

RECESSION BAROMETER

October 4, 2019

Spotlight on : Yield Curve Ratios – USA

Recession Watch

eResearch monitors four yield curve metrics to assess the possibility of the United States going into an Economic Recession. Three of those metrics weakened this past week, but the key metric widened. All of this in the context of the U.S. economy continuing to put out mixed signals.

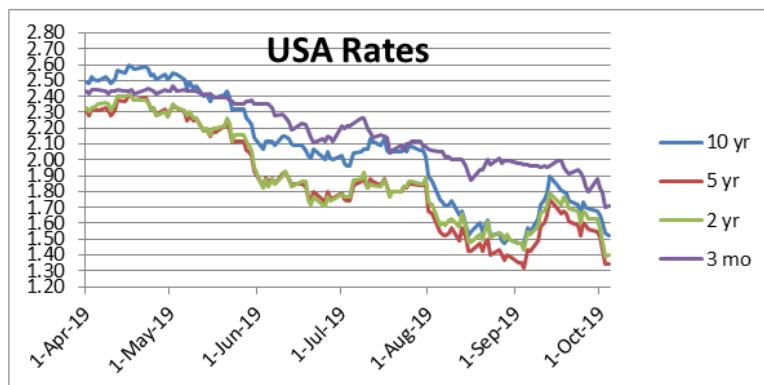
Interest Rates: Various Maturities

Interest Rates declined in the United States last week, particularly in the 2-year to 5-year range. The table below is from Friday, September 27 to Friday, October 4 and shows interest rates for various maturities from 30-years at the long-end down to 1-month at the short-end.

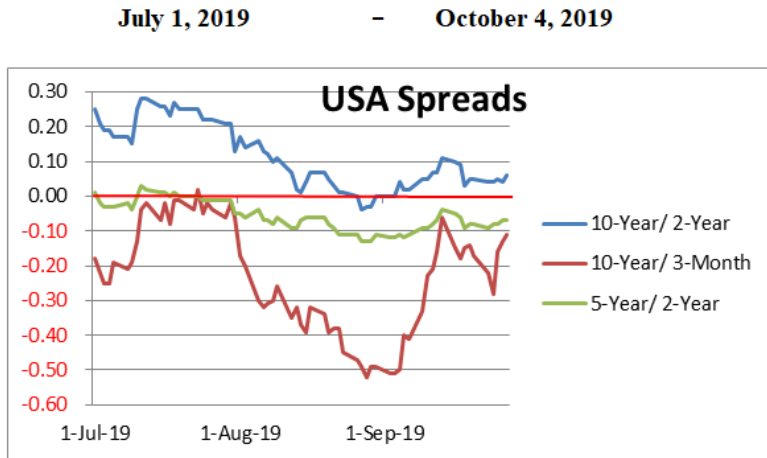
| Date | 30-Year | 20-Year | 10-Year | 5-Year | 2-Year | 1-Year | 6-Months | 3-Months | 1-Month |
|-----------|---------|---------|---------|--------|--------|--------|----------|----------|---------|
| 27-Sep-19 | 2.13 | 1.95 | 1.69 | 1.56 | 1.63 | 1.74 | 1.85 | 1.80 | 1.90 |
| 30-Sep-19 | 2.12 | 1.94 | 1.68 | 1.55 | 1.63 | 1.75 | 1.83 | 1.88 | 1.91 |
| 1-Oct-19 | 2.11 | 1.93 | 1.65 | 1.51 | 1.56 | 1.73 | 1.81 | 1.82 | 1.79 |
| 2-Oct-19 | 2.09 | 1.90 | 1.60 | 1.43 | 1.48 | 1.67 | 1.75 | 1.79 | 1.75 |
| 3-Oct-19 | 2.04 | 1.85 | 1.54 | 1.34 | 1.39 | 1.58 | 1.66 | 1.70 | 1.78 |
| 4-Oct-19 | 2.01 | 1.81 | 1.52 | 1.34 | 1.40 | 1.58 | 1.65 | 1.71 | 1.73 |
| Change | 0.12 | 0.14 | 0.17 | 0.22 | 0.23 | 0.16 | 0.20 | 0.09 | 0.17 |
| % Change | 5.6% | 7.2% | 10.1% | 14.1% | 14.1% | 9.2% | 10.8% | 5.0% | 8.9% |

The following chart shows the trend in interest rates in the USA since April 1 for four key maturities: 10-years, 5-years, 2-years, and 3-months. The trend for all is down, notably since mid-September.

April 1, 2019 - October 4, 2019



The next chart shows the Spread for 3 key maturity combinations of those same maturities.

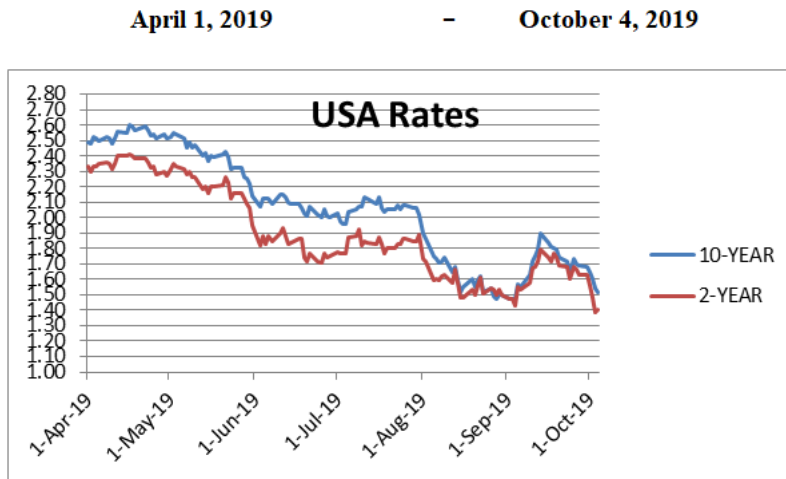


Observations: The reason eResearch has not put the USA on a recession Count-Down is because the 10-year/2-year (Blue line) yield curve ratio remains above the Inversion level. The 10-year /3-month (Rust line) and the 5-year/2-year (Green line) yield curve ratios have been inverted for quite a while.

Let us look at these three metrics more closely.

1. 10-Year/2-Year Yield Curve Ratio

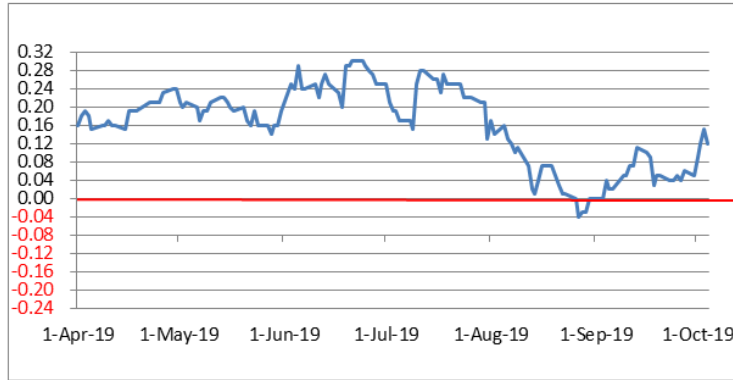
Here is a look at 10-year and 2-year interest rates since April 1.



Observations: Until the beginning of August, there was a notable gap between the two maturities. Since then, they have moved much more closely together ... until this past week. The 2-year declined more sharply and has thus opened a wider difference with its longer-dated maturity. This shows more clearly in the Spread chart to follow.

April 1, 2019 - October 4, 2019

10-Year/2-Year USA SPREAD



| <u>DATE</u> | <u>10-YEAR</u> | <u>2-YEAR</u> | <u>DIFF</u> |
|-------------|----------------|---------------|-------------|
| 23-Sep-19 | 1.72 | 1.68 | 0.04 |
| 24-Sep-19 | 1.64 | 1.60 | 0.04 |
| 25-Sep-19 | 1.73 | 1.68 | 0.05 |
| 26-Sep-19 | 1.70 | 1.66 | 0.04 |
| 27-Sep-19 | 1.69 | 1.63 | 0.06 |
| 30-Sep-19 | 1.68 | 1.63 | 0.05 |
| 1-Oct-19 | 1.65 | 1.56 | 0.09 |
| 2-Oct-19 | 1.60 | 1.48 | 0.12 |
| 3-Oct-19 | 1.54 | 1.39 | 0.15 |
| 4-Oct-19 | 1.52 | 1.40 | 0.12 |

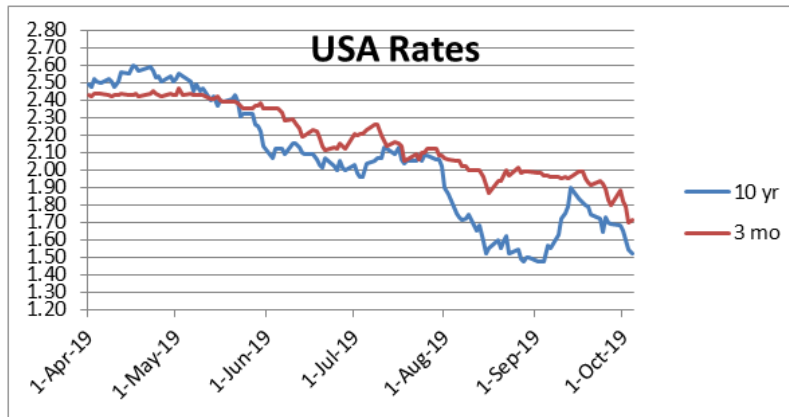
Observations: The chart shows the 10-year/2-year spread since April 1. The table to the right of the chart shows the interest rates for the two maturities as well as the Spread (denoted as “DIFF”) for the last two weeks. The Spread rose from 0.04x on September 23-24 to 0.15x on October 3 and ended the week at 0.12x.

2. 10-Year/3-Month Yield Curve Ratio

The next chart shows the interest rates for 10 years and for 3 months.

April 1, 2019 - October 4, 2019

USA Rates: 10-Year/3-Month

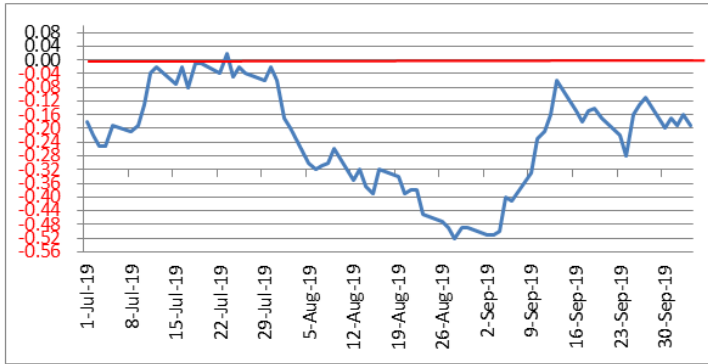


Observations: The 10-year/3-month yield curve ratio inverted in mid-May has remained inverted ever since. The Inversion widened substantially in August but the gap closed appreciably in September. The two rates continue moving lower together.

Here is the Spread chart for the two maturities since April 1 and the Spread table for the last two weeks.

April 1, 2019 - October 4, 2019

USA SPREAD: 10-Year/3-Month



| <u>DATE</u> | <u>10-YEAR</u> | <u>3-MONTH</u> | <u>DIFF</u> |
|-------------|----------------|----------------|-------------|
| 23-Sep-19 | 1.72 | 1.94 | -0.22 |
| 24-Sep-19 | 1.64 | 1.92 | -0.28 |
| 25-Sep-19 | 1.73 | 1.89 | -0.16 |
| 26-Sep-19 | 1.70 | 1.83 | -0.13 |
| 27-Sep-19 | 1.69 | 1.80 | -0.11 |
| 30-Sep-19 | 1.68 | 1.88 | -0.20 |
| 1-Oct-19 | 1.65 | 1.82 | -0.17 |
| 2-Oct-19 | 1.60 | 1.79 | -0.19 |
| 3-Oct-19 | 1.54 | 1.70 | -0.16 |
| 4-Oct-19 | 1.52 | 1.71 | -0.19 |

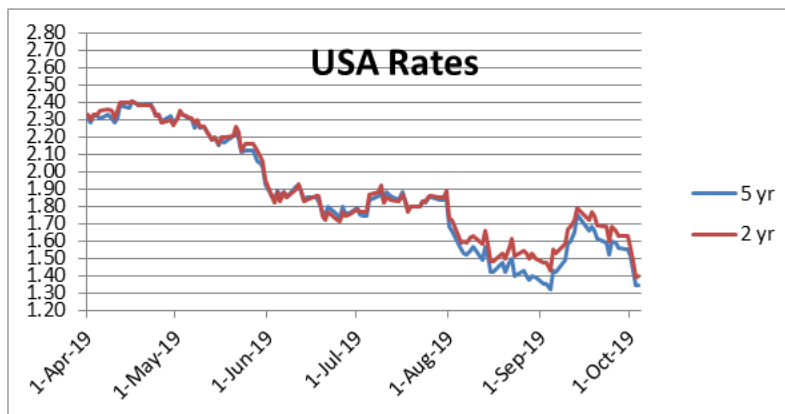
Observations: The Inversion reached **-0.52x** at the end of August and the beginning of September. It got close to the Inversion level on September 13 at **-0.06x** but widened again. The latest is **-0.19x**.

3. 5-Year/2-Year Yield Curve Ratio

Our third and last metric is the 5-year/2-year yield curve ratio.

April 1, 2019 - October 4, 2019

USA Rates: 5-Year/2-Year

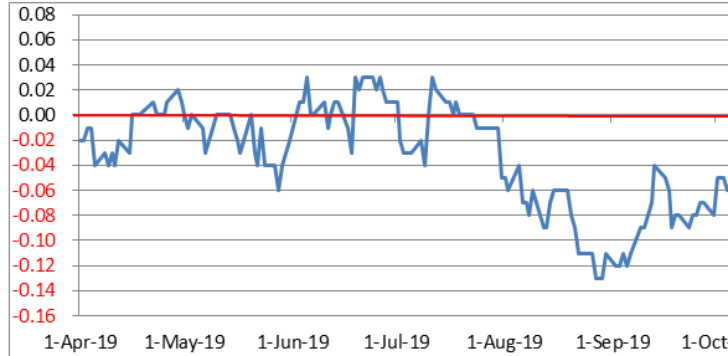


Observations: Since April 1 until the first week of August, the two maturities moved in lock-step. There has been only a slight divergence between the two rates since then.

Here is the Spread chart and the Spread table for the two maturities.

April 1, 2019 - October 4, 2019

USA SPREAD: 5-Year/2-Year



| <u>DATE</u> | <u>5-YEAR</u> | <u>2-YEAR</u> | <u>DIFF</u> |
|-------------|---------------|---------------|-------------|
| 23-Sep-19 | 1.59 | 1.68 | -0.09 |
| 24-Sep-19 | 1.52 | 1.60 | -0.08 |
| 25-Sep-19 | 1.60 | 1.68 | -0.08 |
| 26-Sep-19 | 1.59 | 1.66 | -0.07 |
| 27-Sep-19 | 1.56 | 1.63 | -0.07 |
| 30-Sep-19 | 1.55 | 1.63 | -0.08 |
| 1-Oct-19 | 1.51 | 1.56 | -0.05 |
| 2-Oct-19 | 1.43 | 1.48 | -0.05 |
| 3-Oct-19 | 1.34 | 1.39 | -0.05 |
| 4-Oct-19 | 1.34 | 1.40 | -0.06 |

Observations: The 5-year/2-year yield curve ratio has been above and below the Inversion line quite a few times. However, it has stayed below it continuously since July 24.

RECESSION BAROMETER: USA

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

- 10-Year/2-Year Spread
- Equal-Weight Average of Three Spreads: 20-Year/10-Year; 10-Year/3Month; 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 Combined Reading for the Recession Barometer.

The table below shows how these metrics have evolved since the beginning of May 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 |
| 3-May-19 | 0.21 | 6.5 X | 0.11 | 8.0 X | 0.10 | 8.0 X | 0.14 | 7.5 X |
| 10-May-19 | 0.21 | 6.5 X | 0.09 | 8.0 X | 0.08 | 8.5 X | 0.13 | 7.5 X |
| 17-May-19 | 0.19 | 7.0 X | 0.07 | 8.5 X | 0.07 | 8.5 X | 0.11 | 7.5 X |
| 24-May-19 | 0.16 | 7.5 X | 0.06 | 8.5 X | 0.06 | 8.5 X | 0.09 | 8.0 X |
| 31-May-19 | 0.19 | 7.0 X | 0.01 | 9.5 X | -0.01 | 10.0 X | 0.06 | 8.5 X |
| 7-Jun-19 | 0.24 | 6.5 X | 0.03 | 9.0 X | 0.00 | 9.5 X | 0.09 | 8.0 X |
| 14-Jun-19 | 0.25 | 6.5 X | 0.06 | 8.5 X | 0.04 | 9.0 X | 0.12 | 7.5 X |
| 21-Jun-19 | 0.30 | 6.0 X | 0.10 | 8.0 X | 0.07 | 8.5 X | 0.15 | 7.5 X |
| 28-Jun-19 | 0.25 | 6.5 X | 0.07 | 8.5 X | 0.04 | 9.0 X | 0.12 | 7.5 X |
| 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 | 0.01 | 9.5 X | 0.02 | 9.5 X | 0.05 | 9.0 X |

CURRENT RECESSION BAROMETER READING, Week Ending October 4:

9.0x.

COMMENT: *The Combined Spread reading stayed constant this past week with a reading of 9.0x. The U.S. 10/2 Spread doubled last week to 0.12x. The equi-weight 3 selective Spreads and the equi-weight 12 selective Spreads are both sticking pretty close to just above Inversion. The Combined Spread, an equal-weight of the three metrics, has risen above the three-week Inversion state it was in at the end of August/beginning of September.*

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: (1) a widely-followed two-maturity metric; (2) an equal-weighted average of three spread readings; and (3) an equal-weighted average of twelve spread readings. We weight these three ratios equally in a Combined Spread.

Our criterion for declaring Inversion is that: (1) using the Combined Spread, 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.

Historically, after Inversion, an Economic Recession has occurred between 15 and 20 months later. The following table shows when a recession could occur for various time-frames once an Inversion happens. The traditional 15-months/20-months periods are shown in **Red** in the table.

Forecasting the Commencement of a Recession

If an inversion occurs during the current quarter ... then a recession will begin at stated date projections.

| Current Quarter | Inversion +12 Months | Inversion +15 Months | Inversion +20 Months | Inversion +24 Months | Inversion +30 Months | Inversion +40 Months |
|------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Q3/2019 | Q3/2020 | Q4/2020 | Q2/2021 | Q3/2021 | Q1/2022 | Q1/2023 |

Source: eResearch

CONCLUSION: We are mindful that a substantial number of Spreads at the short-end are inverted. However, the overall Recession Barometer Reading is 9.0x and the Spreads for all three Series are still positive. So, there is no consensus of Inversion. Thus, for the moment, there seems to be no need to alter our Recession Watch for the USA.

Bob Weir, CFA: Contributing Analyst

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