has created some unusual spread opportunities in Canadian bonds, including some opportunities for relative value that some managers may have assumed are inaccessible to their portfolios.

For example, in quasi-sovereign bonds, Ontario spreads at the front end of the curve have more or less reverted to pre-pandemic levels while longer term bonds still trade at spreads that are wider than they were at the end of January. Opportunities for yield pickup appear attractive in Ontario 9-year spreads but are limited in 2-year and 5-year.

The opposite can be observed in Bell Canada spreads where 9-year spreads are now below the pre-pandemic trading point while 5-year spread levels remain quite wide relative to January. The result is that the 5-9 spread slope for these issues is now flatter than before the pandemic. Opportunities in Bell Canada spreads appear to be in the 5-year segment but are limited in the 2-year and 9-year area of the spread curve.

Out of Benchmark?

While there are too many portfolio types, restrictions, and benchmarking rules to write examples that apply to every portfolio, we focus here on cash bond portfolios that have an alpha mandate and which attract a benchmark charge based on the total value of the portfolio[2]. For such a portfolio, it is often important to remain fully invested in bonds but also to conserve cash when switching between issues as leftover cash in the portfolio becomes a drag on performance, and borrowing is often not permitted.

However, some of these portfolios are permitted (or can seek permission) to trade futures contracts to hedge duration risk. In fact, these contracts are often the best way to hedge interest rate risk for cash bond portfolios since derivative instruments require little cash outlay relative to trading similar exposure in bonds. Futures can thus be utilized to obtain yield pickup that would normally be impossible or unnecessarily risky. In order to show that some anomalies still exist and to demonstrate how even cash portfolios can take advantage of these anomalies with the assistance of futures contracts, we work through a few examples below[3].

1 But not outside of mandate. One should verify investable universe and risk tolerance before implementing in their portfolio.

2 A standard method, we think. For example, a portfolio valued at $100 where the benchmark increased by 1% during the time period would have generated an alpha of the total portfolio dollar return less $1.

3 We assert nothing about credit quality or fair value of the spreads identified in these examples but show them for demonstration purposes. Credit assessment and identifying opportunities for portfolios is outside our scope in this article.

Maturity Extension in Ontario Bonds

In this example, we use a single bond in the portfolio but it could just as easily be a portion of the bonds already held, a new purchase due to a receipt of additional cash, or a handful of different bonds which could be replaced by the bond being purchased.

In Figure 1, we show generic Ontario spreads for bonds between 2 and 9 years to maturity. Note that Ontario spreads of 5 years to maturity and under are either unchanged or even lower since the beginning of the pandemic[4] but that bonds of maturity longer than 5 years are still wider by a handful of basis points. While all spreads have tightened significantly since the widest points observed in March, front-end bonds have returned to normal and appear less attractive than longer term spreads. This is easily observable in the lowest rows of the figure where 2-9 spread slope and 5-9 spread slope remains 7 basis points steeper than January while 2-5 does not.

FIGURE 1

Ontario Generic Bond Spreads

	31-JAN-20	03-SEP-20	CHANGE
ONTARIO 2	17.3	15.5	-1.8
ONTARIO 3	25.6	25.3	-0.3
ONTARIO 4	34.7	34.4	-0.3
ONTARIO 5	42.9	42.0	-0.9
ONTARIO 6	49.6	54.0	+4.4
ONTARIO 7	55.8	60.3	+4.5
ONTARIO 8	60.8	66.7	+5.9
ONTARIO 9	64.6	70.6	+6.0
ONTARIO 2-5	25.6	26.5	+0.9
ONTARIO 2-9	47.3	55.1	+7.8
ONTARIO 5-9	21.7	28.6	+6.9

Source: BMO Capital Markets Fixed Income Sapphire database

However, some managers may be inclined to ignore the wider spreads available if they are already "at benchmark" in 9-year maturity bonds or if they are managing to a lower target duration for tactical or mandated reasons. Many of these managers may be able to capture potential opportunities that they believe are out of grasp using futures to replicate a "buying the spread" strategy usually utilized by leveraged credit portfolios with relative value mandates.

In Figure 2, we show a transaction structure that is essentially equivalent to a levered switch between Ontario 5-year spreads and Ontario 10-year spreads but that can be easily transacted in a cash portfolio with a bond benchmark, assuming futures are permitted in order to manage duration. In this example, the portfolio is assumed to already own some 5-year Ontario bonds but the manager finds 10-year spreads more attractive. He/she can do a cash-neutral switch between the Ontario 1.75% Sep25 and the 2.05% Jun30 by transacting in the notional amounts shown in the figure. However, while doing so would leave the total value (and thus the benchmark) unchanged, the total interest rate exposure would increase by about $4,200 per basis point. Specifically, it would decrease in the 5-year sector but increase by a greater amount in the 10-year sector due to the cash-neutral nature of the transaction. A prudent manager who finds the 10-year spread attractive but doesn't want to increase interest rate risk at this time can thus transact in the futures market, buying CGF (5-year) contracts and selling CGB (10-year) contracts in the amounts shown, which will return the portfolio to its original interest rate risk characteristics with almost no increase/decrease in overall interest rate risk, or the risk in 5-year or 10-year risk buckets.

4 In this article, we use January 31st, 2020 as the "pre-pandemic" reference date and September 3rd, 2020 for "current" prices/yields.

FIGURE 2

Credit Extension for Yield pickup,; Sell Ontario 5-year, Buy Ontario 10-year

	Notional	Issuer	Coupon	Maturity	Accrued	Price	Yield	Issue DV01	Total DV01	Proceeds
SELL	-10,000,000	ON	1.75%	08-SEP-25	0.00	104.81	0.767%	5.0	-5,027	10,481,166
BUY	9,709,234	ON	2.05%	02-JUN-30	0.55	107.40	1.240%	9.5	9,234	-10,481,166
									4,207	**0**

	# of Contracts	Contract (ticker)	DV01 per Contract	Target Total DV01	Actual Total DV01	Portfolio DV01 Change
BUY	79	CGFZ20 (XQZ0 COMDTY)	6.4	5,027	5,056	29
SELL	-76	CGBZ20 (CNZ0 COMDTY)	12.2	-9,234	-9,271	-37
					-4,214	**-7**

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

Yield Pickup, Switch Government Risk for Corporate

Another example which would allow a portfolio to pick up yield, given the exceptionally low yields in Canada bonds at this time, is a switch from 10-year Canada bonds to a 5-year corporate. Note in Figure 3 that Bell Canada bonds of 5-year maturity still trade at an elevated spread while 2-year and 9-year bonds by the same issuer do not. That is again evident in the fact that the 2-5 spread curve in this corporate is 9 basis points steeper now than before the pandemic while the 5-9 is much flatter.

FIGURE 3

Bell Canada Generic Bond Spreads

	31-JAN-20	03-SEP-20	CHANGE
BELL CANADA,2	50.0	50.1	+0.1
BELL CANADA,5	92.0	101.1	+9.1
BELL CANADA,9	135.0	134.9	-0.1
BELL CANADA 2-5	42.0	51.0	+9.0
BELL CANADA 5-9	43.0	33.8	-9.2

Source: BMO Capital Markets Fixed Income Sapphire database

A manager that finds a spread anomaly such as this and is willing to take on additional credit risk could sell some or all of his/her off-the-run Canada bonds, such as the Canada 2.25% Jun29 and invest the proceeds in the BCE 2.9% Aug26. Doing so would reduce the interest rate risk of the portfolio by just under $3,000, as shown in Figure 4, if it was structured to be cash neutral. The DV01 difference can again be mitigated using CGF and CGB futures, this time by selling the former and buying the latter in appropriate amounts to re-establish the 5-year and 10-year interest rate exposure while simultaneously eliminating any interest rate risk reduction in the total portfolio[5].

FIGURE 4

Credit Yield pickup Sell Canada 2029, buy Bell Canada 5y

	Notional	Issuer	Coupon	Maturity	Accrued	Price	Yield	Issue DV01	Total DV01	Proceeds
SELL	-10,000,000	CAN	2.25%	01-JUN-29	0.61	115.24	0.466%	9.2	-9,242	11,584,927
BUY	10,681,928	BCE	2.90%	12-AUG-26	0.21	108.24	1.444%	5.9	6,324	-11,584,927
									-2,918	**0**

	# of Contracts	Contract (ticker)	DV01 per Contract	Target Total DV01	Actual Total DV01	Portfolio DV01 Change
BUY	76	CGBZ20 (CNZ0 COMDTY)	12.2	9,242	9,271	29
SELL	-99	CGFZ20 (XQZ0 COMDTY)	6.4	-6,324	-6,337	-13
					2,934	**16**

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

5 Since total interest rate exposure is simply the sum of the 5-year exposure and 10-year exposure.

Both of the examples above, although we've shown them as a pair of bond trades followed by a pair of futures contract trades, can be reshuffled to appear as "buy bond, sell futures + sell bond, buy futures" and be mathematically identical. The latter expression of each trade is exactly the transactions that would take place in a levered portfolio which will often buy "on spread" where, for example, an Ontario bond is purchased while simultaneously selling a Canada bond with the same interest rate risk. However, when using futures, a manager does not need to have short bond positions, which are often forbidden, nor run costly securities borrowing/lending programs to finance the interest rate hedges.

Risks

Although the transactions above eliminate total interest rate risk, and even conserve the initial 5-year and 10-year exposure, they are not without risk. In each case, the manager takes on additional credit risk, either with new exposure to credit in the second example or by increasing credit risk (CV01 or Credit-01) in the first example.

An additional risk to be aware of is that, especially if the slope of the yield curve changes substantially, the futures hedge may need to be actively managed as, with large moves in slope, the contracts may become substantially positive or negative in market value and thus begin to impact the benchmark calculation for the portfolio. Additionally, margin maintenance is required when rates move which needs to be managed carefully, especially for portfolios attempting to keep as little cash on hand as possible.

Finally, the futures hedge must be rolled to active contracts each quarter, although the cost of doing so is low, especially when compared to other interest rate hedging strategies (i.e. swaps or even bonds).

Kevin Dribnenki writes about fixed income derivatives and opportunities in Canadian markets. He spent over 10 years managing fixed income relative value portfolios as a Portfolio Manager first at Ontario Teachers' Pension Plan and then BlueCrest Capital Management. During that time he managed domestic cash bond portfolios as well as international leveraged alpha portfolios and has presented at several fixed income and derivatives conferences. He received a BA in Economics from the University of Victoria, an MBA from the Richard Ivey School of Business, and holds the Chartered Financial Analyst designation.

For more information:

T +1 514 871-3501
irderivatives@tmx.com

m-x.ca/futures

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