Futures Flash Series
ARTICLE 19

MONTRÉAL EXCHANGE

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A closer look at swap / Invoice spread opportunities

Some important changes have occurred in recent years that may alter the dynamics of swap spreads in Canada. First, the rise in interest rates since 2021 results in a different "normal" level of spreads. Second, swap spread trades have become simpler and easier than ever before thanks to changes in standard Canadian swap terms. Third, the rise of liquid futures contracts may influence spreads going forward. Finally, there is reason to not trust the mortgage seasonal in 2024, but that may lead to trading opportunities later in the year. We visit each hypothesis in turn after a brief update on the price action for spreads in recent years.

Swap Spread Update

Due to a very abrupt move to narrower spreads in the final quarter of 2023, swap spreads are at about the average of the past two decades, especially in the 5-year and 10-year areas of the curve. The 10-year area narrowed from almost historical wide levels in midsummer last year while 30-year spreads[1] are about average. Figure 1 plots the last 20 years of 5-year swap spreads in Canada and shows that spreads reached wider levels (more negative numbers or lower in the figure) in mid-2023 than they have reached since the financial crisis in late 2007 and early 2008.

FIGURE 1

5y Swap Spreads, Constant Maturity

Source: BMO Capital Markets[i] Fixed Income Sapphire database

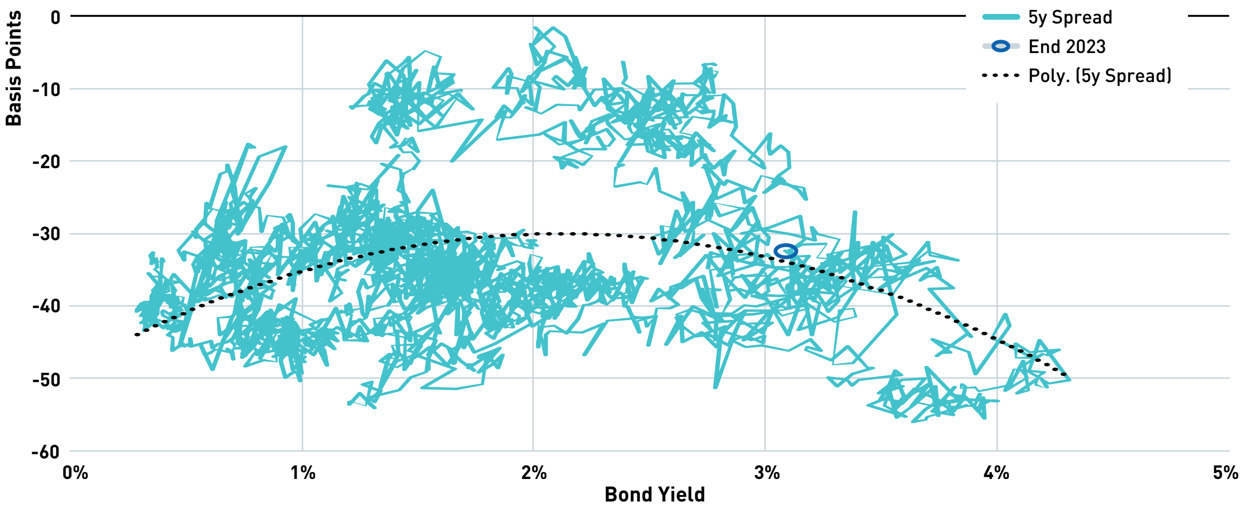
1 This piece will not focus on 30-year spreads since we doubt much trading really goes on there except between banks (maybe) and the type of very large institutions that banks have trouble saying "no" to.

Higher Rates, Wider Spreads

Our first observation should be that spreads are usually wider when interest rates are higher than 2.5% and lower than 1.5%. This phenomenon is shown by Figure 2 which depicts swap spreads on the y-axis (lower on the chart is a wider swap spread) versus the bond yield.

FIGURE 2

5y Swap Spreads v. 5y Yield



Source: BMO Capital Markets[i] Fixed Income Sapphire database

The existence of wider swap spreads at higher levels of interest rates is well-documented and makes economic sense: at higher interest rates, the rate itself is often sufficient to attract fixed income investors and there is less appetite or reason to augment the high yield with different instruments. In short, bonds sell themselves at high interest rates and swap yields need to be even higher (wider spreads) to compete with relatively attractive bond yields.

Explaining narrower swap spreads at low rates is less straightforward. Wider spreads are observed in the data at low rates because, especially in the last two decades, low rates have been accompanied by (indeed, caused by) hyper monetary policy, usually in the form of quantitative easing which lowers bond yields without directly affecting swap yields. Additionally, such policy is implemented due to credit weakness and volatility, sometimes extreme, that is being observed in markets by central banks. Both higher volatility and wider credit spreads normally lead to wider swap spreads due to a flight-to-quality response from investors. Liquidity issues in swaps, especially during the financial crisis and the COVID-19 pandemic, may have played a factor in times of stress as well.

Easier Spread Widening/Tightening Trades

Due to the efforts of the Canadian Alternative Reference Rate Working Group, Canadian swaps have finally abandoned the flawed 3-month CDOR rate in favour of the truly risk-free CORRA rate after 15 long years of planning and deliberation[2]. In the past, traders of swap spreads had to contend with the fact that the floating leg (financing) of their swap was referenced to 3-month CDOR while the financing of their bond positions was determined in the repo/reverse market or the implied repo rate on a futures contract, if executing their widening/tightening trade in futures contracts.

The above difference, which impacted the daily carry as well as increased the VAR risk of swap spread trades in some models, has changed as all dealers have been transacting new swaps against CORRA instead of CDOR for some months[3]. In fact, swaps that reference BA rates will be increasingly difficult to hedge as those contracts will be eliminated from Montréal Exchange in late June 2024. As a result, swap spread trades are now easier and simpler since both the floating leg of the swap and the bond financing are referenced to Canadian risk-free rates. Note, however, that historical analyses of swap spread widening trades may be slightly overstated since those analyses included the receipt of a small credit spread on the floating leg of the swap.

2 Interested readers can discover more detail at https://www.bankofcanada.ca/markets/canadian-alternative-reference-rate-working-group/canadian-alternative-reference-rate-working-group-key-documents/

3 Exceptions exist for risk reducing trades for both clients and dealers.

The Rise of Liquid Futures

Another aspect of the market for swap spreads that may have changed during the last decade or so is the ability for clients that don't participate in the Canadian bond market to easily transact in swap spreads via Invoice Spread trades, or the substitution of the active futures contract for the bond portion of a swap spread trade. Figure 3 shows the open interest of each of the Montréal Exchange fixed income bond futures contracts at the end of 2023 and at the end of 2013, 10 years earlier. Until recently it was impossible to trade 2-year swap spreads without access to the bond market and the additional work associated with financing cash bond positions, except in the 10-year portion of the curve where the Ten-Year Government of Canada Bond Futures (CGB™) contract has been liquid for quite a long time. The Five-Year Government of Canada Bond Futures (CGF™) and 30-Year Government of Canada Bond Futures (LGB™) contracts have opened new possibilities for swap spread trades that are self-financing.

FIGURE 3

	OPEN INTEREST (000S)		
CONTRACT	**END 2013**	**END 2023**	**% CHANGE**
CGZ (2-year)	0	160	NA
CGF (5-year)	6	113	1783%
CGB (10-year)	280	444	59%
LGB (30-year)	0	1.5	NA

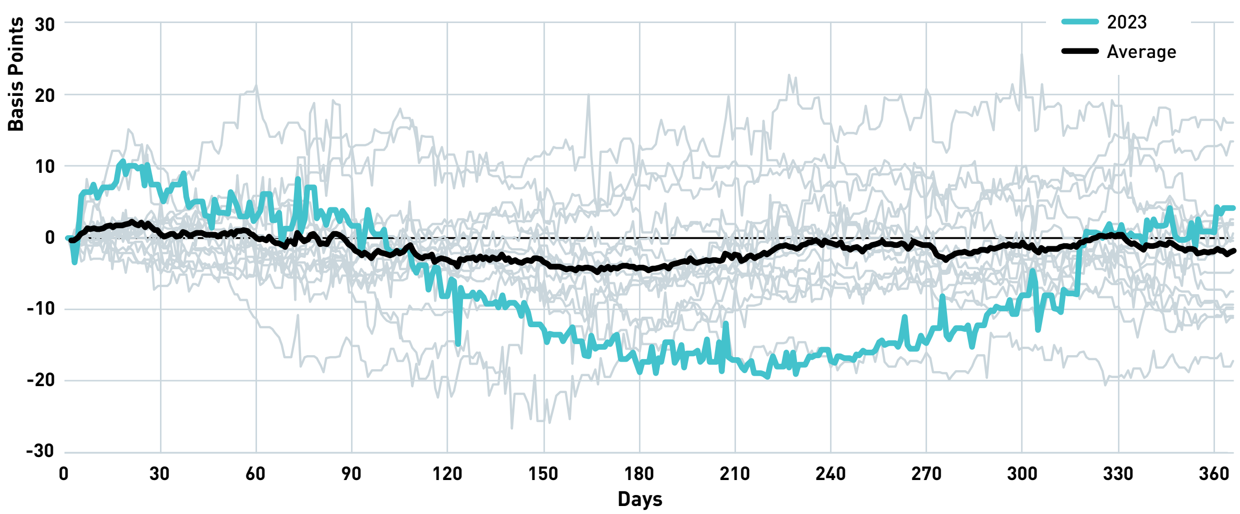
Source: Montréal Exchange

Seasonal Pressure Plays a Role

On average in Canada, swap spreads widen about 5 basis points between March 30th and June 30th and then tighten by about the same amount in the second half of the year. If trading were that easy, all our readers could retire almost immediately! Note that the "Mortgage Seasonal", depicted in Figure 4, which is a 5 basis point widening, on average, has actually varied between a 15 basis point tightening and a 20+ basis point widening, depending on the year[4]. In the figure, we have indexed the change in swap spreads from the end of the previous year to the day of the year, to depict the seasonal which appears as a dip lower through the first half of the year and a return to the zero line in the second half of the year.

FIGURE 4

5y Swap Spreads - Indexed to Day of Year



Source: BMO Capital Markets[i] Fixed Income Sapphire database

4 2007 to 2009 are excluded from the seasonal widening analysis since swap spreads were so unusual during this period of time.

A strong seasonal exists in swap spreads due to the strong activity in housing markets after snow has cleared properties in much of the country and in advance of completing any residential move before the new school year starts, among other reasons. Since the bulk of Canadian mortgages are 5-year fixed mortgages and banks offer buyers "locked in rates" while they search for a home, the hedging needs of banks are not perfectly known (even by them) in advance and they are clustered around the 5-year point in the curve[5].

Clever readers will perhaps doubt whether, given the uncertainty in the Canadian housing market today, this seasonal pattern will persist in 2024. We aren't sure either! However, Figure 4 also depicts the change in swap spreads in 2023, a year when we would have strongly doubted that banks could be creating enough new mortgages to compel large hedging needs – but the seasonal pattern existed and was very pronounced in 2023.

In fact, the banks that originate mortgages are, it probably goes without saying, highly experienced at anticipating their own hedging needs via models that predict how many mortgage offers or lock-in rates actually result in a mortgage being written. It's only when the prediction model is wrong that the seasonal pattern should occur. For example, if a bank hedges for a billion CAD of new mortgages but is surprised when $1.2 billion of new mortgages are created, additional hedging needs are created in the 5-year point of the curve. Spreads widen as the bank attempts to hedge receiving some unanticipated fixed cash flows from new homeowners by paying fixed in the swap market. Will the house buying season in Canada be stronger or weaker than lending institutions anticipate this year is the real question to be answered in coming months.

Spread Widener (Or Wait for Post-Summer Tightening)

As shown in Figure 4, the seasonality in the Canadian housing market causes a 5 basis point widening on average. Interested clients could structure a widening trade in 5-year swaps to potentially profit from the seasonal if they believe 2024 will be a normal year for mortgage creation. However, even after a 100 basis point fall in 5-year yields late in 2023, the housing market looks stretched (as always!) and a safer trade may be to wait until the widening occurs, if it does occur in 2024, and then capture some profits on the tightening that often follows.

An investor could structure a 5-year swap spread widening trade by buying cash bonds and paying fixed in the swap market to the same maturity date, but that position entails constant management to finance the trade. An easier way is to buy the active CGF (5-year) contract and pay fixed in the swap market, a structure that is illustrated for a trade date of January 11th, 2024, in Figure 5 for $25,000 CAD of spread DV01. If investors choose to wait and see if the seasonal widening occurs and do a spread tightening trade if it does, they will simply do the opposite transaction and need not worry about borrowing 5-year bonds to short.

FIGURE 5

5-year Swap Spread Widener via CGF Invoice Spread

POSITION	SECURITY	CTD COUPON/YIELD	MATURITY	DV01/100	TOTAL DV01
525	CGFH24	3.25%	01-Sep-28	4.76	25,014
-59.1	Pay Fixed	3.60%	01-Sep-28	4.23	-24,993
					21

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

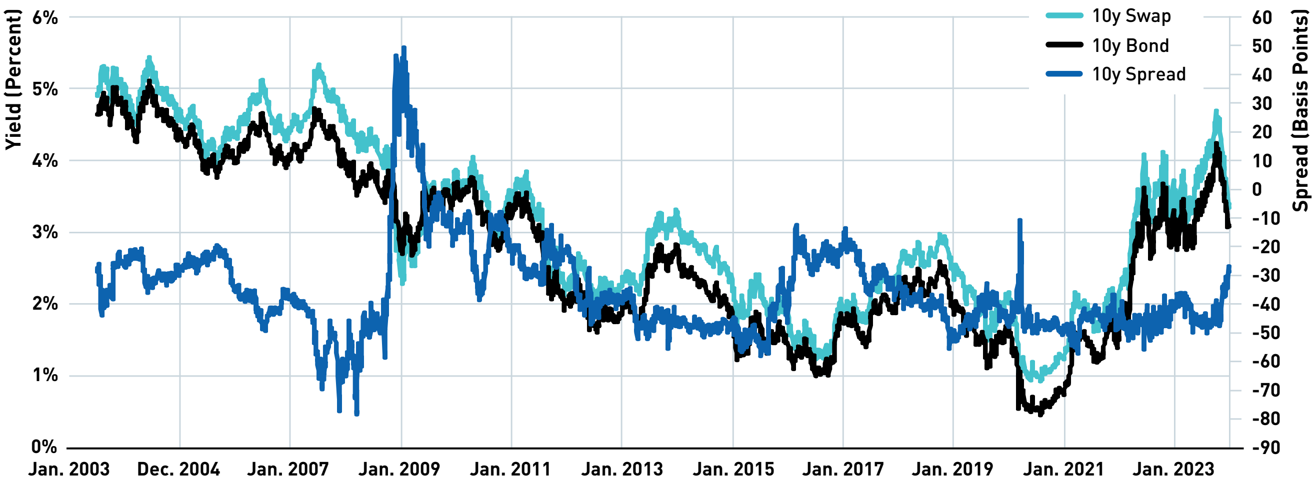
Other Spreads

Of course, 5-year swap spreads aren't the whole market in Canada. 10-year spreads have tightened by over 25 basis points since the end of October (as they should, given the rally in bonds) and are now slightly tighter than the average over the last 20 years, as shown in Figure 6, which is odd given the fact that rates are still quite high. Clients could use the extremely liquid CGB contract to transact a swap spread widening position if they believe spreads have tightened too much in recent months.

5 Readers can discover more about the seasonality in Canada swap spreads due to the unique Canadian mortgage market in https://www.m-x.ca/f_publications_en/seasonal_mortgage_trade_en.pdf

FIGURE 6

10y Swap Spreads, Constant Maturity



Source: BMO Capital Markets[i] Fixed Income Sapphire database

Like the 5-year example above, investors could structure a spread widening trade in the 10-year space by buying CGB (10-year) contracts and paying fixed in swaps. Such a structure is illustrated in Figure 7, again for $25,000 of spread risk.

FIGURE 7

10-year Swap Spread Widener via CGB Invoice Spread

POSITION	SECURITY	CTD COUPON/YIELD	MATURITY	DV01/100	TOTAL DV01
269	CGBH24	2.00%	01-Jun-32	9.31	25,032
-34.7	Pay Fixed	3.51%	01-Jun-32	7.20	-25,000
					33

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

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