RECESSION BAROMETER

December 15, 2019

Spotlight on : Yield Curve Ratios – Canada

Key Interest Rate Ratios

There is no change in our basic premise that Canada is heading for an Economic Recession, because our key interest rate metrics ALL remain inverted. We continue to forecast that an Economic Recession in Canada might occur between November 2020 and April 2021. (see also Page 6.)

Although nothing to do with our recession expectation, Canadian interest rates have been quite volatile recently and, since the end of November, they have increased notably.

1. 10-Year/2-Year Ratios

The following table shows the interest rates and the accompanying Spreads for the 10-Year and the 2-Year maturities since November 1.

Date	10-Year	2-Year	Spread
01-Nov-19	1.42	1.52	-0.10
08-Nov-19	1.61	1.63	-0.02
15-Nov-19	1.47	1.53	-0.06
22-Nov-19	1.48	1.56	-0.08
29-Nov-19	1.46	1.59	-0.13
06-Dec-19	1.60	1.68	-0.08
13-Dec-19	1.66	1.70	-0.04

Observations: The Spread narrowed considerably over the last three weeks, from -0.13x to -0.04x. The Spread has been consistently inverted since August 2, as the following chart clearly shows.

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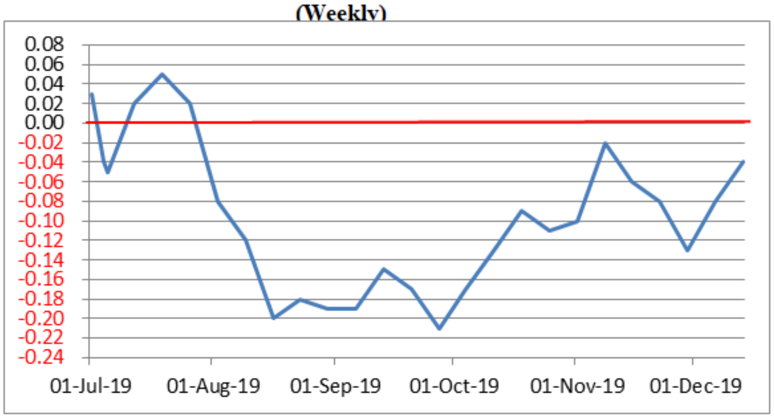
July 1, 2019 – December 13, 2019

Canada Spread: 10-Year/2-Year

(Weekly)

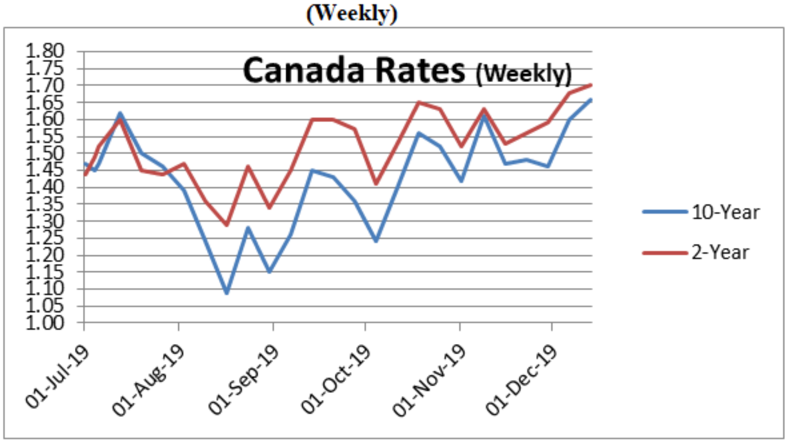


Here are the actual interest rates for these two metrics since July 1.

July 1, 2019 – December 13, 2019

Canada Rates: 10-Year/2-Year

(Weekly)



Observations: Around the beginning of August, the 10-Year rate declined appreciably below the 2-Year rate. This is Inversion and the two rates are said to be inverted.

*e*Research put Canada on Recession Alert on August 8 when our key interest rate metric, the 10-Year/2-Year yield curve ratio, stayed inverted for ten consecutive business days. Historically, economic recessions have occurred some 15 to 20 months after an interest rate Inversion occurs. This means a possible Economic Recession in Canada could occur between November 2020 and April 2021. (See Page 6.)

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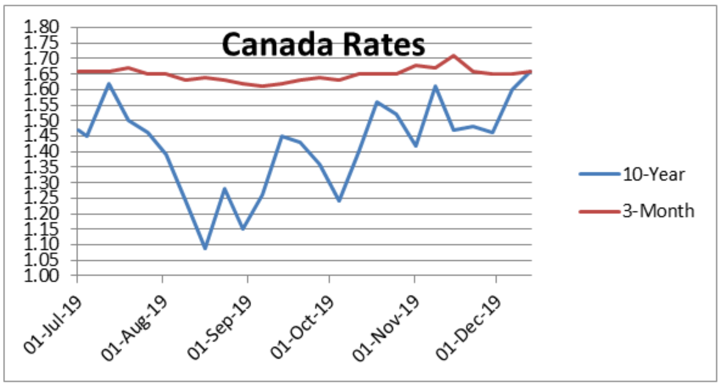
2. 10-Year/3-Month Ratios

In the first chart below, we will look at the actual interest rates for the 10-Year and 3-Month metrics since July 1, and then that will be followed by the chart that shows the Spread.

July 1, 2019 – December 13, 2019

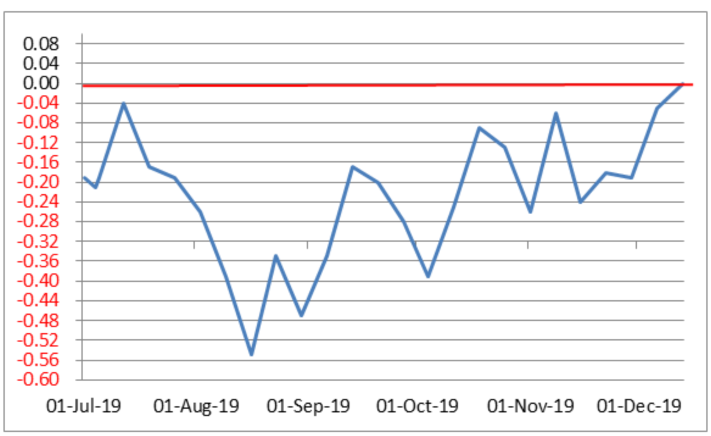
Canada Rates: 10-Year/3-Month



Observations: The above chart shows weekly closes for the 10-Year and the 3-Month interest rates. Since July 1, the 10-Year rate has been below the 3-Month rate, which is exactly opposite of "normal". The Inversion actually occurred on May 23 and it has remained that way ever since, until now. As shown, the 10-Year (**Blue** line) has reached the 3-Month (**Red** line).

July 1, 2019 – December 13, 2019

Canada Spread: 10-Year/3-Month



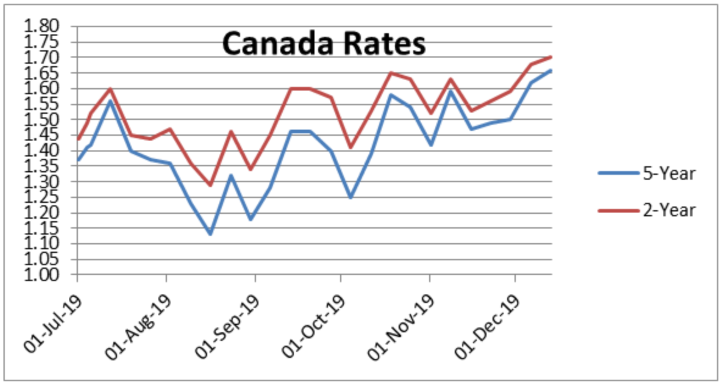
Observations: The chart above shows the 10-Year/3-Month Spread on a weekly basis. The second chart looks remarkably similar to the chart above it, which is not surprising given that the 3-Month interest rate, being short-term, does not exhibit much volatility. The **Blue** line has to rise above the **Red** line in order to exit the current state of Inversion. This could happen this coming week. While this could be the start of a "normalizing" trend, it does not alter our Economic Recession forecast.

3. 5-Year/2-Year Ratios

Same story for the 5-Year/2-Year interest rate comparison. The 5-Year interest rate has been lower than the 2-Year interest rate, which is opposite of what would be expected.

July 1, 2019 – December 13, 2019

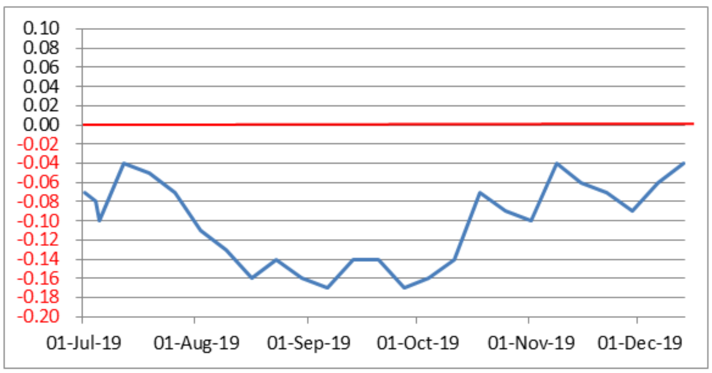
Canada Rates: 5-Year/2-Year



As the next chart shows, the ratio has been inverted continually since July 1. (The actual Inversion occurred in 2018, although there have been spasmodic times during 2019 when the ratio was neutral at 0.00x or actually slightly positive.)

July 1, 2019 – December 13, 2019

Canada Spread: 5-Year/2-Year



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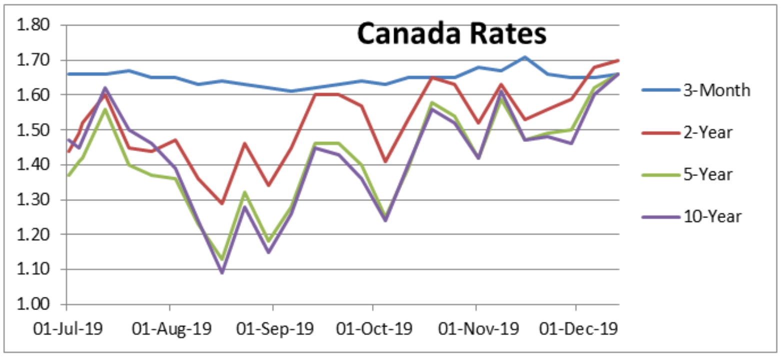
4. Summary of 10Y/2Y; 10Y/3M; and 5Y/2Y Ratios

The next chart puts all of the interest rate metrics on the same chart.

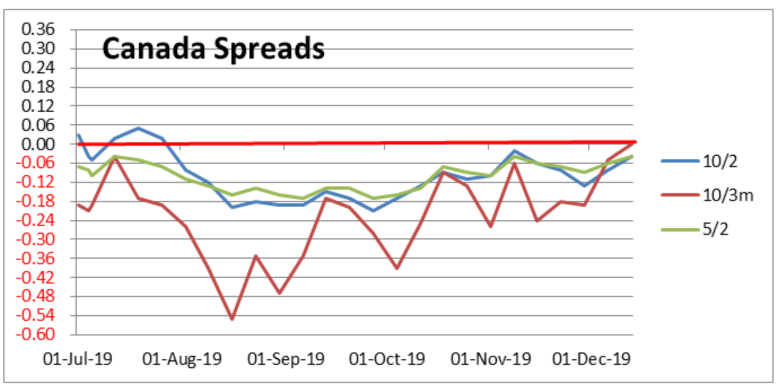
July 1, 2019 – December 13, 2019



Observations: A comparison of the 10-Year (**Purple** line) and the 5-Year (**Green** line) interest rate trends is not one that we have focused on. However, looking at the chart above, it is clearly visible that the two interest rates have practically mirrored each other since the beginning of August. In the same time-frame, the 2-Year (**Rust** line) has stayed mostly well above the other two, although the difference has narrowed lately. The 3-Month (**Blue** line) has stayed fairly flat.

The next chart shows the Spreads for the three ratios. All are below the Inversion (**Red)** line, although the 10-Year/3-Month Spread is now at a neutral 0.00x reading.

July 1, 2019 – December 13, 2019



Observations: The 10-year/2-year and the 5-year/2-year have followed each other fairly closely since the beginning of August. They both look like they are trying to escape Inversion. The 10-year/3-month has been much more volatile, and is now attempting to be the first ratio to rise above the Inversion level.

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Recession Barometer: Canada

In Canada, we have already started our Count-Down to a possible recession. This was based on the 10-Year/2-Year Government of Canada bonds exhibiting Inversion for ten consecutive business days, which it did on August 8. (Our alternative criterion is that the 10/2 must be inverted for 20 out of 30 consecutive business days, and this has also occurred.)

Forecasting the Commencement of a Recession in Canada

Using *e* Research criteria, an inversion in Canada occurred on August 8, 2019	Historically, a recession begins 15 to 20 months hence	
Inversion Occurred	**Inversion +15 Months**	**Inversion +20 Months**
August 8, 2019	**November/2020**	**April/2021**

Source: eResearch

We define an Economic Recession as being characterized by two consecutive quarters of negative GDP growth. That would mean that, to meet the first recessionary date of November 2020, Q2/2020 and Q3/2020 would have to experience negative GDP growth. To meet the April 2021 date, Q4/2020 and Q1/2021 would need to experience negative GDP growth. Between those dates, the other scenario to define a recession is negative GDP growth in Q3/2020 and Q4/2020.

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