



MONTRÉAL EXCHANGE

November 2022

# Excess Demand for 5-year Bonds (and Swaps): A Bad Omen for Canada's Economy?

Since mid-June, Canadian 5-year bonds have outperformed other parts of the yield curve which may signal serious trouble ahead for the housing market and the economy. Moderate and aggressive managers may choose a contrarian view in 5-year rates, a slope trade in the 5-10 year segment, or a more conservative swap spread widening trade.

## Importance of the 5-year Point on the Curve

As most readers know, the 5-year point in many bond markets is currently one of the most important as it is the most sensitive point to changes in expected inflation. Typically, the 2-year point is unable to respond much in advance of changes to the central bank's target rate and the 10-year is far enough out on the yield curve that it is influenced more by long-term expectations, which drive the curve to an asymptote, often just beyond that point. That leaves 5-year bonds or swaps, the "belly of the curve", as the point most sensitive to expected inflation and interest rates.

The above description is further exacerbated in Canada by the nature of the domestic housing market<sup>1</sup>. Most often, banks offer 20-30 year mortgages with a fixed rate that resets every 5 years or a floating rate that is indexed to the front end of the yield curve. The former, a 5-year fixed mortgage, is one of the largest drivers of interest rate hedging in Canada since the mortgagee, usually a bank, must hedge the mortgages that it anticipates writing<sup>2</sup> and constantly adjust that hedge as conditions change. We believe conditions have changed so dramatically that the housing market alone has probably driven the collapse of 5-year swap spreads and probably contributed a lot to the relative demand for 5-year bonds observed today.

## Strength in 5s

For clarification, 5-year bonds are experiencing additional demand relative to the rest of the yield curve, not in any outright way. In fact, 5-year yields are currently at their highest level in over a decade and, along with much of the yield curve, have been rising steadily for months. However, many measures appear to point toward excess demand at the 5-year point.

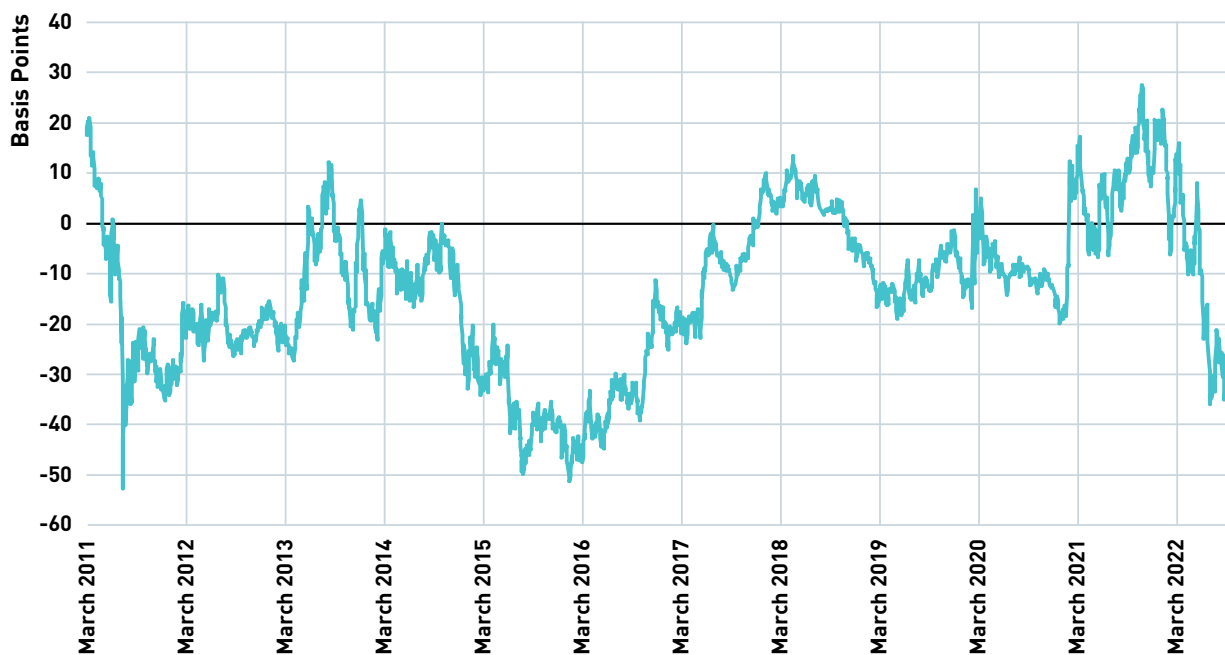
First, and most obviously, the 2-5-10 bond butterfly with 50/50 weights<sup>3</sup> has collapsed dramatically in just a few months as shown in Figure 1. In the figure, we can see that, starting early in 2022 but accelerating since June, the butterfly has collapsed from levels which were historically high to levels that are historically low, although not quite the lows of the last decade (yet).

<sup>1</sup> Although slightly dated now, investors can read more about seasonal opportunities associated with housing in "[Canada's Seasonal Mortgage Trade](#)".

<sup>2</sup> The homebuyer (mortgagor) almost never hedges.

<sup>3</sup> Investors who want to explore futures butterfly trades in more detail can refer to "[Understanding 2-5-10 in Futures](#)".

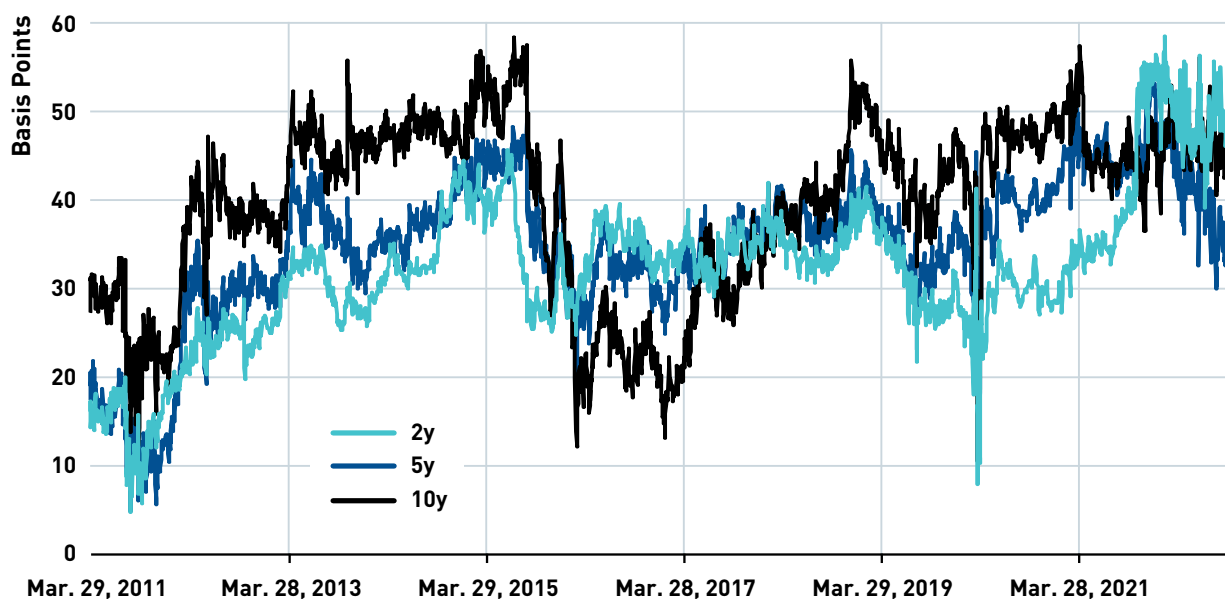
**FIGURE 1**  
**2-5-10 50/50 Bond Butterfly, Constant Maturity**



Source: BMO Capital Markets' Fixed Income Sapphire database

Second, despite the outperformance of the 5-year segment of the bond yield curve, 5-year bonds themselves have been quite dramatically outperformed by 5-year swaps. A rapid collapse in 5-year swap spreads has accompanied the relative strength of 5-year bonds. Swap spreads in 2-year, 5-year, and 10-year maturities are shown for the past decade in Figure 2. We can observe that 5-year spreads have fallen farther and faster than 10-year spreads and that they have fallen from historically wide levels of more than 50 basis points to a level below what has been considered normal since economies recovered from the seemingly endless Eurozone crises of 2010-2012.

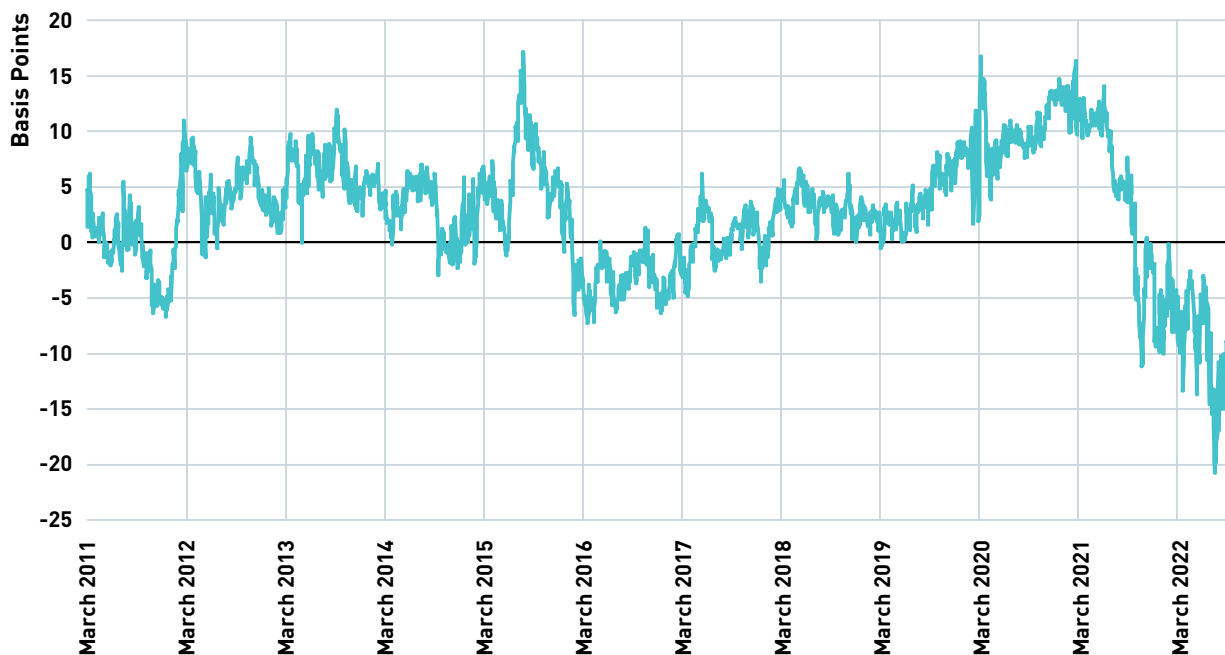
**FIGURE 2**  
**2-year, 5-year, 10-year Constant Maturity Swap Spreads**



Source: BMO Capital Markets' Fixed Income Sapphire database

A notable way to observe the collapse in 5-year swap spreads is to compare the difference between 2-year and 5-year spreads which is shown in Figure 3. The difference in the 2-year and 5-year constant maturity swap spread has fallen to a level 10-15 basis points lower than what has been observed in the past decade. The bulk of the rapid change has occurred after the final quantitative easing operations and long after the market anticipated the end of the Bank of Canada's pandemic responses.

**FIGURE 3**  
**2y/5y SS Slope, Constant Maturity**



Source: BMO Capital Markets' Fixed Income Sapphire database

## Insight on the Housing Market?

One of the obvious insights that can be drawn from the 5-year point of the yield curve is that, apparently, many investors believe that inflation will be short-lived enough that the Bank of Canada begins a cycle of easing monetary policy within a rather short time frame. That insight has been highlighted by observations of long-term interest rates which have not risen as much as one would expect given an inflationary trend.

A secondary, but perhaps more important insight, can be gained by speculating on the cause and speed of the strength in 5-year bonds and accompanying collapse of 5-year swap spreads. Canadians looking to buy a home in summer<sup>4</sup> 2022 faced a far different environment than they could have anticipated when they first contemplated buying. A family buying a home priced at the national average with a 20% down payment faced monthly mortgage payments 30% higher than they did before 5-year rates (and mortgage rates, of course) began to rise rapidly in late 2021. That additional mortgage payment, for an average family, can amount to an additional 15% of after-tax disposable income spent on housing – enough to give anyone pause given the accompanying negative wealth effect that was simultaneously occurring in the stock and bond markets, to say nothing of the constant drumbeat of recession warnings in the media for the past few months.

Given the arguments above, combined with our observations at the 5-year point, we can speculate that banks and other mortgage underwriters have had to rapidly adjust their hedging programs as models calibrated in a low, stable, mortgage rate environment may have proven inaccurate. We suggest that far fewer mortgages have been written than were anticipated by mortgagees and their mortgage creation models. Banks that had pre-hedged expected<sup>5</sup> mortgage creation may have responded by unwinding those hedges. A bank hedges anticipated receipts in the 5-year point by selling 5-year bonds, if they have them, or more often by paying fixed in 5-year swaps. To unwind a hedge for mortgages that failed to materialize, they do the opposite – receive fixed in swaps and/or buy 5-year bonds which would result in narrowing 5-year swap spreads.

## Housing Recession?

Housing activity has slowed already, and prices nationally have fallen, but by small amounts in the usual housing indicators. If the expert modelers at mortgagees have, indeed, failed to anticipate a far lower level of homebuying activity, the official indicators may be lagging or, for various reasons too complex to discuss here, unable to capture the extent of the slowdown. The repercussions for the Canadian economy may be very large. To list just a few of the many frightening reasons:

<sup>4</sup> The Canadian housing market exhibits a very large amount of seasonality. Most home sales occur during the seasonally active period May to September.

<sup>5</sup> A mortgagee hedges some portion when a rate and approximate amount of the mortgage is provided to the mortgagee since the rate is normally “locked-in” and the homebuyer has the option to accept the rate for some specified period. Banks delta hedge the mortgage using their extensive experience predicting how many mortgages are created given the amount of mortgages offered.

- Canadians are very indebted, more so now than at most other times in history. Normally mortgage debt is considered “good debt” but the sheer size of mortgage debt outstanding at almost 100% of GDP would have been unheard of just 5 years ago when it was around 75%.
- The real estate market has been a very large driver of the Canadian economy in recent years, contributing almost 10% of GDP in 2021.
- New homeowners, often young adults, who bought during the post-2020 run-up in prices could easily find themselves “trapped” in a negative equity housing position that can make it difficult to take jobs that advance their careers, if they need to move to do so, further exacerbating recessionary pressure and depressing productivity growth.

## Opportunities

Although we find the arguments above compelling, some of the potential trades are probably much too contrarian to be embraced at this juncture.

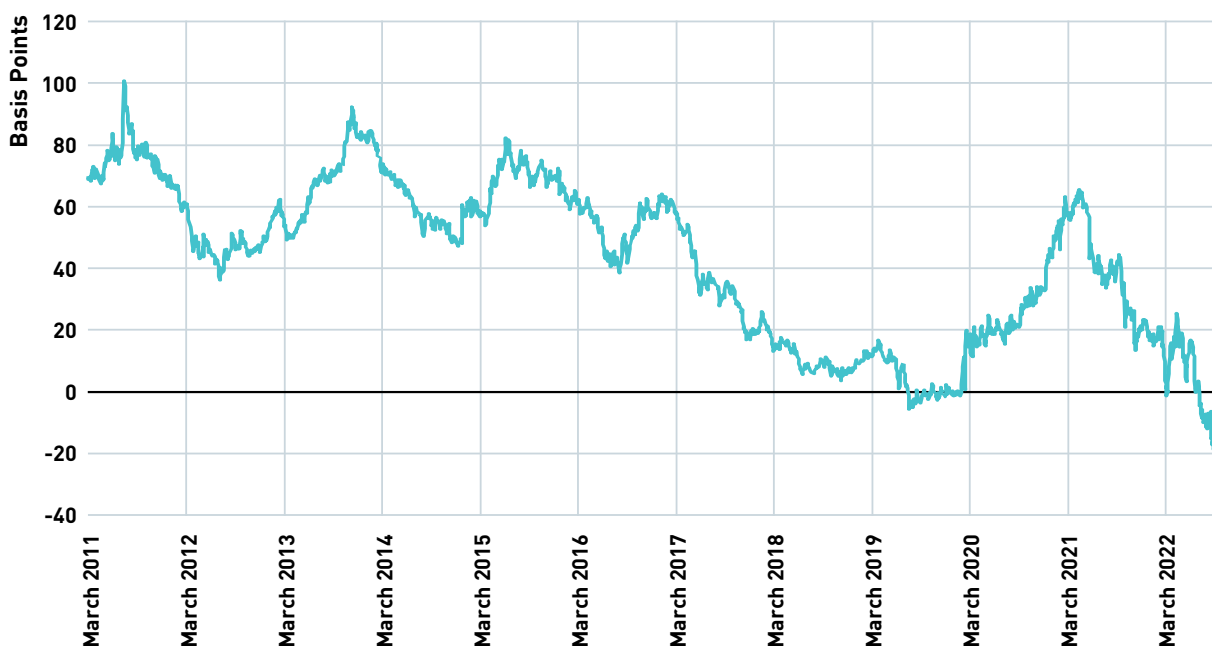
### Long 5-year Point

If a recession does begin to look inevitable, potentially led by a severe housing slowdown, the obvious trade would be to buy 5-year bonds as any potential monetary policy tightening disappears from rate expectations and the curve begins to price a monetary stimulus reaction by the Bank of Canada. The trade could be done in bonds - for example, the Five-Year Government of Canada Bond Futures (CGF™) contracts - or swaps but all of them are probably too risky and too similar to a casino gamble for most institutional investors.

### 2-5 Yield Curve Flattener or 5-10 Yield Curve Steepener

Some of the curve segment trades are probably more attractive, if only because they are only partially directional instead of being completely directional. Although the 2-5 slope will continue to be dominated by actual Bank of Canada policy, the 5-10 segment of the yield curve may look promising to some investors. It is currently (much like the 2-10 segment) inverted more than it has been at any point in recent years and more than it was at the end of the last two Bank of Canada policy tightening cycles, although those cycles ended with target rates at lower levels than today.

**FIGURE 4**  
**5-10 Yield Slope, Constant Maturity**



Source: BMO Capital Markets' Fixed Income Sapphire database

Active risk takers can easily structure this trade in futures contracts by trading the listed strategy on Montréal Exchange; Two CGF (5-year) contracts for each Ten-Year Government of Canada Bond Futures (CGB™) contract. If the weights of the strategy don't exactly match the desired weighting, such as perfectly DV01 neutral, one can buy/sell small amounts of contracts outright to correct the ratio.

Another potential opportunity exists in the 2-5-10 butterfly which has reached new extremes for the decade, shown in Figure 1. However, given the active central bank and the uncertainty around the end of the current cycle of monetary tightening, the trade will likely be driven by a somewhat unpredictable factor, the Bank of Canada policy endpoint, and the 5-10 slope depicted in Figure 4.

## 5-year Swap Spreads (CGF Invoice Spread)

Given the uncertainty of where the current cycle of monetary tightening will eventually end (we recently saw a forecaster suggest 7% isn't out of the question in the USA!), a much more conservative approach is to provide the market the liquidity it needs to correct for the unanticipated slowdown in mortgage creation that has probably caused a lot of the relative strength in the 5-year portion of the curve and swap spreads.

A trade to benefit from an eventual end to the unwinding of unneeded hedges at mortgagees is a 5-year swap spread widening trade where the manager buys 5-year bonds and pays fixed in swaps. Such a trade in bonds requires a cash investment in 5-year bonds and, typically, funding that trade in the overnight financing market by borrowing cash and lending bonds. For clients that wish to avoid that additional work, an invoice spread on CGF (5-year) futures contracts can offer the same, or even better, profit potential. The structure of a duration-neutral CGFZ22 invoice spread sized at \$50,000 per basis point is shown in Figure 5.

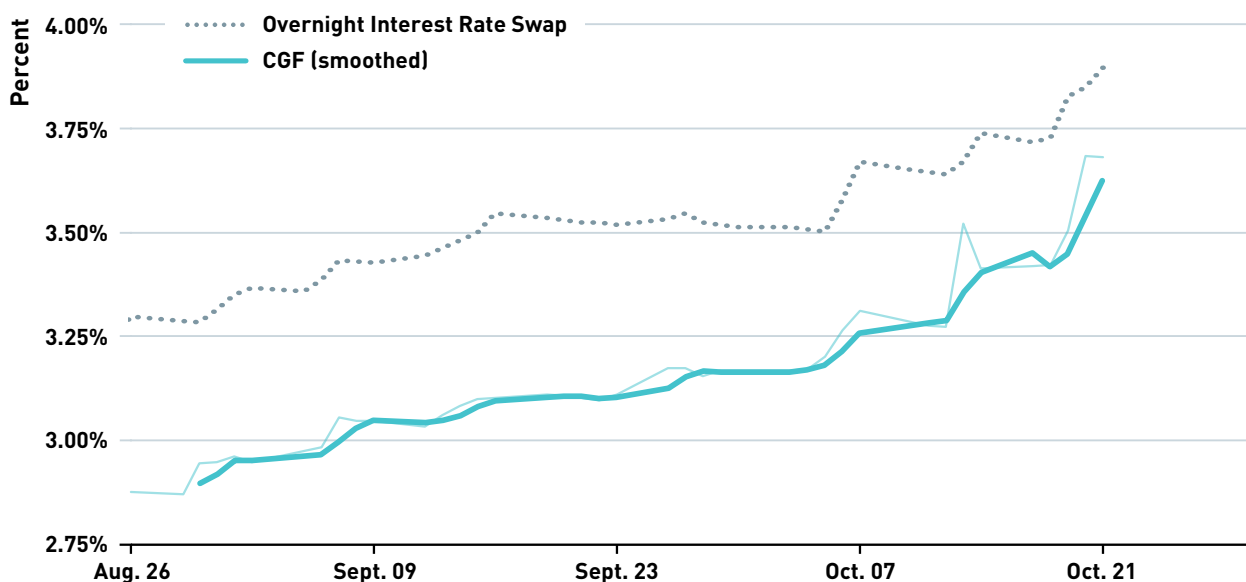
**FIGURE 5**

POSITION	SECURITY	CTD COUPON/ YIELD	MATURITY	DV01/100	TOTAL DV01
1000	CGFZ22	2.75%	01-Sep-27	4.94	49,431
-113.2	Pay Fixed	4.06%	01-Sep-27	4.37	-49,431
					<b>0</b>

Clients may find the futures contract attractive due to the current cheapness of the contract as well. Near the end of October, the CGFZ22 contract was trading about 2.5 cents cheap to fair value, as shown in Figure 6 which shows the low implied repo rate on the contract, to the start of the delivery period<sup>6</sup>, relative to the overnight index swap given the price of the cheapest-to-deliver bond.

**FIGURE 6**

### Implied Repo: CGFZ22



Source: BMO Capital Markets' Fixed Income Sapphire database

## Risk

The biggest risk to all these trades is that inflation continues to defy Bank of Canada policy and that the Bank feels compelled to raise rates even higher than currently forecast. All the above trades would likely generate losses in that scenario, with the possible exception of the invoice/swap spread widening trade. A manager that feels rates will continue to rise and outpace current market expectations would probably benefit from almost any short position, virtually anywhere on the curve between the front end and 10-year bonds... which has been the "correct" trade for many months now.

<sup>6</sup> We use the first delivery date because early delivery is very likely in this contract.



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