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Economics Group

Special Commentary

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Recession Update: Is the Yield Curve Still Effective?

"It ain't what you don't know that gets you into trouble. It's what you know for sure that just ain't so." – Mark Twain

Executive Summary

Recent inversions of the 2-year to 10-year Treasury yield curve have heightened markets' recession anxieties and pushed many analysts to question whether the yield curve is still a reliable indicator of recession. In order to assess whether these events represent a material change in the probability of recession, we updated our models to estimate potential risks of a recession in the short-term (within the next six months) as well as in the medium-term (for the next couple of years). Most of our models suggest minimal short-term recession risk, with our *preferred* Probit model suggesting a low probability of a recession occurring within the next six months. The *yield curve* Probit model, on the other hand, offers a more pessimistic outlook. With a recession probability estimate of 32.7%, this model is at its highest level since the Great Recession, but still remains below levels seen prior to previous recessions (Figure 2). The yield curve would need to invert significantly and remain inverted for months before it would be a reliable recession signal.

Finally, our medium-term framework, which focuses on changes in the relationship between the fed funds rate and the 10-year Treasury rate, is also showing little sign for worry, following the Fed's shift toward more accommodative policy. Our GDP forecast for this year as well as for 2020 is 2.3%, but there is plenty of uncertainty in the air. Ongoing trade tensions between China and the United States, rising risk of a no-deal Brexit and a slowing global economy cloud the economic outlook. We will continue to monitor the upcoming data for recession signals and will release an update, if we notice any significant change to our current recession outlook.

Our models suggest a low probability of recession in the short-term but uncertainty is in the air.

Figure 1

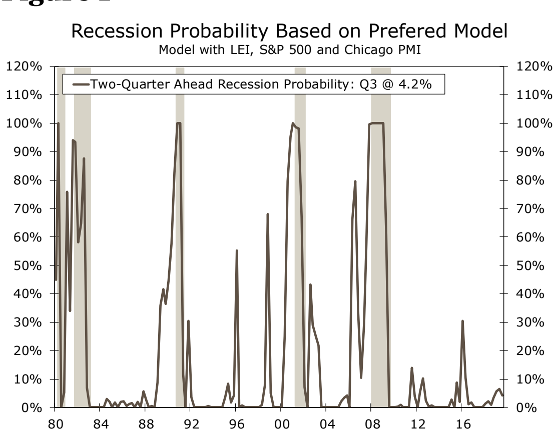
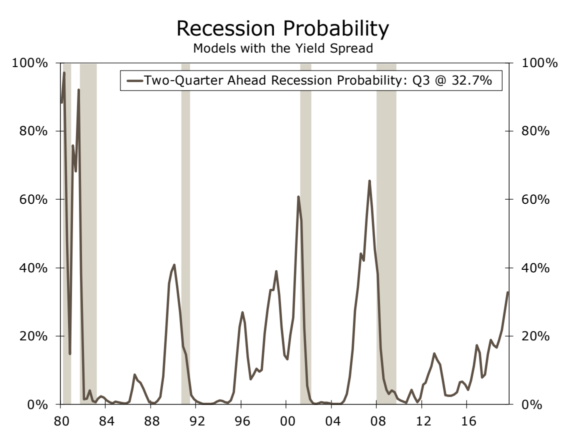


Figure 2



Source: Bloomberg LP and Wells Fargo Securities

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Forecasting Recession Risks for the Short-Term

Our preferred Probit model uses a handful of economic indicators, including the LEI, S&P 500 index and the Chicago PMI employment index, as predictors. The model predicted (in real-time) a 58% probability in Q3-2007.[1] Additionally, it did not indicate a recession during 2010-2012, allowing us to avoid joining the "double-dip" camp.

Given the positive momentum of the LEI it would be very difficult to imagine a recession during the next six months.

Using data through July 2019, our preferred model suggests a meager 4.2% chance of a recession in the short-term (Figure 1). The key predictor of the model, the LEI, is still positive on average for 2019. While a negative turn in the LEI would increase the downside risk to our outlook, the positive momentum of the LEI over the past 12 months makes it difficult to imagine a recession during the next six months.

In addition to our preferred Probit model, we built six different Probit models in 2016, using information from various sectors of the economy, in order to better capture the breadth of factors that can indicate a recession.[2] With an average of 20.0%, our Probit models suggest low risk of a recession in the short-term (Figure 4). Nevertheless, there is always the possibility of an unforeseen shock.

The Yield Curve Has Inverted, Now What? Recession?

The yield curve Probit model estimates a 32.7% probability of a recession, marking the highest estimate since the Great Recession.

For the first time since the Great Recession, the 2-year to 10-year yield curve has inverted, raising concerns of an upcoming recession, due to the fact that it inverted prior to the past seven recessions (Figure 3). Including data up to July 2019, the yield curve Probit model estimates a 32.7% probability of a recession, marking the highest estimate since the Great Recession. The current reading, however, still remains below the probabilities indicated prior to the past three recessions. This lower reading in the face of an inversion is likely the result of the limited duration of the inversion. Before each of the last three recessions, the yield curve inverted for at least six consecutive months. The most recent inversions, in contrast, have lasted for less than a day. Essentially, if the yield curve were to remain inverted for about six months the probability of a recession would likely be boosted to a historical high. For now the yield curve Probit model does not necessarily signal that a recession is around the corner.

Figure 3

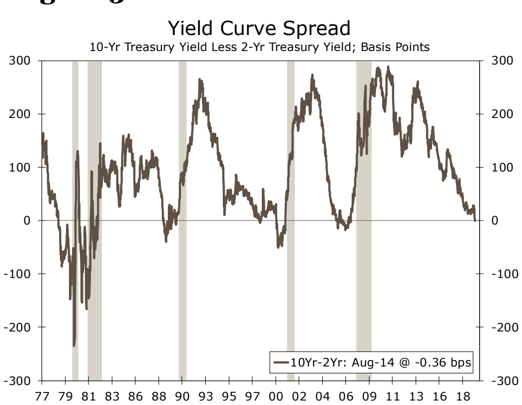
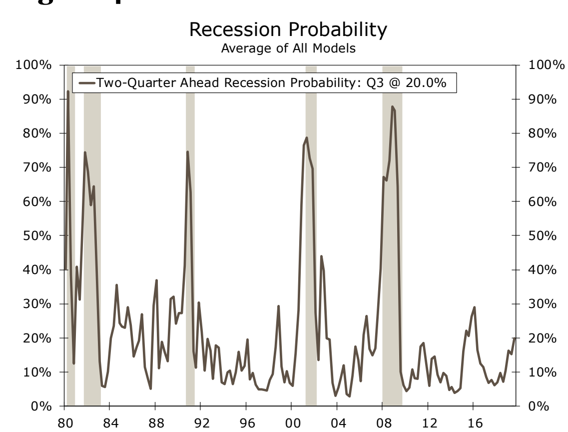


Figure 4



Source: Bloomberg LP, Federal Reserve Board and Wells Fargo Securities

[1] For a detailed discussion about Probit models see out report "Recession Talks in the Spotlight: Should We Worry?" The report was published on February 24, 2016 and is available upon request.
[2] Please see footnote 2 for the reference to the report.

Predicting Trend-Like Growth for the Near-Term

As evidenced by the past decade, the pace of recovery can be just as important as the timing of the recession. A weaker recovery prediction, such as the recovery from the Great Recession, suggests a continuation of accommodative monetary policy, as opposed to a stronger recovery forecast, which may support less accommodative policy. We therefore built an ordered Probit framework that simultaneously predicts the probability of a recession and the strength of the subsequent recovery/expansion. The model successfully predicted all recessions and paces of recoveries since the 1980s in a simulated, out-of-sample experiment.[3] The most recent estimate of the model (based on Q2-2019) suggests a fairly high chance (52% probability) of trend-like growth, around 2-2.5% real GDP growth for the second half of 2019 (Figure 5). This estimation is a bit surprising, given that we are currently in the longest expansion on record. Typically, economies grow more slowly in the late phase of the business cycle, as resource utilization is close to peak level.

The most recent estimate suggests a higher chance of trend-like growth, around 2-2.5% for the second half of 2019.

Figure 5

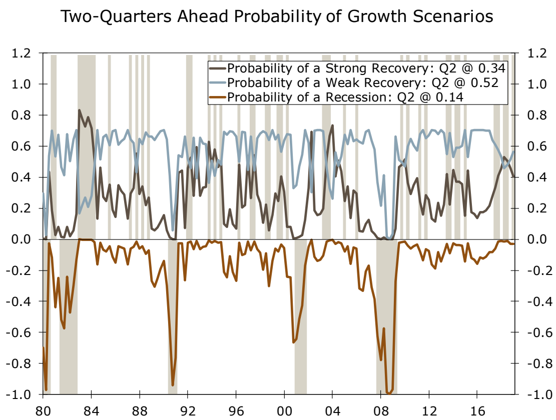
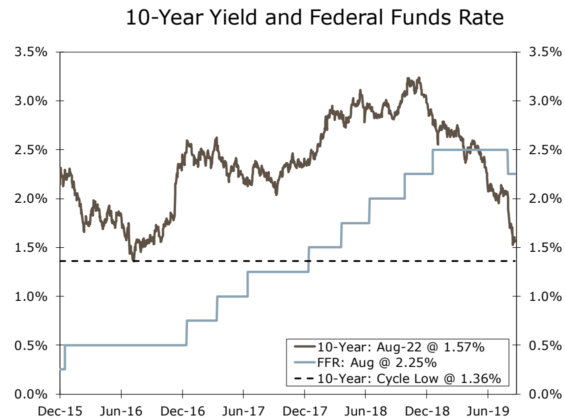


Figure 6



Source: Federal Reserve Board, Bloomberg LP and Wells Fargo Securities

What About the Medium-Term?

To estimate the medium-term recession risk, our framework identifies a threshold between the fed funds rate and the 10-year Treasury yield. The threshold is breached when the fed funds rate touches or crosses the lowest level of the 10-year Treasury yield in that cycle. When this occurs, there is significant risk of a recession. Our framework has successfully predicted each recession since 1954 with an average lead time of 17 months, including several instances where the recession preceded the traditional 2-10 yield curve inversion.

In the current cycle, the threshold was set on July 5, 2016, when the lowest 10-year Treasury yield, 1.36%. At that time, the fed funds rate was at just 0.50%. In December 2017 the FOMC hiked rates to 1.50%, thereby crossing the threshold set earlier in 2016 (Figure 6). After the 10-year yield crosses this threshold, we have historically seen a recession or significant shift in monetary policy within the next 17 months on average and that is what we have seen in this cycle as well. At the beginning of this year, the Fed signalled a change in its monetary policy stance, and in July the FOMC cemented this policy shift with a cut to the federal funds rate. This monetary policy adjustment in the face of a mid-cyle slowdown has happened before during periods of extended growth in the 1960s, 1980s and 1990s.

The FOMC reverted to changing the monetary policy to fight mid-cycle economic slow.

[3] For more detail about the Ordered Probit model see our report, "Predicting the Probability of Recession and Strength of Recovery: An Ordered Probit Approach." Published on July 19, 2016. The report is available upon request.

Conclusion

Our models suggest there is low recession risk for the second half of 2019.

For now, with the Fed positioned to provide further accommodation, our expectation for a recession over the medium-term remains limited. Our short-term models suggest there is a low recession risk for the second half of 2019. While the recent 2-10 yield curve inversion has raised the recession probability in our yield curve-based model, it remains low relative to the model's previous pre-recession peaks, largely due to the short duration of the recent inversions. So, for now, continued economic growth appears to be the most likely scenario. We'll be evaluating the upcoming data and will publish a report if we notice significant developments either against or in favor of our recession call.

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