# Beware of Falling Interest Rates:
# Your Bonds May Be Riskier Than You Think!

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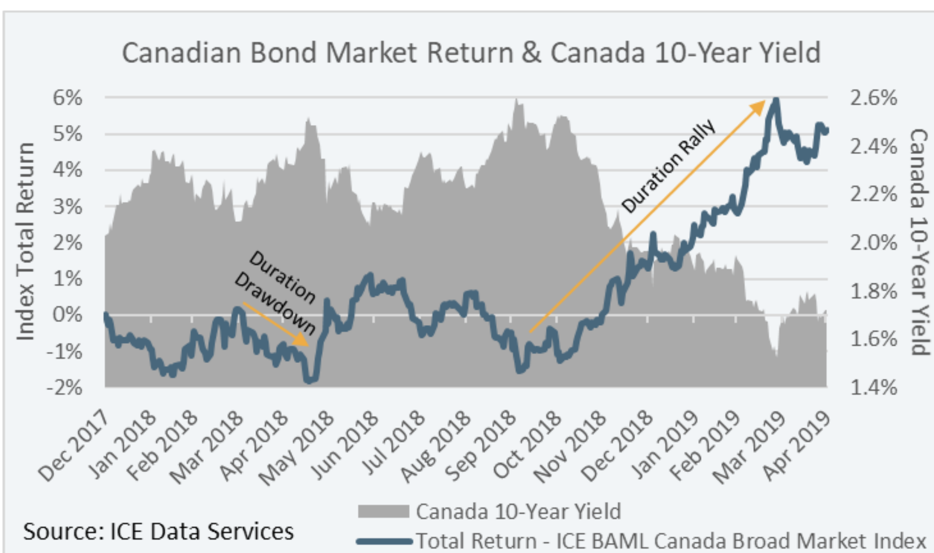
**Duration Rally!**

Canadian interest rates have been on a rollercoaster ride over the past 16-months. After moving higher for much of 2018 and peaking on October 5th, 2018, the Canada 10-year yield plummeted over the following 6-months, reaching a low on March 27th, 2019. The precipitous decline in interest rates fueled a significant rally in bond prices, especially those with longer durations. The magnitude of the "duration rally" is captured by the performance of the ICE BAML Canada Broad Market Index, which as of October 5th, 2018, had a duration of 7.6 years, and produced a total return of 7.6% over the period October 8th, 2018, to March 27th, 2019 (see the chart below). The concept of recency bias tells us that investors have a natural preference to investments that have been "working" (such as the bond index given its recent performance) to those that have not, so it is no surprise that some investors are now saying they've got to have more duration in their bond portfolios. However, it is important for investors to remember that duration can be a double-edge-sword for bond returns, and when interest rates fall, new issue bonds typically offer lower coupon rates, which increases the risk of principal erosion should interest rates rise.



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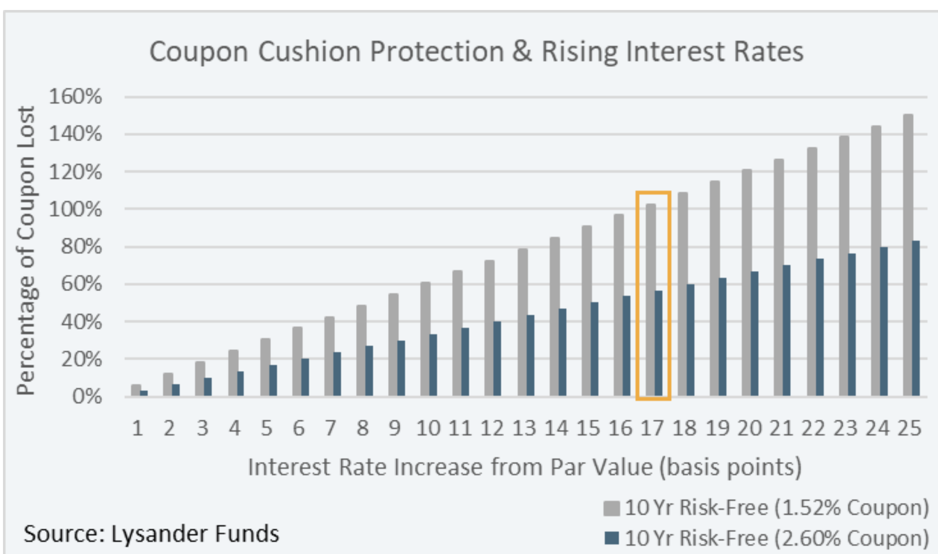
**Practically Speaking…**

Bond prices and interest rates have an inverse relationship: as interest rates increase, bond prices fall, and vice versa. Duration is how long it takes, in years, for an investor to be repaid the bond's price by its total future cash flows. All else remaining equal, bonds with longer term-to-maturity and smaller coupon rates have higher durations. Furthermore, duration represents the sensitivity of a bond's price to changes in interest rates: the higher the duration, the greater the price sensitivity to changes in interest rates. In other words, the impact of a change in interest rates would be more pronounced on the price of a bond with longer duration. "Duration risk" is the risk associated with such sensitivity.

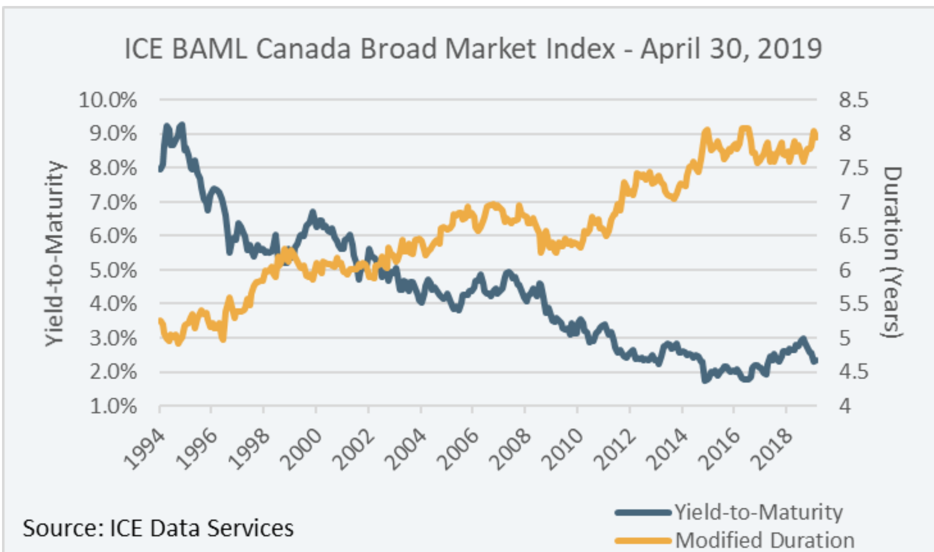
**Important! Watch your Coupon Cushion**

One way to think about duration and duration risk is to look at a bond's coupon cushion, that is, the extent to which the income from a bond's coupon can absorb principal loss as a result of rising interest rates. The chart below shows the impact rising interest rates has on 10-year risk-free bonds at coupon rates of 2.60% and 1.52%, which were the corresponding yields of the Canada 10-year as of October 5th, 2018, and March 27th, 2019, respectively. The bars indicate the amount of principal loss that would occur from incremental interest increases, stated as a percentage of the annual coupon rate (the coupon cushion!). For the 1.52% coupon bond, which would amount to $15.20 of annual coupon income on a $1,000 face value bond, it would take a mere 17 basis point interest rate increase to incur principal loss greater than the $15.20 of annual coupon income. For the 2.60% coupon bond, $26.00 of annual coupon income at $1,000 of face value, the same 17 basis point interest rate increase would result in principal loss of only 57% the $26.00 annual coupon rate ($14.82). The key takeaways are for two bonds with equal term-to-maturity, the bond with the higher coupon (cushion) better protects investors' returns against rising interest rates; and for bonds issued with low coupon rates, comparable to the present low level of interest rates, it would take a paltry interest rate increase for those bonds to incur a negative total return.



## What You Are Not Seeing is an Evolving Bond Market Risk

Smaller coupon cushions have been an evolving theme in the Canadian bond market over time, as illustrated in the chart below. The chart shows the yield-to-maturity and duration characteristics of the ICE BAML Canada Broad Market Index over the past 25-years, where the yield of the Index has been steadily falling and its duration has been steadily rising – in other words, Canadian bond market risk has been increasing with respect to both smaller coupon cushion and higher duration! At different times over the past 25-years there was a 1-to-1 relationship between the yield and duration of the Index, which means there was enough coupon cushion to protect a bondholder's principal against a 100 basis point increase in interest rates. Today, the yield of the Index is about one quarter of its duration, which could help explain how over the 34-day period ending May 17th, 2018, the total return of the Index declined by 2.0% after a corresponding 44 basis point increase in the 10-year Canada yield (see the chart on page 1).




## This is When Experience Pays

With general bond market yields falling and durations rising, investors should consider the level of coupon cushion in their bond portfolios, or, the amount of yield they are getting for the duration risk they are taking. Do you know the amount of coupon cushion in your bond portfolio? Solutions to combating small coupon cushions include reducing the term-to-maturity and increasing the yield of a bond portfolio. However, each of these options come with their own trade-offs: reducing term typically results in less yield and increasing yield typically reduces credit quality. Navigating this risky environment can be tricky, and now more than ever investors could benefit from the counsel of a professional investment advisor or a fixed income portfolio manager who has the expertise to increase the coupon cushion of a bond portfolio while mitigating trade-off risks such as credit risk and duration risk.

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