



A Signal to Buy 30-Year Bonds

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by Eric Hickman

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A technical indicator with a reliable history is signaling that 30-year Treasury yields will soon decline.

A relative strength index (RSI) can be measured for any price series and represents how much and in what frequency gains are occurring versus losses. The index is used as a contrary or turning-point indicator. After periods of strong persistent selling, buying is expected and vice versa.

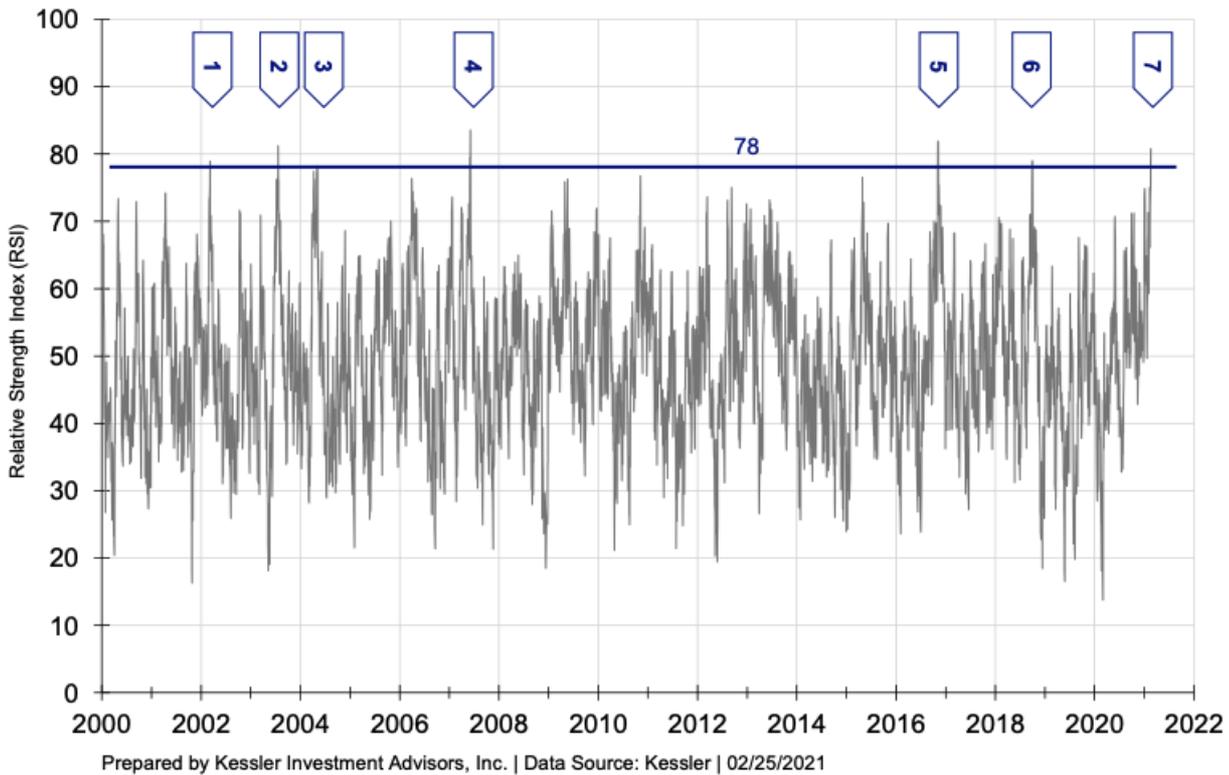
It isn't a complicated calculation. The RSI takes the average price change of days with gains as compared to the average price change of days with losses over the last x days. This is converted into an oscillator that can take any position between 0 and 100. When prices (or yields) are rising fast and persistently, the oscillator will approach 100; when selling occurs with lower prices, it will approach 0. The oscillator spends most of its time in the middle; say between 30 and 70. Extreme readings (close to 0 or 100) happen rarely. These extremes can be studied historically to see how useful the index is at identifying major turning points in markets.

The RSI on the 30-year U.S. Treasury yield

For this analysis, I looked at the RSI on 30-year U.S. Treasury yields measured with a 14 day average (the x in the description above). This is the longest and most conservative daily average generally used. I looked at historical times where the RSI equaled or was greater than it was at the close of Wednesday, 2/24/2021, at 78.

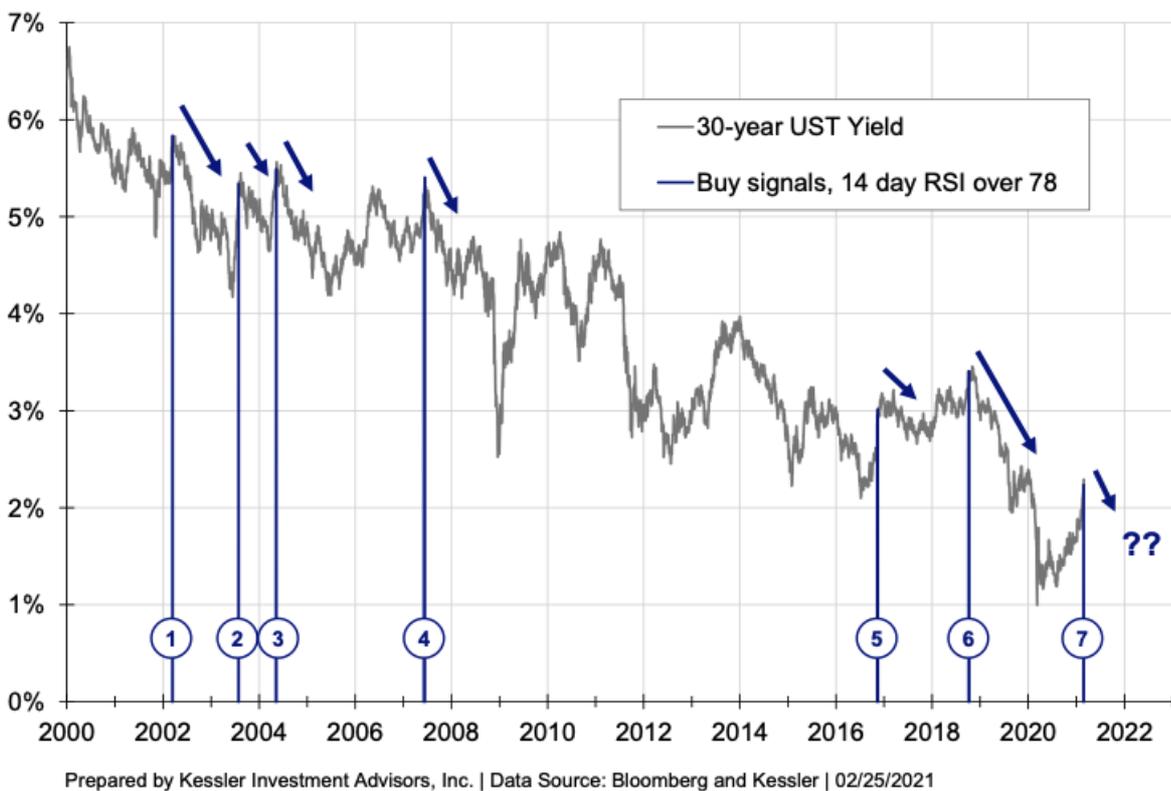
A reading of 78 (or more) is rare, happening in just seven periods going back to 2000; about once every three years. You can see them in the chart below. Focus on the high extremes that rise to or above the blue threshold line of 78.

14-day RSI of 30-year UST Yield (annotated with periods over 78) 21.2 years, 1/1/2000 - 2/25/2021



These points can then be translated to the 30-year U.S. Treasury yield. Look where the blue vertical lines (RSI over 78) intersect the gray line (30-year UST yields). The blue arrows show that yields fell (prices rose) after these buy signals, suggesting a buy signal now.

30-year UST Yield (with 14 day RSI over 78, buy signals) 21.2 years, 1/1/2000 - 2/25/2021



But those signals didn't happen at the yield peaks; they occurred before. The question is how far before and how much more did yields rise after the signal? In other words, assuming this signal triggered on Wednesday, 2/24/2021, how long will it be until yields peak and how much could yields rise in the meantime?

The table below summarizes the answers to those questions. The signal triggered between 0 and 35 days before and between 0 and 33 basis points (0.33%) below the peak in yields. This averages to 14 days before and 12 basis points below the peak, which suggests a yield peak on 03/10/2021 at 2.36%. This is much too specific a prediction for markets, but it gives an idea of where we might be in this 30-year yield backup.

It looks to be about over.

The Gap Between 30-year Yield RSI over 78 and Yield Peak

| Period | First time RSI over 78 | | Yield Peak | | Difference | |
|---|------------------------|---------------|------------|---------------|------------|--------------|
| | Date | 30-year Yield | Date | 30-year Yield | Days | Basis Points |
| | 1 | 3/14/2002 | 5.83% | 3/14/2002 | 5.83% | 0 |
| 2 | 7/29/2003 | 5.34% | 8/13/2003 | 5.45% | 15 | 11 |
| 3 | 5/10/2004 | 5.49% | 5/13/2004 | 5.56% | 3 | 7 |
| 4 | 6/7/2007 | 5.23% | 6/12/2007 | 5.40% | 5 | 17 |
| 5 | 11/9/2016 | 2.85% | 12/14/2016 | 3.18% | 35 | 33 |
| 6 | 10/5/2018 | 3.41% | 11/2/2018 | 3.46% | 28 | 5 |
| Average | | | | | 14 | 12 |
| SIMPLE FORECAST (using averages) | | | | | | |
| 7 | 2/24/2021 | 2.23% | 3/10/2021 | 2.36% | | |

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The yield movements down from the peaks predicted by the RSI have been significant; they led to significant gains in long-term U.S. Treasury bonds.

After the peak how much has the 30-year yield fallen?

| Period | Yield Peak | | Nearby Yield Low | | Difference | |
|----------------|------------|---------------|------------------|---------------|------------|--------------|
| | Date | 30-year Yield | Date | 30-year Yield | Months | Basis Points |
| | 1 | 3/14/2002 | 5.83% | 6/13/2003 | 4.17% | 15 |
| 2 | 8/13/2003 | 5.45% | 3/16/2004 | 4.64% | 7 | -81 |
| 3 | 5/13/2004 | 5.56% | 6/27/2005 | 4.19% | 13 | -137 |
| 4 | 6/12/2007 | 5.40% | 12/18/2008 | 2.52% | 18 | -288 |
| 5 | 12/14/2016 | 3.18% | 9/7/2017 | 2.66% | 9 | -52 |
| 6 | 11/2/2018 | 3.46% | 3/9/2020 | 1.00% | 16 | -246 |
| Average | | | | | 13 | -162 |

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One should never rely on technical indicators alone. But this analysis, combined with what an overly rosy expectation of COVID-19 disappearing and the economics beyond that, suggests an opportunity in U.S. Treasury bonds.

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