

# 2019 Spring Bond Events

Spring in Canada brings considerable activity to the bond event calendar. With the Federal budget now tabled and public, eyes should turn to the annual changes of the 10-year benchmark and the cheapest-to-deliver bond (CTD) for the CGB contract. Active investors wishing to capture a few basis points of value may be able to do so by trading the 10-year sector in both the cash and the CGB markets during the coming 10-year benchmark change and CGB Jun/Sep roll.

## Spring Bond Events

### Budget/Borrowing Plan

The Federal budget tabled on March 19<sup>th</sup> announced changes to the 10-year bond issuance plan. Specifically, there will be one less 10-year auction during the year, likely eliminating the June auction if the Bank of Canada (BoC) follows its previous pattern from 2015, the last time Canada issued 10-year bonds only four times per year.

### 10-year Benchmark Bond Roll (Probably Late April)

Since Canada has relatively infrequent 10-year auctions and desires large size benchmark bonds, a new maturity bond is created only once per year. As a result, dealing desks making markets in off-the-run bonds in the 10-year sector or in swaps typically change their major cash hedge instrument only one time each year. This annual benchmark change is usually triggered by swap desks on a date that isn't known in advance but has recently occurred in late April. The resulting flow as a different bond takes benchmark status often creates relative value opportunities.

### Annual CTD Switch in Jun/Sep CGB Contracts (Late May)

In a similar manner to the 10-year bond benchmark change, the CTD bond for the 10-year Canada bond futures contract (CGB) drops out of the deliverable basket one time per year<sup>1</sup> and is replaced by the next maturity 10-year bond. The fact that this happens only once per year means the contract DV01 usually extends by a relatively large amount and has implications for the relative value of the new and old CTD bond.

## Potential Strategies

### 10y Benchmark Bond Change

Probably around the end of April<sup>2</sup>, the main bank dealing desks will begin to utilize the Canada 2.25% June 2029 bond as their principal hedge bond and the 2029s will take benchmark status from the 2028s currently in use. In doing so, the DV01 hedged trades in 10-year provincial bonds, many credits, 10-year swap spreads, etc. will all create two-way flow in the 2029s and the same flow in 2028s will begin to dissipate, as happens every year when the off-the-run bond loses

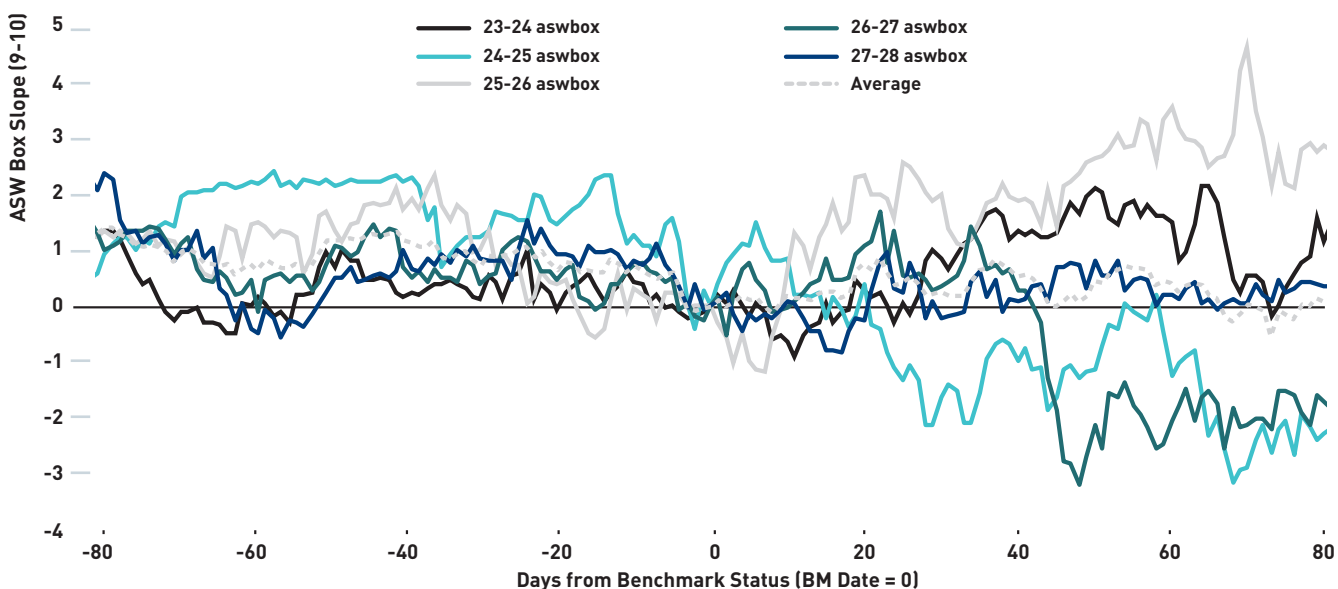
1. If yields remain significantly below 6% the cheapest-to-deliver bond for any CGB contract will be the bond with the shortest term to maturity.  
2. A 10-year auction of (probably) \$3 billion 2029s will occur on April 17<sup>th</sup>. Due to the reduced 10-year issuance plan in the 2019 Debt Management Strategy, this may be the final auction for 2029s.

benchmark status. The additional hedging flows in 2029s plus the necessary trading required to move hedges from 2028s to 2029s will usually result in a premium for the new benchmark bond relative to its neighbors, a relative price move that can sometimes be anticipated and monetized by astute<sup>3</sup> market participants.

Figure 1 demonstrates the richening phenomenon of the soon-to-be benchmark bond as the switch approaches. In this Figure, we have constructed a 9-10 year asset swap box<sup>4</sup> for each of the last five benchmark bond change dates. A move lower on the chart is a move richer for the incoming 10-year relative to the outgoing 10-year benchmark. Using yield/yield asset swap levels strips out almost all the curve slope effects. The asset swap levels have been normalized such that the asset swap box on day zero equals zero in order to make different years visually comparable.

In Figure 1 we can observe a steady richening of about a basis point, on average, over the 25 business days prior to the benchmark change. After the benchmark change, the hedge changing flows largely cease and, on average, the premium on the new benchmark eases a little before losing any sort of trend in the months following. Importantly for some, the notion of being overweight the incoming benchmark has been a low risk proposition, at least over the last 5-6 years.

**FIGURE 1**  
**9-year/10-year Asset Swap Box**



Source: BMO Capital Markets' Fixed Income Sapphire database

Portfolio Managers comfortable with the comments above may be able, in early April, to capture some value by reducing or eliminating exposure to the old 10-year bond in favor of the anticipated premium on the new 10-year. Leveraged portfolios could buy the 2029s and hedge with CGB contracts, of course, and may capitalize handsomely with what appears to be little downside risk<sup>5</sup>.

## M19/U19 CGB Roll

While the date of the 10-year bond benchmark change can't be known with certainty, the date of the annual change in the CGB cheapest-to-deliver (CTD) is known. On May 23<sup>rd</sup> the quarterly roll between CGB Jun19 and Sep19 contracts will probably begin and the transaction will be largely complete by May 28<sup>th</sup>. The CTD for the September contract will be the Canada 2% Jun28 bond while the CTD for the preceding four contracts has been the Canada 1% Jun27 bond which, after the roll, is destined for several years of off-the-run status and a likely discount relative to benchmarks.

The Jun/Sep contract roll creates transactions as positions hedged with CGB contracts are adjusted to reflect the new CTD bond. Some examples of common hedge positions that should be adjusted are futures basis positions, substitution trades where CGB is purchased instead of the CTD bond to generate inexpensive leverage in a cash bond

3. It sometimes takes a large degree of leverage to generate significant P(L) in such a well-broadcast trade.

4. A common measure of relative value, a yield/yield asset swap is the difference between the yield of a bond and the yield attainable on a fixed-for-floating swap to the identical maturity date as the bond. The asset swap box is the difference between the 9-year yield/yield asset swap and the 10-year yield/yield asset swap.

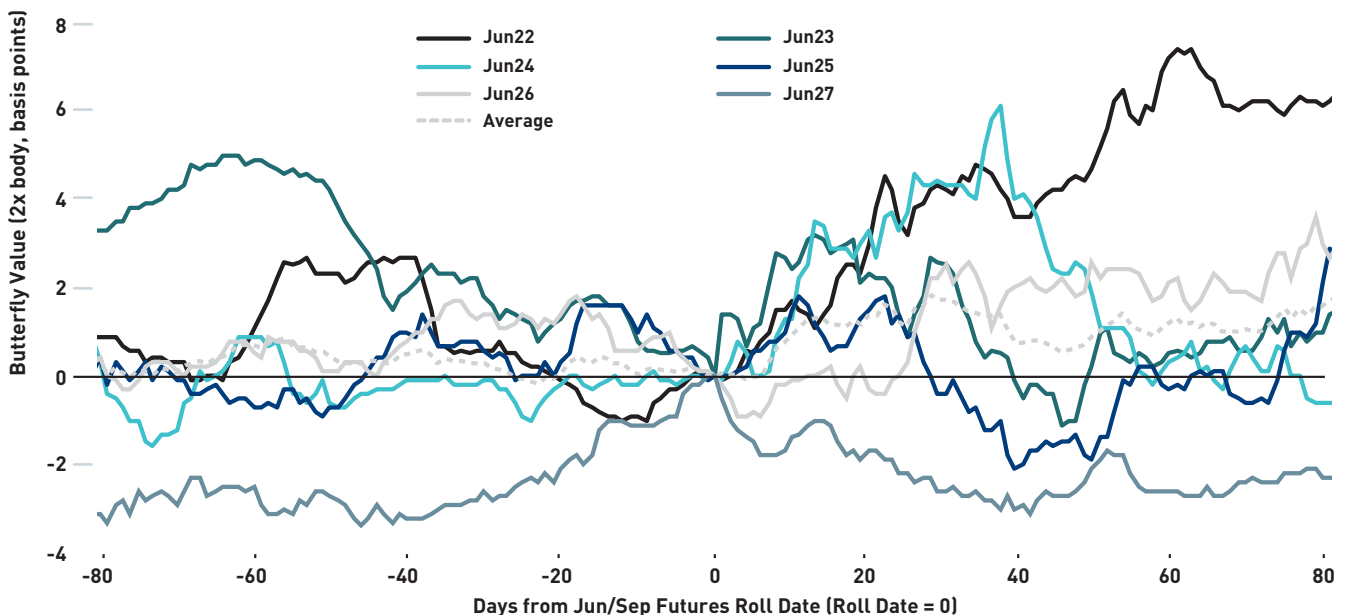
5. At least in recent years where yields were quite low.

portfolio, and various relative value positions in credit, provincial bonds<sup>6</sup>, and off-the-run bonds in the 10-year sector that are hedged with futures<sup>7</sup> or the CTD.

Figure 2 plots normalized yield butterflies<sup>8</sup> of the bond that is becoming the CTD for the next contract as the Jun/Sep roll date approaches for the past six September CGB contracts. Perhaps because the roll date is so well known in advance, there is no average trend worth mentioning as the final week of May approaches, although many CTD bonds have shown significant richening going into the roll. However, the average trend has been almost nothing going into the start of the roll.

More interestingly, for five of the six contracts examined, the CTD cheapened relative to neighbor bonds almost immediately after the roll. The obvious exception, the Jun27 that became the CTD in 2018, is discussed next. A move lower on the chart is a move richer for the 10-year CTD relative to neighbor bonds.

**FIGURE 2**  
**Closest Neighbor 10y Yield Butterflies**



Source: : BMO Capital Markets' Fixed Income Sapphire database

## An Explanation for the 2018 Anomaly

A Portfolio Manager considering a relative value trade in the incoming CTD is advised to study the dynamic of 2018 that caused the CTD bond to first cheapen relative to neighbor bonds by 3 basis points in the 40 business days preceding the roll and then almost continuously richen by the same amount for the 40 business days following the roll date. One can legitimately ask what was so different in 2018 than in other years in a trade that can usually be relied upon with relatively high probability?

One significant difference for 2018 was the large DV01 of the contract due to the record low coupon on the 2027s. In fact, the DV01 of all the contracts in existence was about 20% higher at the outset of the September 2018 contract than in 2017 and about 50% higher than in 2016. The large open interest combined with low coupon CTD bonds came together to make the CGB the most liquid, and certainly the largest by DV01, instrument in the 10-year bond space in Canada<sup>9</sup>. This could have changed the dynamic of the rich/cheap trade in the incoming CTD bond.

Another interesting phenomenon for the CGB contracts that had the Canada 1% 2027 bond as their CTD<sup>10</sup> was the negative carry during the delivery month that prompted short positions to deliver early and drove the gross basis<sup>11</sup> to

6. For a complete discussion of this strategy, refer to CGB-Driven Leverage and Credit Overlay published by MX in February 2018.

7. Even unhedged positions generate CTD transactions as the counterparty will often hedge the closing CGB position with a bond transaction.

8. A yield butterfly is the yield of the middle maturity bond multiplied by two less the yield of each of the two neighboring 10-year bonds. It is a measure of relative value that eliminates time-varying yield levels and curve slope but not curvature.

9. This phenomenon is unlikely to revert now.

10. CGBU18 to the current M19

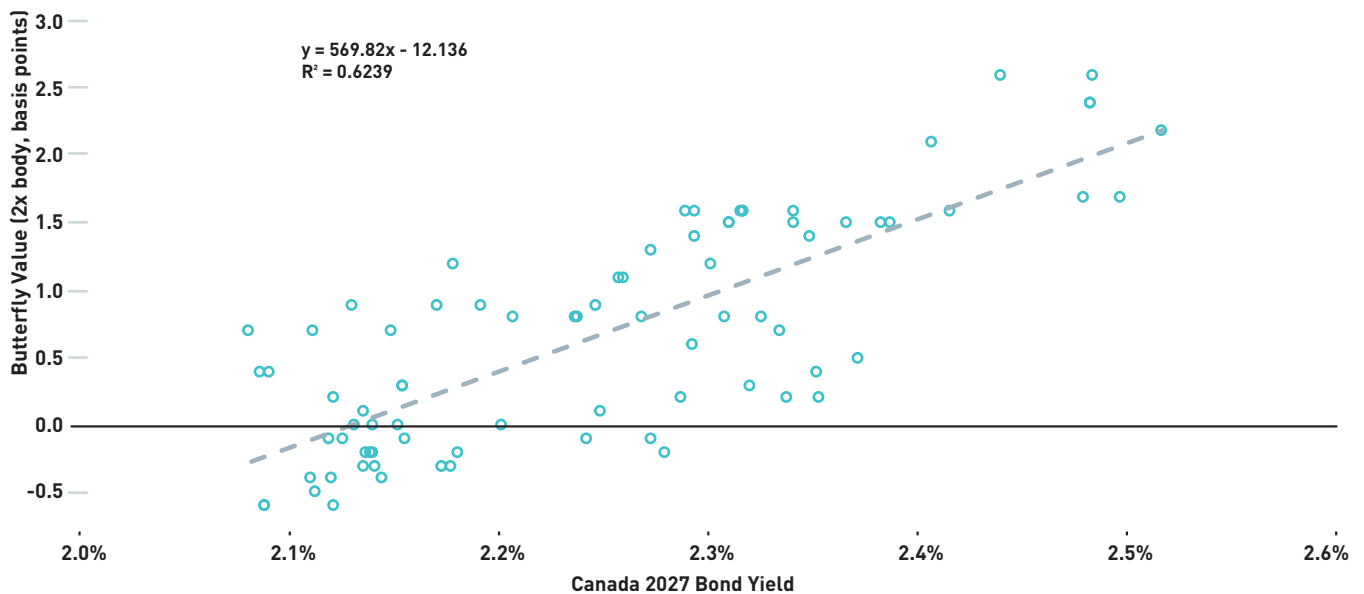
11. Gross basis is simply the difference between the cash price (the cheapest-to-deliver bond in this case) and the forward price implied by the futures contract. Gross basis is zero on the optimal delivery date but a gross basis quote assumes delivery of the bond on the final delivery date. The negative gross basis is therefore the amount a short position would need to be compensated in order to endure the negative carry throughout the delivery period.

negative levels. Via anecdotal evidence, and despite some dealers actively advising their clients on the probability of bond basis being quoted at quite negative levels, we believe this phenomenon may have caught some end users by surprise. The resulting flow, if clients had sold bond basis heavily on the assumption that it should not trade negative, would be to pressure 2027s cheaper until the U18 became the active contract. Stopping out of that trade would result in clients buying 2027s, driving the butterfly lower in Figure 2, much as we can observe in that figure.

Although each of the above arguments probably has some merit, the most compelling argument to show why 2018 was different from most other years is the observation that the richness/cheapness of the CTD bond has often shown very high correlation to the level of yields. We first observed this phenomenon over two years ago and have periodically mentioned it as a potential relative value trade in Canada.

At essence, one could say the sheer size and ease of trading make the CGB contract the go-to instrument for macro-oriented or algorithm-driven strategies. Since these strategies are usually price/liquidity takers and often trade on either momentum at similar times, they tend to drive the CTD richness/cheapness level (in this case measured by the butterfly level in Figure 2) when rates demonstrate a trend. The relatively high correlation between the 2027 yield and the 26-27-28 yield butterfly is shown in Figure 3.

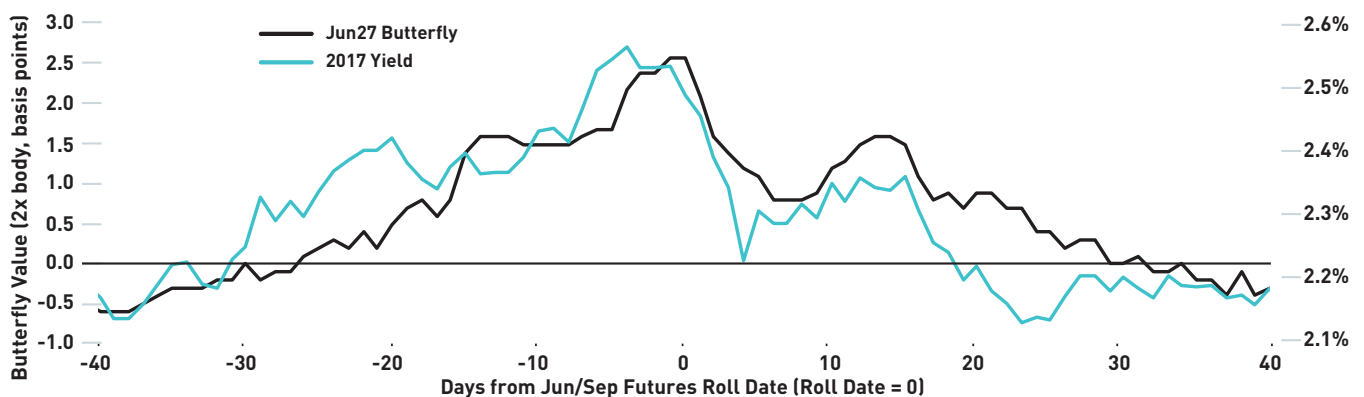
**FIGURE 3**  
**26-27-28 Butterfly versus 2027 Yield**



Source: BMO Capital Markets' Fixed Income Sapphire database

In the case of the 2018 CTD switch, rates for the 40 days before and after the switch were a larger driver of the richness/cheapness of the contract than the liquidity needs associated with the Jun/Sep contract roll. Oddly, the inflection point for 10-year rates coincidentally occurred almost exactly on the day the roll began as shown in Figure 4.

**FIGURE 4**  
**26-26-28 Yield Butterflies & 2027 Yield**



Source: BMO Capital Markets' Fixed Income Sapphire database

