RECESSION BAROMETER

July 12, 2019

Spotlight on : Recession Barometer

SUMMARY

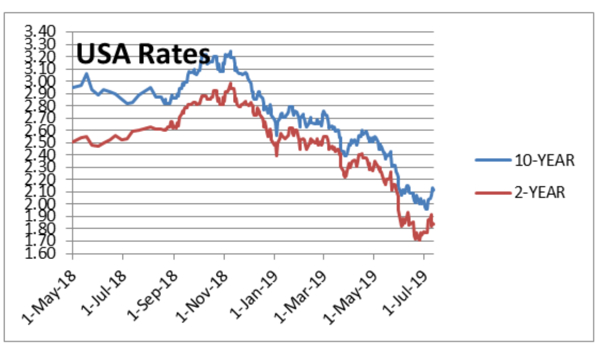
Back from the brink. Last week at this time, the Canadian 10-year/2-year yield curve ratio had been inverted for four consecutive days. However, the streak was broken four days later, so the consecutive Inversions only lasted for seven days. Our criterion is ten consecutive days to initiate the Count-Down to Economic Recession. We continue on watch.

In the United States, interest rates rebounded, with the 10-year rate rising back above the 2.00% mark. The U.S. 10-year/2-year yield curve Spread widened back towards the June highs. It now stands at 0.28x up from 0.17x the week before. The Canadian equivalent is 0.02x this week, compared to -0.05x (i.e. Inversion) the week previous.

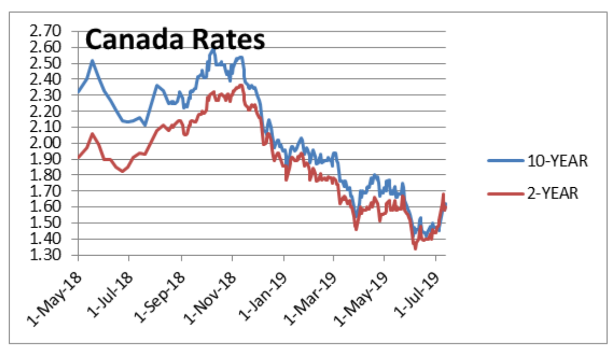
INTEREST RATES

The two charts below show the trend in interest rates in the United States and Canada since May 1, 2018, for 10-year and 2-year maturities.

May 1, 2018 – July 12, 2019



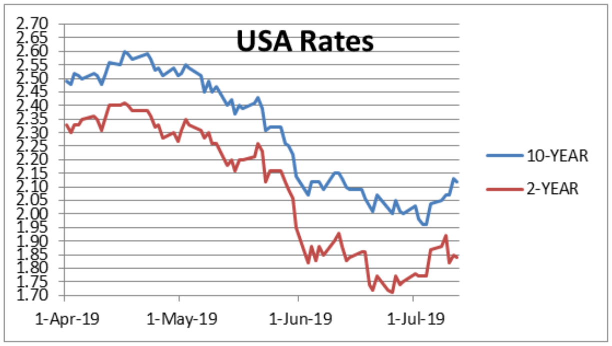
May 1, 2018 – July 12, 2019



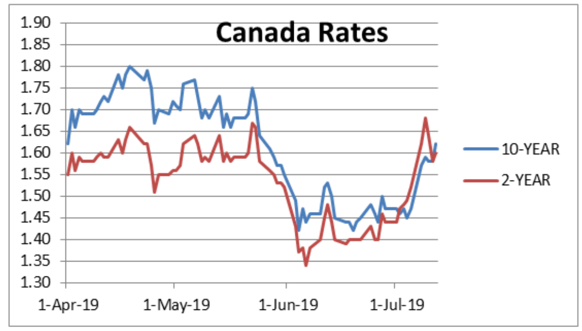
Observation: Since last September, the trend in the level of interest rates in both countries has been down, until this June. As shown, interest rates have risen slightly since then. U.S. interest rates are well above Canadian rates, and the Spread between the two maturities is more marked in the USA than in Canada.

Let us look at the same two maturities but with a much shorter time-frame, since April 1.

April 1, 2019 – July 12, 2019



April 1, 2019 – July 12, 2019

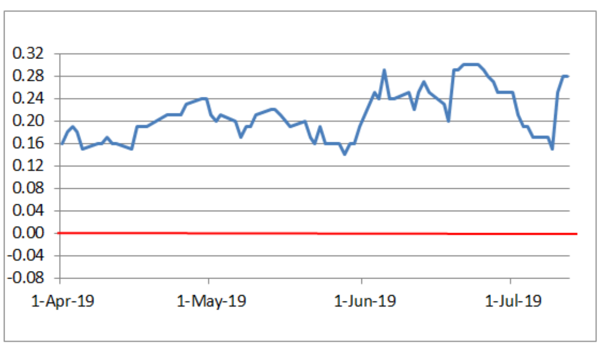


Observation: U.S. interest rates declined in the last two weeks of June, but have been on the rise since July 5. Canadian rates also jumped after July 5. After narrowing in early July, U.S. 10/2 Spreads have widened back near to the highs of June. Canada is a different story. In Canada Inversion occurred on July 2 and the 2-year yield remained above the 10-year yield until July 11. It was inverted for seven straight days. Our Recession Count-Down starts when there is Inversion for ten straight days, so a Count-Down for Canada has been averted.

Let us have a look at the Spreads in chart form.

April 1, 2019 – July 12, 2019

10-Year/2-Year USA SPREAD



April 1, 2019 – July 12, 2019

10-Year/2-Year CANADA SPREAD

Observation: The U.S. Spread is far from Inversion, which is denoted by the **red** line at 0.00x. After declining the previous two weeks, the U.S. Spread has rebounded almost back to the June highs. In Canada, the 10/2 Spread has gone back above the Inversion level for the last two days.

COMMENT: *Inversion usually precedes an Economic Recession by an average of 15-20 months. But, when do you start the Count-Down from Inversion to the expected Recession? The eResearch criterion is that we start the Count-Down when there is an Inversion for ten consecutive days, or when there is Inversion for 20 out of 30 days.*

COMMENT: *So, although the ten consecutive day streak has been broken, we are still monitoring the 20/30 day benchmark.*

DEFINING AN ECONOMIC RECESSION

From Wikipedia:

> In the United States, the National Bureau of Economic Research defines an economic recession as: "a significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in real GDP, real income, employment, industrial production, and wholesale-retail sales.
>
> In the United Kingdom, recessions are generally defined as two consecutive quarters of negative economic growth, as measured by the seasonal adjusted quarter-on-quarter figures for real GDP, with the same definition being used for all other member states of the European Union.

From The Canadian Encyclopedia:

> In Canada, authorities use the same definition as Europe. A recession occurs when two or more successive quarters (six months) show a drop in real gross domestic product (GDP), i.e., the measure of total economic output in the economy after accounting for inflation.

COMMENT: *At eResearch, we use the Canadian/European definition and define an economic recession as two successive quarters of negative real GDP growth.*

GROSS DOMESTIC PRODUCT (GDP)

Gross Domestic Product, more commonly referred to as GDP, is defined as the market value of all final goods and services from a nation in a given year. GDP is the broadest quantitative measure of a nation's total economic activity.

The following table shows the quarter-over-quarter percentage growth of Canada's GDP since 2010, as well as the annual rates. As shown, Canada entered into a Recession at the beginning of Q3/2015, but it come out of it by the end of that same quarter when it experienced positive growth.

Gross Domestic Product (GDP) % Growth

	Quarter-over-Quarter				YoY
Year	**Q1**	**Q2**	**Q3**	**Q4**	**Annual**
2010	1.19%	0.52%	0.72%	1,13%	3.1%
2011	0.74	0.19	1.39	0.79	3.1
2012	0.05	0.34	0.14	0.21	1.7
2013	0.89	0.59	0.81	1.05	2.5
2014	0.14	0.93	0.96	0.71	2.9
2015	-0.54	-0.26	0.35	0.07	1.0
2016	0.60	-0.45	1.08	0.58	1.4
2017	1.01	1.08	0.33	0.42	3.0
2018	0.37	0.63	0.52	0.06	1.8
2019	0.10				

Source: OECD, StatsCan

THE eRESEARCH RECESSION BAROMETER

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

1. 10-Year/2-Year Spread
2. Equal-Weight Average of Three Spreads: 20-Year/10-Year; 10-Year/3Month; and 5-Year/2-Year
3. 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.

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

	10Year/2Year U.S. Spread		3 U.S. Spreads		12 U.S. Spreads		Combined Spreads	
Date	Spread	Reading	Spread	Reading	Spread	Reading	Spread	Reading
May 3, 2019	0.21	6.5 X	0.11	8.0 X	0.10	8.0 X	0.14	7.5X
May 10, 2019	0.21	6.5 X	0.09	8.0 X	0.08	8.5 X	0.13	7.5X
May 17, 2019	0.19	7.0 X	0.07	8.5 X	0.07	8.5 X	0.11	7.5X
May 24, 2019	0.16	7.5 X	0.06	8.5 X	0.06	8.5 X	0.09	8.0X
May 31, 2019	0.19	7.0 X	0.01	9.5 X	-0.01	**10.0** X	0.06	8.5X
June 7, 2019	0.24	6.5 X	0.03	9.0 X	0.00	9.5 X	0.09	8.0X
June 14, 2019	0.25	6.5 X	0.06	8.5 X	0.04	9.0 X	0.12	7.5X
June 21, 2019	0.30	6.0 X	0.10	8.0 X	0.07	8.5 X	0.15	7.5X
June 28, 2019	0.25	6.5 X	0.07	8.5 X	0.04	9.0 X	0.12	7.5X
July 5, 2019	0.17	7.0 X	0.03	9.0 X	0.02	9.5 X	0.07	8.5X
July 12, 2019	0.28	6.0 X	0.10	8.0 X	0.07	8.5 X	0.15	7.5X

CURRENT RECESSION BAROMETER READING, Week Ending July 12:

7.5x.

This is down 1.0x from the preceding week.

U.S. Recession Forecast

The following chart shows when a recession could occur for various post-inversion dates. For inversion, we are monitoring three yield spread ratios, a widely-followed two-maturity metric, an equal-weighted average of three spread readings, and an equal-weighted average of twelve spread readings.

Our criterion for declaring Inversion is that: (1) the Recession Barometer reading must be 10; and (2) two of the three Series must be inverted and one of these must be the 10-Year/2-Year Yield Curve.

Our current "guess" is that a recession could occur 15 months post-inversion (shown in Red in the table below). This is a "moving target" and will change with each ensuing month. It will also change with changes in global economic conditions.

We are mindful that a substantial number of Spreads at the short-end are inverted. However, the overall Recession Barometer Reading is 7.5x and the Spreads for all three Series are still positive. So, for the moment, there seems to be no need to change our 15-month Count-Down period once our Inversion criterion is reached.

Forecasting the Commencement of a Recession

If an inversion occurs during the current month …	… then a recession will begin at stated date projections.					
Current Month	**Inversion +12 Months**	**Inversion +15 Months**	**Inversion +20 Months**	**Inversion +24 Months**	**Inversion +30 Months**	**Inversion +36 Months**
July/2019	July/2020	**Oct/2020**	Mar/2021	July/2021	Jan/2022	July/2022

Source: eResearch

U.S. YIELD CURVE RATIOS

As mentioned, we monitor three separate yield spreads. We have previously provided charts and commentary on the First Series, the 10-year/2-year yield curve. The current reading is 0.28x.

The Second Series is an equal-weighted average of three spreads: (i) 20-year/10-year (currently 0.30x); (ii) 10-year/3-month (currently -0.02x); and (iii) 5-year/2-year (currently 0.02x). The equal-weighted average of the three is 0.10x.

Shown below is the data for the Third Series, which comprise twelve yield curves. As shown, there is Inversion for all spreads from 10-year/3-months and shorter, except the 5-year/2-year. The equal-weighted average reading is 0.07x.

	30Y 20Y	30Y 10Y	20Y 10Y	20Y 5Y	10Y 2Y	10Y 3M	5Y 2Y	5Y 3M	2Y 1Y	2Y 3M	1Y 6M	1Y 3M
May 3, 2019	0.18	0.39	0.21	0.42	0.21	0.11	0.00	-0.10	-0.08	-0.10	-0.05	-0.02
May 10, 2019	0.19	0.42	0.23	0.44	0.21	0.04	0.00	-0.17	-0.10	-0.17	-0.09	-0.07
May 17, 2019	0.19	0.43	0.24	0.46	0.19	0.00	-0.03	-0.22	-0.13	-0.19	-0.09	-0.06
May 24, 2019	0.18	0.43	0.25	0.45	0.16	-0.03	-0.04	-0.23	-0.17	-0.19	-0.06	-0.02
May 31, 2019	0.19	0.44	0.25	0.46	0.19	-0.21	-0.02	-0.42	-0.26	-0.40	-0.14	-0.14
June 7, 2019	0.21	0.48	0.27	0.51	0.24	-0.19	0.00	-0.43	-0.12	-0.43	-0.18	-0.31
June 14, 2019	0.21	0.50	0.29	0.53	0.25	-0.11	0.01	-0.35	-0.16	-0.36	-0.18	-0.20
June 21, 2019	0.22	0.52	0.30	0.57	0.30	-0.04	0.03	-0.31	-0.18	-0.34	-0.10	-0.16
June 28, 2019	0.21	0.52	0.31	0.55	0.25	-0.12	0.01	-0.36	-0.17	-0.37	-0.17	-0.20
July 5, 2019	0.20	0.50	0.30	0.50	0.17	-0.19	-0.03	-0.39	-0.11	-0.36	-0.16	-0.25
July 12, 2019	0.22	0.52	0.30	0.56	0.28	-0.02	0.02	-0.28	-0.12	-0.30	-0.11	-0.18

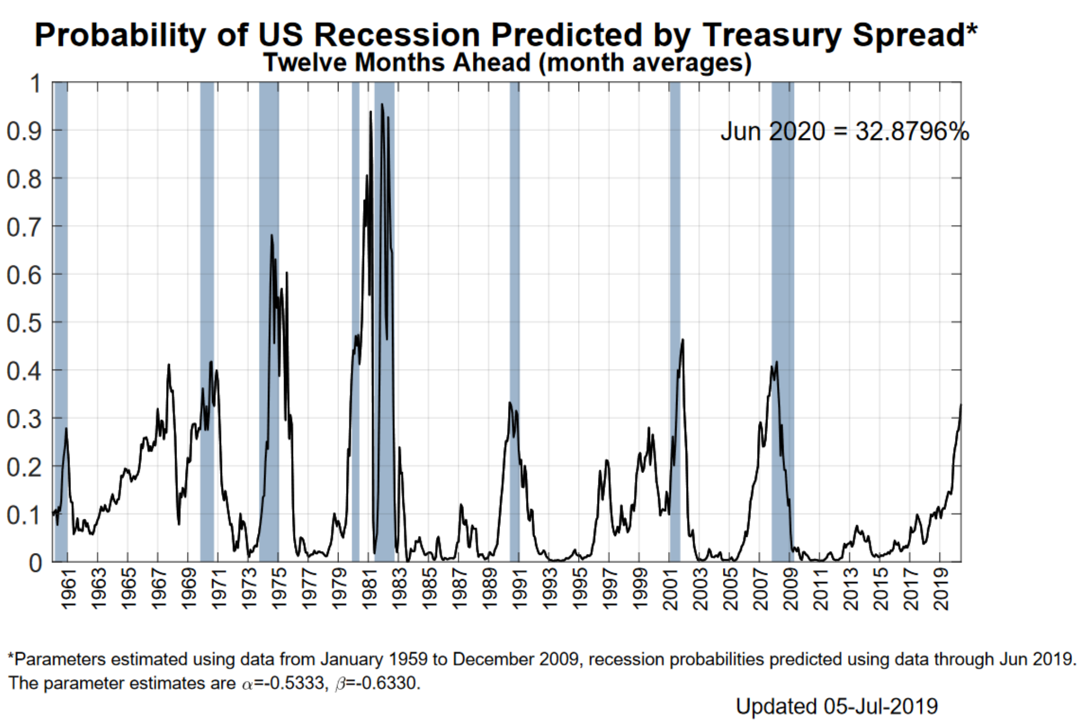
As we have stated many times, we put a lot of emphasis on the 10-year/2-year Spread and it is nowhere near an Inversion. Recently, it has yo-yoed between 0.17x and 0.30x, and currently stands at 0.28x. The 10-year/2-year Spread is our First Spread Series above.

The next table is most troubling. It shows that the Fed overnight rate is higher than all but the two longest-term maturities. How can this be?

Date	OBFR	1 mo	2 mo	3 mo	6 mo	1 yr	2 yr	3 yr	5 yr	7 yr	10 yr	20 yr	30 yr
1-Mar-19	2.40	2.44	2.46	2.44	2.52	2.55	2.55	2.54	2.56	2.67	2.76	2.97	3.13
15-Mar-19	2.41	2.46	2.46	2.45	2.52	2.52	2.43	2.39	2.40	2.49	2.59	2.83	3.02
22-Mar-19	2.40	2.49	2.48	2.46	2.48	2.45	2.31	2.24	2.24	2.34	2.44	2.69	2.88
1-Apr-19	2.41	2.42	2.43	2.43	2.46	2.41	2.33	2.29	2.31	2.40	2.49	2.71	2.89
8-Apr-19	2.41	2.43	2.44	2.43	2.48	2.43	2.36	2.31	2.33	2.42	2.52	2.74	2.93
15-Apr-19	2.41	2.42	2.43	2.43	2.46	2.43	2.40	2.36	2.37	2.46	2.55	2.77	2.96
23-Apr-19	2.44	2.43	2.44	2.45	2.46	2.43	2.36	2.34	2.36	2.46	2.57	2.81	2.98
1-May-19	2.44	2.42	2.41	2.43	2.44	2.39	2.31	2.28	2.31	2.41	2.52	2.74	2.92
8-May-19	2.38	2.42	2.43	2.43	2.45	2.37	2.30	2.26	2.28	2.38	2.49	2.71	2.89
15-May-19	2.39	2.40	2.41	2.42	2.43	2.30	2.16	2.12	2.15	2.25	2.37	2.63	2.82
22-May-19	2.37	2.36	2.37	2.38	2.41	2.37	2.23	2.17	2.19	2.28	2.39	2.64	2.82
31-May-19	2.38	2.35	2.38	2.35	2.35	2.21	1.95	1.90	1.93	2.03	2.14	2.39	2.58
14-Jun-19	2.35	2.23	2.21	2.20	2.18	2.00	1.84	1.79	1.85	1.96	2.09	2.38	2.59
21-Jun-19	2.37	2.16	2.16	2.11	2.05	1.95	1.77	1.74	1.80	1.93	2.07	2.37	2.59
28-Jun-19	2.38	2.18	2.15	2.12	2.09	1.92	1.75	1.71	1.76	1.87	2.00	2.31	2.52
5-Jul-19	2.40	2.26	2.22	2.23	2.14	1.98	1.87	1.82	1.84	1.93	2.04	2.34	2.54
12-Jul-19	2.38	2.16	2.18	2.14	2.07	1.96	1.84	1.81	1.86	1.98	2.12	2.42	2.64

New York Federal Reserve Yield Curve Recession Indicator

The following New York Fed chart, which uses the difference between 10-year and 3-month Treasury rates to calculate the probability of a recession in the United States twelve months ahead, is as of July 5, 2019. It shows the probability of a recession occurring in the next 12 months, that is, by the end of June 2020. The chart shows that probability continues to rise and has reached 32.9%. As can be seen on the chart below, the ratio is getting up there on a relative basis.



INVERSIONS AND RECESSIONS

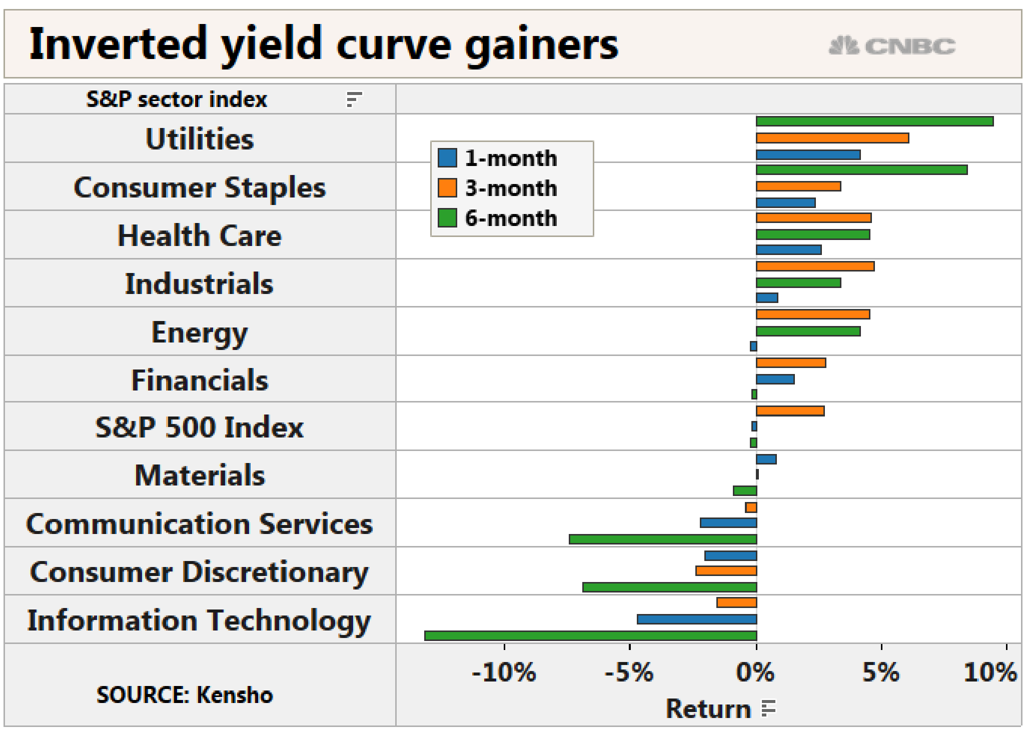
An inversion occurs when the yield on long-term debt drops below its shorter-term peers, potentially signifying a lack of confidence in the economic outlook. It has also become a crucial early warning signal for economic down-turns. Research from the San Francisco Federal Reserve shows that every U.S. recession in the past 60 years was preceded by an inverted yield curve.

Tony Dwyer, chief U.S. markets strategist for Canaccord Genuity, views a yield curve inversion as an opportunity rather than a death knell. He says,

> "An inversion of the yield curve does predict recession but, historically, it is a better buy signal *(for stocks)* than pointing to a time to get sustainably defensive."

CNBC used hedge fund analytics tool, Kensho, to find which kinds of stocks do well when the yield curve inverts, which is a reliable recession indicator.

Those findings are presented in the table on the next page.

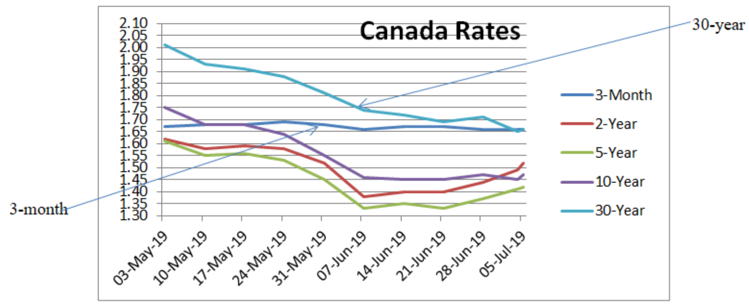


CANADIAN INVERSION

Here is a list and a chart of interest rates since May 3, 2019 for various Canadian maturities:

	3-Month	2-Year	5-Year	10-Year	30-Year
03-May-19	1.67	1.62	1.61	1.75	2.01
10-May-19	1.68	1.58	1.55	1.68	1.93
17-May-19	1.68	1.59	1.56	1.68	1.91
24-May-19	1.69	1.58	1.53	1.64	1.88
31-May-19	1.68	1.52	1.45	1.55	1.81
07-Jun-19	1.66	1.38	1.33	1.46	1.74
14-Jun-19	1.67	1.40	1.35	1.45	1.72
21-Jun-19	1.67	1.40	1.33	1.45	1.69
28-Jun-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

May 3, 2019 – July 5, 2019



Observation: Let us look at various yield ratios for July 12.

30-year/10-year	0.17	
30-year/5-year	0.23	
30-year/2-year	0.19	
30-year/3-month	0.13	
10-year/5-year	0.06	
10-year/2-year	0.02	
10-year/3-month	-0.04	Inversion
5-year/2-year	-0.04	Inversion
5-year/3-month	-0.10	Inversion
2-year/3-month	-0.06	Inversion

Conclusion: The three primary yield curve ratios that we monitor for the possibility of a pending Economic Recession occurring in Canada are:
(1) 10-year/2-year;
(2) 10-year/3-month; and
(3) 5-year/2-year.

This week, just two of these metrics are inverted, as the 10-year/2-year ratio went back to positive.

COMMENT: *The Canadian 10-year/2-year yield curve ratio was inverted for seven consecutive days but it has not been inverted for the past two days. Our criterion is that the Inversion has to last for 10 consecutive days or 20 out of 30 days.*

Bob Weir, CFA: Contributing Analyst

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