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Canada/US: Across the Curve

Late 2018 and early 2019 saw a flurry of economists and media outlets float the idea that Canada's economy could decouple from the US and experience a recession along with, or even without, a similar growth contraction in the US economy. While a Canadian recession alongside a growing US economy is far from impossible, it would be almost[1] without precedent in the post-war era of a floating exchange rate for the Canadian dollar.

A simplified explanation for why the floating exchange rate has made it unlikely for Canada to experience a recession while growth continues in the US is that lower or negative Canadian growth expectations result in lower nominal interest rates relative to the US equivalent and thus a weaker Canadian dollar. The weakened Canadian dollar reduces domestic imports[2] and causes increased exports (typically to the US) which stimulates domestic growth and, to some extent, has a similar effect to what is normally accomplished by easier Bank of Canada monetary policy.

The stabilizing effect of the floating Canadian dollar remains in effect in 2019, of course, but economists, strategists and markets, as we shall see below, have theorized that recent years are far from normal times for the Canadian economy. Their arguments range from tariff wars, overpriced housing, and permanently changed dynamics in the oil economy to over-indebted Canadian consumers and carbon taxes.

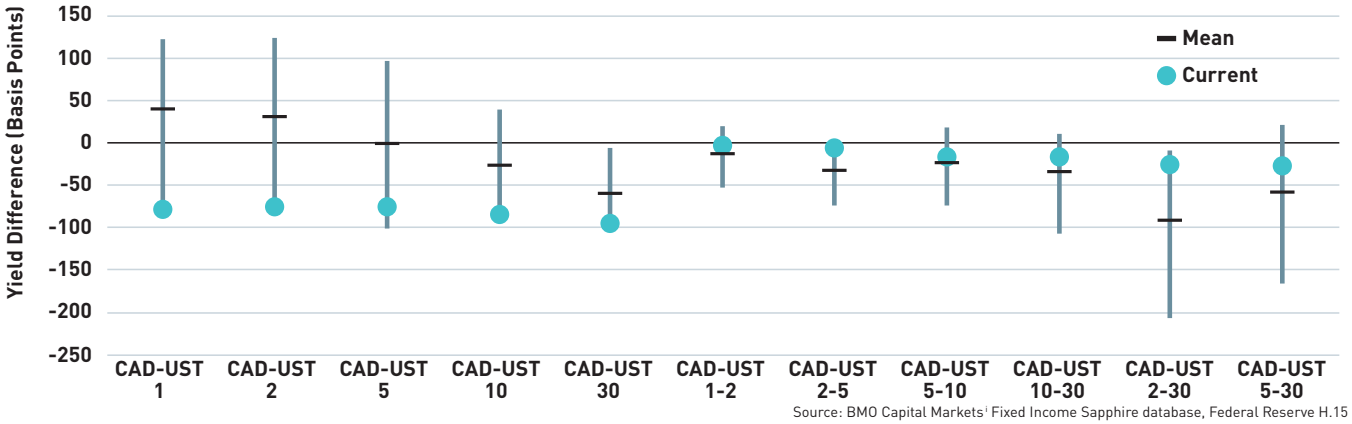
Whichever side of the debate you fall on, this short study will provide a historical analysis of recent Canadian yields and curves to help frame the discussion in the context of current market conditions.

Method/Results

We examined constant maturity yields based on bonds issued by the Government of Canada and the US Treasury over the past 15 years before constraining our data to the recovery era after the Global Financial Crisis (GFC) since the conditions facing the US economy during that time period are unlikely to reoccur. For each maturity of one, two, five, ten, and 30 years as well as various slope segments of the yield curve, we compare the Canadian level to that of the US and then calculate the Mean, Hi, Lo, and current deviation from the mean in standardized normal[3] terms.

The results of this modest historical analysis are presented in Figure 1. In Figure 1 the range of observed values is depicted as vertical bars, the mean is a horizontal marker, and the current level is the blue circle. To evaluate this visual depiction of the data, a current observation very close to the end of one of the vertical bars indicates a level close to or at the most extreme level observed since 2010. The data in Figure 1 is based on the table shown in the Appendix as Figure 5, where we have also highlighted the most extreme observations in standardized normal terms.

FIGURE 1
CAN-UST Difference, Post GFC



Source: BMO Capital Markets[i] Fixed Income Sapphire database, Federal Reserve H.15

1. The last occurrence was 1951, very shortly after Canada abandoned its fixed exchange rate policy.
2. Many consumer and industrial products in Canada are imported although the cross-border supply chain for some products, particularly autos, adds subtle complexities to the argument.
3. For example, a level of -1.9 indicates that the current level is 1.9 standard deviations lower than the average during the time period examined.

As one can see in both Figure 1 and Figure 5, several of these series are at or very near to extreme levels already which indicates that market pricing is roughly in agreement with the pessimistic views of the Canadian economy expressed by recent commentary. We examine below some possible trade constructions given the current state of markets.

10-year Yield Differential at Post-GFC Lows

The market yield that perhaps already reflects the greatest pessimism on the Canadian economy is the 10-year yield in Canada. Here the differential between Canada and the US has been extremely volatile. For instance, the two markets had almost identical yields 15 months ago but in that time period, US yields have risen over 70 basis points while Canadian yields, despite a short-lived increase in 2018, are at the exact same level now as in September 2017. As can be seen in Figure 2, this has resulted in the 10-year differential falling to a record low for the period examined of -77.6.

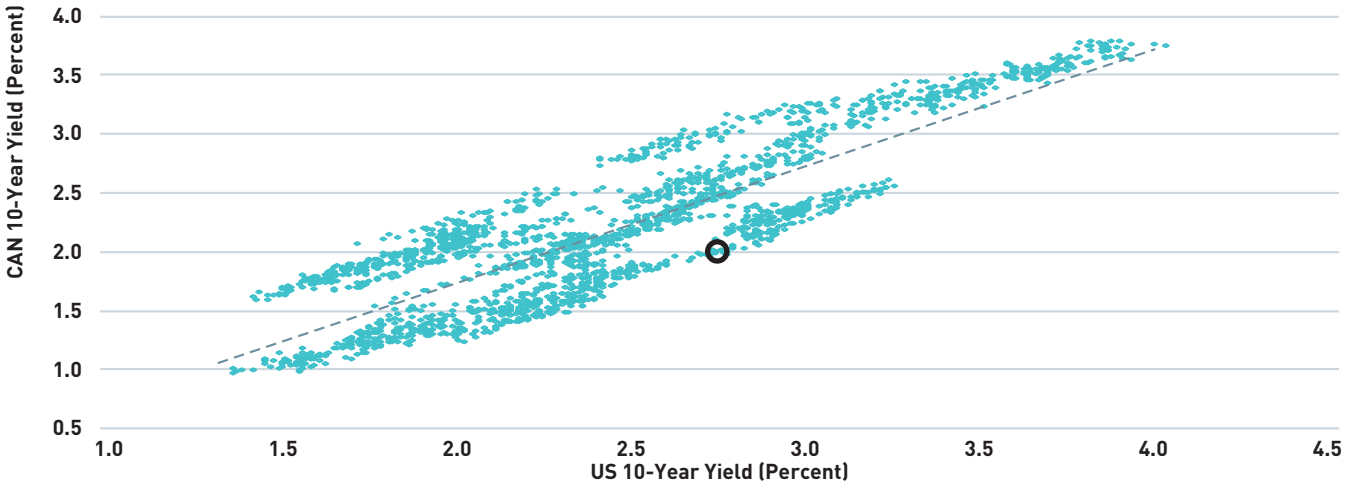
Since 10-year yields reflect prospects for growth[4] as well as inflation expectations, this large differential implies Canada will lag the US for a lengthy period and reflects a large portion of the pessimistic view. In fact, since the financial crisis, the -78 level has been approached several times and remains the widest the 10-year differential has been in recent years. Statistically, -77.6 is 1.6 standard deviations below the mean for the time series.

FIGURE 2
CAN-UST 10-year, Post GFC

Source: BMO Capital Markets, Fixed Income Sapphire database, Federal Reserve H.15

In addition to being near the period lows, the CAD 10-year is at extremes when regressed against the US 10-year as a prediction variable. The post-GFC regression is shown in Figure 3 with the current value rather obviously far from the trend line.

FIGURE 3
CAN-UST 10-year Regression, Post GFC



Source: BMO Capital Markets, Fixed Income Sapphire database, Federal Reserve H.15

4. Via implied real yields in the future.

Portfolio Managers (PMs) who wish to express the view that the pessimism on the Canadian economic situation reflected in the current pricing is overdone, or just believe in mean reversion and positive carry trades, could capture their view using futures contracts. PMs could construct this trade using the extremely liquid Montréal Exchange (MX) CGB contract in Canada and the Ultra 10-year contract on CME, to avoid cash bond market constraints like cash financing, balance sheet issues and potential repo squeezes in Canada. Such a trade would be positive carry over time due to the higher yielding US Treasury being bought. A spread reversion of just ½ standard deviation would imply a move 16 basis points higher.

For an exposure of 10,000 CAD DV01 [5], Sell 92 contracts CNH9, Buy 71 contracts TYH9.

Of course, there are additional variables at work in the two economies. PMs who believe that the Canadian economy will long-term underperform the US by an even larger margin could construct the opposite trade, although they would suffer negative carry by doing so. The opposite trade to that shown above would also reflect the belief that an accelerated unwind of the quantitative easing program in the US will further cheapen US Treasuries relative to similar maturity bonds in Canada.

1-year Yields: Just Reflecting the Status Quo

The current differential between overnight rates in the two economies is almost identical to the differential in 1-year bond yields which are plotted in Figure 4. Each short-term yield reflects a premium of around 10 basis points over current overnight rates and thus, near identical amounts [6] of monetary tightening from the Bank of Canada (BoC) and the Federal Reserve (Fed) over the next 12 months. This is not a particularly pessimistic story for the Canadian economy relative to the US and certainly doesn't reflect the potential for a real recession to develop unless one believes a recession would be ignored by BoC policy makers. In fact, the current differential is around the widest since the GFC.

FIGURE 4
CAN-UST 1-year, Post GFC

Source: BMO Capital Markets, Fixed Income Sapphire database, Federal Reserve H.15

A PM who believes the BoC will be content to lag the Fed by more than the current 75 basis points over the next year due to deteriorating economic conditions in Canada would ignore the current wide levels and buy Canadian short-term bonds while selling the same maturity in the US but would, of course, suffer from negative carry and would require today's extremes to be exceeded in order to earn profits.

For a PM that believes the Canadian market and short-term rates will lag but not diverge more from the US, one could construct a trade in short-term cash bonds or bills but that would very quickly consume huge amounts of balance sheet by most measures [7]. Additionally, repo squeezes have been frequent and severe in Canada within recent memory so the notion of being short large amounts of short-term bonds is something to be wary of. PMs that can trade futures contracts can easily replicate a closely correlated trade by executing their view in these contracts by selling MX listed BAX and buying CME listed EuroDollar contracts. The first red contract (BAH0) is liquid, has large open interest, and trades several thousand contracts each day.

For an exposure of 10,000 CAD DV01, Sell 400 contracts BAH0, Buy 301 contracts EDH0.

Of course, the above construction would benefit handsomely if the US economy were to appreciably slow giving the Fed impetus to either slow the process of tightening policy or reverse course, as long as Canada was seen to be less swift reversing policy than the Fed.

5. We normally model a $10k exposure for simplicity so that all clients, large and small, can easily scale to their portfolio size. The size of the trade construction does not reflect the liquidity of the product traded. For instance, much larger trades can be executed in CGB and TN contracts than are shown here.
6. Although not the same timing or path, of course.
7. A 100k CAD DV01 trade would typically consume around $1 billion of balance sheet.

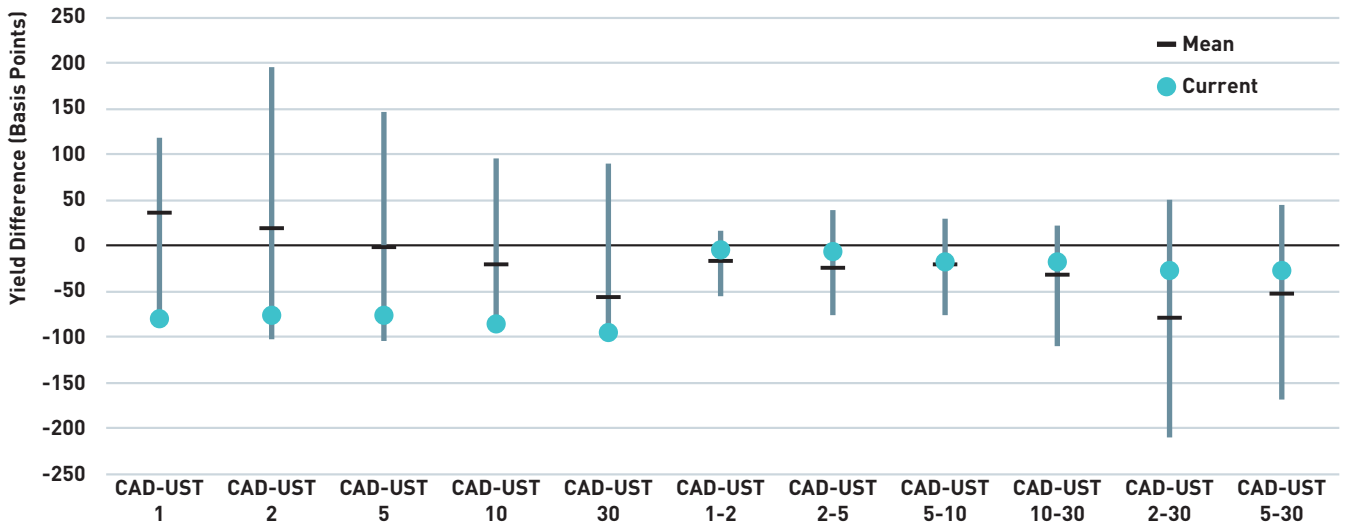
Appendix

FIGURE 5
CAN-UST Difference, Post GFC

	CAD-UST 1	CAD-UST 2	CAD-UST 5	CAD-UST 10	CAD-UST 30	CAD-UST 1-2	CAD-UST 2-5	CAD-UST 5-10	CAD-UST 10-30	CAD-UST 2-30	CAD-UST 5-30
Mean	39.0	31.0	-1.7	-26.5	-60.4	-13.9	-32.7	-24.8	-34.0	-91.4	-58.7
Hi	121.8	123.2	97.2	39.5	-6.7	20.1	5.0	18.3	10.5	-8.4	21.4
Lo	-81.4	-75.7	-101.6	-83.6	-96.7	-53.3	-73.8	-73.2	-107.3	-206.6	-165.8
StdN Curr	**-1.9**	-1.7	-1.2	**-1.6**	-1.8	1.3	1.8	0.6	0.9	1.3	0.8

Source: BMO Capital Markets[i] Fixed Income Sapphire database, Federal Reserve H.15

FIGURE 6 – 2003 to January 24, 2019 (2010 to 2019 for 1-year bonds)
CAN-UST Difference, Full Dataset



Source: BMO Capital Markets[i] Fixed Income Sapphire database, Federal Reserve H.15

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