

RECESSION BAROMETER

October 18, 2019

Spotlight on : Yield Curve Ratios – Canada and USA

A. FOCUS ON CANADA

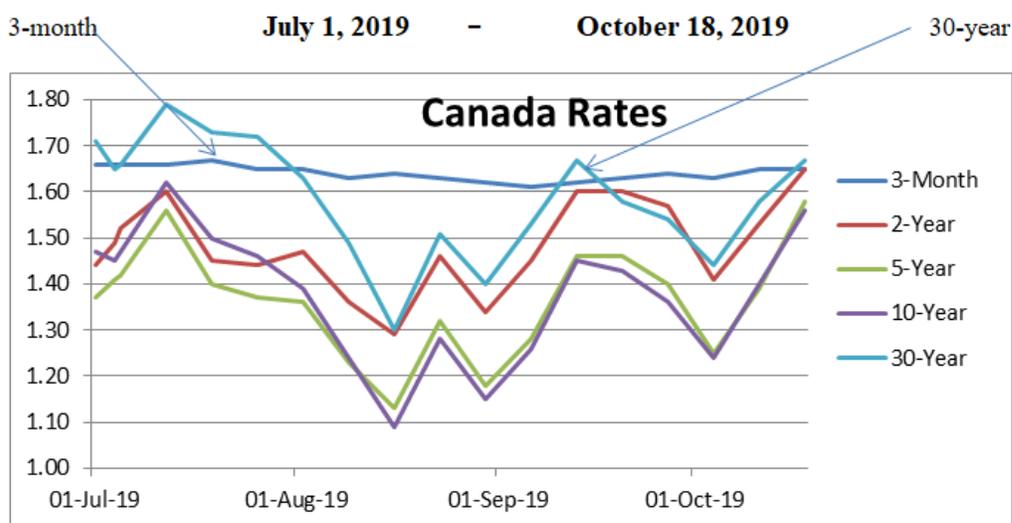
Interest Rates: Various Maturities

Interest Rates jumped considerably in Canada last week, unlike in the United States where rates barely budged.

eResearch 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.

The chart below shows Canadian interest rates since the start of Q3/2019 for various maturities ranging from 3 months to 30 years. As expected, the short-term 3-month rate has stayed fairly constant, but the other maturities have shown considerable volatility.

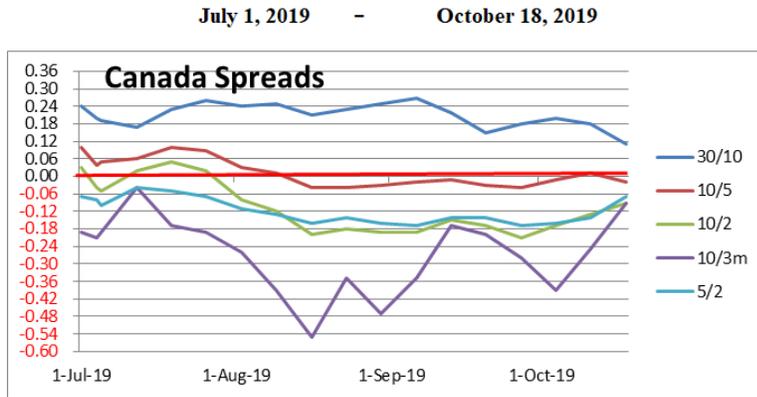
Since July 1, 2019



The table on the next page shows the actual rates, on a weekly basis, since July 1.

Date	3-Month	2-Year	5-Year	10-Year	30-Year
01-Jul-19	1.66	1.44	1.37	1.47	1.71
04-Jul-19	1.66	1.49	1.41	1.45	1.65
05-Jul-19	1.66	1.52	1.42	1.47	1.66
12-Jul-19	1.66	1.60	1.56	1.62	1.79
19-Jul-19	1.67	1.45	1.40	1.50	1.73
26-Jul-19	1.65	1.44	1.37	1.46	1.72
02-Aug-19	1.65	1.47	1.36	1.39	1.63
09-Aug-19	1.63	1.36	1.23	1.24	1.49
16-Aug-19	1.64	1.29	1.13	1.09	1.30
23-Aug-19	1.63	1.46	1.32	1.28	1.51
30-Aug-19	1.62	1.34	1.18	1.15	1.40
06-Sep-19	1.61	1.45	1.28	1.26	1.53
13-Sep-19	1.62	1.60	1.46	1.45	1.67
20-Sep-19	1.63	1.60	1.46	1.43	1.58
27-Sep-19	1.64	1.57	1.40	1.36	1.54
04-Oct-19	1.63	1.41	1.25	1.24	1.44
11-Oct-19	1.65	1.53	1.39	1.40	1.58
18-Oct-19	1.65	1.65	1.58	1.56	1.67

The chart below shows the Spreads for selected maturities. Only the 30-year/10-year Spread is not inverted. The horizontal **Red** line marks the Inversion level. The 10-year/5-year Spread is just into Inversion territory, but the other three metrics are quite inverted but trending upwards.



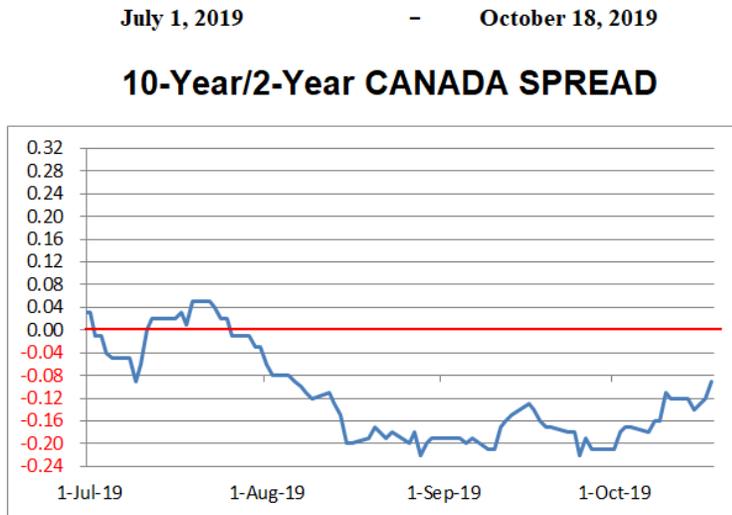
Here is the table for these Spreads:

Date	<u>30/10</u>	<u>10/5</u>	<u>10/2</u>	<u>10/3m</u>	<u>5/2</u>
1-Jul-19	0.24	0.10	0.03	-0.19	-0.07
4-Jul-19	0.20	0.04	-0.04	-0.21	-0.08
5-Jul-19	0.19	0.05	-0.05	-0.19	-0.10
12-Jul-19	0.17	0.06	0.02	-0.04	-0.04
19-Jul-19	0.23	0.10	0.05	-0.17	-0.05
26-Jul-19	0.26	0.09	0.02	-0.19	-0.07
2-Aug-19	0.24	0.03	-0.08	-0.26	-0.11
9-Aug-19	0.25	0.01	-0.12	-0.39	-0.13
16-Aug-19	0.21	-0.04	-0.20	-0.55	-0.16
23-Aug-19	0.23	-0.04	-0.18	-0.35	-0.14
30-Aug-19	0.25	-0.03	-0.19	-0.47	-0.16
6-Sep-19	0.27	-0.02	-0.19	-0.35	-0.17
13-Sep-19	0.22	-0.01	-0.15	-0.17	-0.14
20-Sep-19	0.15	-0.03	-0.17	-0.20	-0.14
27-Sep-19	0.18	-0.04	-0.21	-0.28	-0.17
4-Oct-19	0.20	-0.01	-0.17	-0.39	-0.16
11-Oct-19	0.18	0.01	-0.13	-0.25	-0.14
18-Oct-19	0.11	-0.02	-0.09	-0.09	-0.07

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.)

The chart below shows the 10-year/2-year Spread for Canadas since July 1, 2019. It is nowhere near coming out of Inversion, but it is trending upwards towards the Inversion inflection point at 0.00x.



Observation: As shown above, there was an Inversion in the 10/2 from July 2 through July 10, being only seven consecutive days. However, starting on July 26, the 10/2 inverted again and it has remained inverted ever since. August 8 marked the tenth consecutive day of Inversion and, so, the Count-Down to an Economic Recession in Canada began. Historically, after an Inversion has occurred, it has taken between 15 and 20 months before a recession occurs. The expected time-frame is presented in the following table.

Forecasting the Commencement of a Recession in Canada

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

Source: eResearch

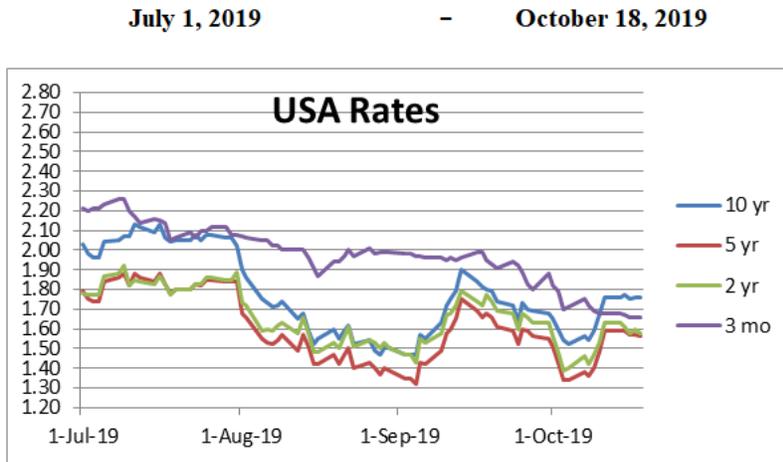
We define an Economic Recession as being characterized by two consecutive quarters of negative GDP growth. That would mean that, to meet the first recessionary date of November 2020, Q2/2020 and Q3/2020 would have to experience negative GDP growth. To meet the April 2021 date, Q4/2020 and Q1/2021 would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

B. FOCUS ON USA

1. Interest Rates with Various Maturities

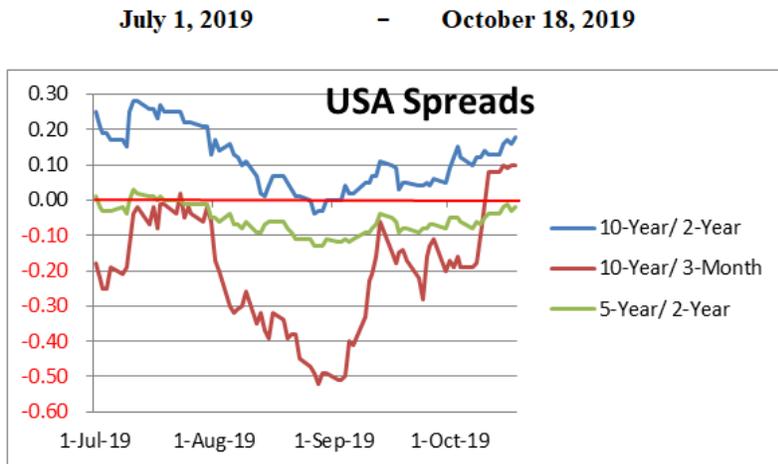
Since July 1, 2019

The following chart shows interest rates for four maturities: 3-months and 2-, 5-, and 10-years.



Observations: The 3-month trend is down while the other three maturities have oscillated a bit. The 10-year has recently risen above the 3-month so that yield curve ratio is no longer inverted. This is important because that particular ratio is widely followed.

Here is the Spread chart for the key yield curve ratios:



Observations: After briefly inverting at the end of August, the 10-year/2-year Spread has moved considerably away from the 0.00x Inversion level, and the 10/2 has now been joined above Inversion by the 10-year/3-month yield curve ratio. Since these are the two most important Inversion metrics, the possibility of an Economic Recession occurring in the United States in the near term has lessened, at least for now. The 5-year/2-year is also trying to escape Inversion.

Recession Barometer: USA

Our Recession Barometer for the United States reflects the average of three different yield spreads.

- 10-Year/2-Year Spread
- Equal-Weight Average of Three Spreads: 20-Year/10-Year; 10-Year/3-Month; and 5-Year/2-Year
- Equal-Weight Average of Twelve Spreads: 30-year/20-year, 30-year/10-year, 20-year/10-year, 20-year/5-year, 10-year/2-year, 10-year/3-month, 5-year/2-year, 5-year/3-month, 2-year/1-year, 2-year/3-month, 1-year/6-month, and 1-year/3-month.

The Spreads from these three metrics are then averaged to derive the Reading for the Recession Barometer. However, to initiate our Count-Down to an Economic Recession in the USA, ALL four metrics must be inverted. The 10-Year/2-Year Spread, the most important metric, was inverted for only three consecutive days in August, and we require ten consecutive days to initiate our Count-Down. This is the only metric with this consecutive 10 business day requirement.

The table below shows how these four metrics have evolved since the beginning of July 2019.

Date	10Year/2Year U.S. Spread		3 U.S. Spreads		12 U.S. Spreads		Combined Spreads	
	Spread	Reading	Spread	Reading	Spread	Reading	Spread	Reading
5-Jul-19	0.17	7.0 X	0.03	9.0 X	0.02	9.5 X	0.07	8.5 X
12-Jul-19	0.28	6.0 X	0.10	8.0 X	0.07	8.5 X	0.15	7.5 X
19-Jul-19	0.25	6.5 X	0.10	8.0 X	0.08	8.5 X	0.14	7.5 X
26-Jul-19	0.22	6.5 X	0.08	8.5 X	0.07	8.5 X	0.12	8.0 X
2-Aug-19	0.14	7.5 X	0.01	9.5 X	0.02	9.5 X	0.06	8.5 X
9-Aug-19	0.11	8.0 X	-0.01	10.0 X	0.00	9.5 X	0.03	9.0 X
16-Aug-19	0.07	8.5 X	-0.04	10.0 X	-0.03	10.0 X	0.00	9.5 X
23-Aug-19	0.01	9.5 X	-0.09	10.0 X	-0.06	10.0 X	-0.05	10.0 X
30-Aug-19	0.00	9.5 X	-0.11	10.0 X	-0.08	10.0 X	-0.06	10.0 X
6-Sep-19	0.02	9.5 X	-0.08	10.0 X	-0.06	10.0 X	-0.04	10.0 X
13-Sep-19	0.11	8.0 X	0.06	8.5 X	0.05	9.0 X	0.07	8.5 X
20-Sep-19	0.05	9.0 X	0.00	9.5 X	0.02	9.5 X	0.02	9.5 X
27-Sep-19	0.06	8.5 X	0.03	9.0 X	0.04	9.0 X	0.04	9.0 X
4-Oct-19	0.12	8.0 X	0.02	9.5 X	0.02	9.5 X	0.05	9.0 X
11-Oct-19	0.13	7.5 X	0.11	8.0 X	0.11	8.0 X	0.12	8.0 X
18-Oct-19	0.18	7.0 X	0.13	7.5 X	0.12	8.0 X	0.14	7.5 X

Observation: The 10/2 Spread has widened consistently over the past month and now sits at 0.18x, well above the 0.00x Inversion level, and gives a Barometer Reading of 7.0x. The “3 Spreads” and the “12 Spreads” are practically mirror images for the past four weeks. The Combined Spread is now at 0.14x to give a Reading of 7.5x and is no threat to an Inversion occurring.

RECESSION BAROMETER READING, Week Ending October 18:

7.5x

The trend is down and away from Inversion.

<continued>

U.S. Treasuries 10-2 Yield Curve Ratio Since October 18, 2014 (5 Years)

The following chart shows the trend in the 10-2 Spread over the past 5 years.



The next chart is the same metric for the last 3 years.

U.S. Treasuries 10-2 Yield Curve Ratio Since October 18, 2016 (3 Years)



Observations: The shorter-term down-trend line over 3 years shows a much different picture than the longer-term 5-year down-trend line in the previous chart. These are not the same down-trend lines. They are drawn over different tops. The rise in the ratio at the beginning of June 2019 brought it briefly above the down-trend line. The ratio went “inverted” at the end of August 2019 but did not stay inverted long enough to trigger our Economic Recession Count-Down for the USA. The ratio has recently moved appreciably above both the down-trend line and the 0.00x Inversion level shown by the black horizontal line.

The chart on the next page shows the trend for the past year.

<continued>

U.S. Treasuries 10-2 Yield Curve Ratio Since October 18, 2018 (1 Year)

Observations: The ratio gapped higher and broke out of and above the rising triangle, a bullish move.

CONCLUSION

Over the last four weeks, the Recession Barometer for the USA has consistently moved away from Inversion levels and, therefore, away from the occurrence of a possible Economic Recession occurring within the next 15-20 months.

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