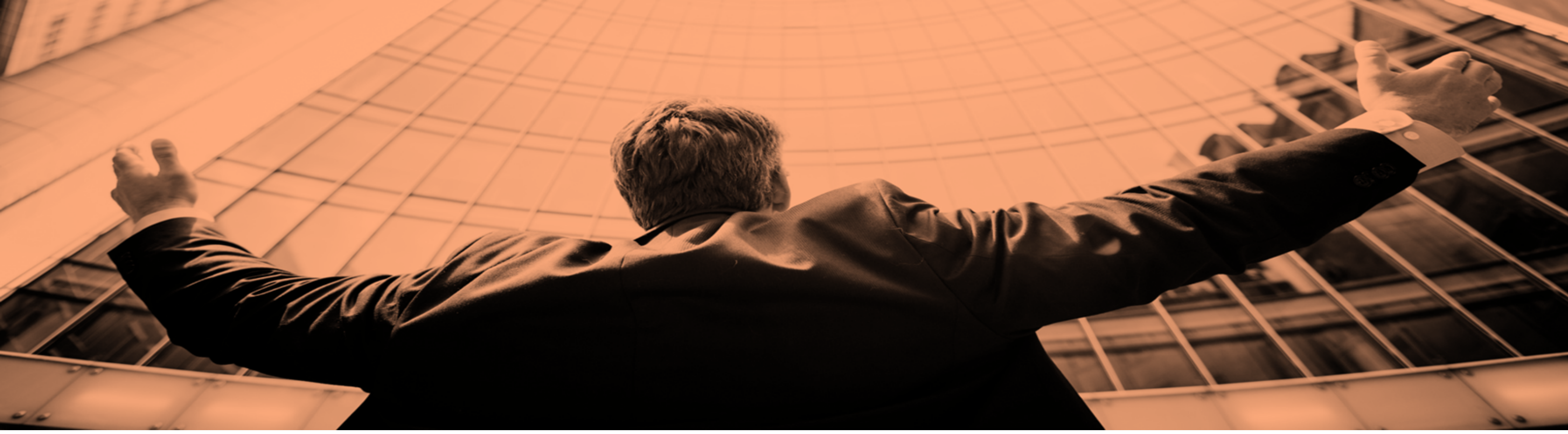


Mind the Gap: The Steepening Yield Curve Should Not Inspire Confidence

Andrew J. Nelson, CRE

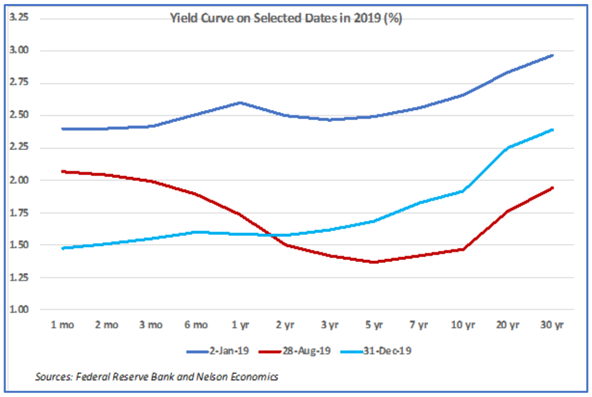
January 13, 2020

The yield curve's inversion in mid-2019 implies that the U.S. is due for an economic downturn by year end, notwithstanding some recent positive economic trends.

- *Despite compelling reasons that we need no longer heed its warning, the yield curve has dependably confounded skeptics and proven to be a reliable harbinger of recessions for several decades.*
- *The fact that the curve has since reverted to its normal positive slope does not imply that a downturn has been averted. There is always a significant lag of at least a year between when the curve first inverts and when the economy falls into recession.*
- *Investors should not take any comfort from our continued (if slower) economic growth and rising stock prices since the inversion. These are normal patterns for the 12- to 18-month period between the yield curve inversion and recession.*

Economists are infamously bad at predicting recessions. Aside from all the technical challenges, ultimately it's just so hard to imagine conditions different than those we are living. Perhaps it should not be so surprising, then, that economists routinely ignore or explain away the closest thing we have to a sure sign.

The yield curve is among the most reliable predictors of recessions, with the downturn typically starting within about a year and a half after the curve first inverts, that is, when interest rates on short notes exceed those on longer-term bonds. Thus, investors took notice when the shortest end of the yield curve inverted last May and then fully inverted through five-year bonds in August (red line in first chart). Based on historical trends, this would suggest we are due for a downturn later this year.



However, recent commentary in the financial press suggests that this latest inversion can be safely ignored for at least two reasons. First, the yield curve's predictive powers are overstated and less meaningful than they used to be. Second, and in any case, the curve has already reverted to its normal positive slope (longer-term bonds again trade at healthy yield premiums to those on short-term notes) and economic growth remains relatively strong, so recession fears are fading. We dodged that recessionary bullet!

Nonsense. As I recounted in my last blog on this topic last March, the yield curve's ability to foretell recessions has been regularly discounted ever since the association was first posited over 30 years ago, though the reasons have shifted over time. Indeed, the widespread dismissal of the yield curve over the past couple of years as the curve flattened and then ultimately inverted is reminiscent of comments from prominent economists prior to each of the past three downturns, nicely summarized in a MarketWatch article last year when the yield curve inverted for the first time in this cycle.

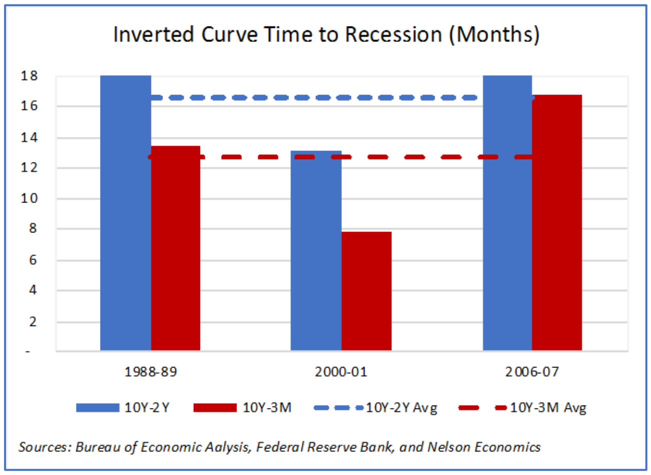
My personal favorite: Ben Bernanke's speech in March 2006 when the then Fed Chair declared that he "would not interpret the currently very flat yield curve as indicating a significant economic slowdown to come" because "both short- and long-term interest rates — in nominal and real terms — are relatively low by historical standards" and "the flattening or inversion of the yield curve is the result of a smaller term premium." Eighteen months later began the worst recession since the Great Depression. Nonetheless, these same issues were cited by New York Fed President and vice-chair of the Federal Open Market Committee (FOMC) John Williams in dismissing the significance of the flattening yield curve this time around.

Suffice it to say, the yield curve's compelling logic and a reliable track record suggests we be wary of the naysayers who declare that "it's different this time". Instead, I'd like to focus on other popular misconceptions about yield curve inversions and the ensuing economic conditions.

The Lag Between Yield Curve Inversion and Recession

The first fallacy: recessions don't commence with the start or even the end of the curve inversion. Rather, there is a significant lag until the downturn starts, normally between 12 and 18 months, as shown in the nearby chart. However, precise measurements are elusive because there usually is no clear beginning and end to inversions. Rather, the yield curve typically initially flirts with inversion – with the spread going negative for a few days, then positive for a while, sometimes repeating for several times – before finally entering a sustained inversion. The same goes for when the yield curve reverts to its normal upward slope. (My calculations here begin with the start of a sustained period of inversion and then end with the sustained resumption of its normal positive spread between the yields on short and longer durations notes.)

Also, spreads along the curve go negative at different times. As might be expected, yields at the shortest end of the curve normally invert after those on medium-term notes. The yield on two-year notes (relative to the ten-year) inverts on average four months before those on three-month, based on the last three cycles: 16.7 months and 12.7 months, respectively, before the onset of recession. Significantly, the range around these averages is tight, ranging from 13 to 19 months before recession for the 2Y/10Y spread and from 8 to 17 months for the 3M/10Y. Hence the rule of thumb that recessions tend to start between 12 and 18 months after the yield curve inverts.



Sources: Bureau of Economic Aalysis, Federal Reserve Bank, and Nelson Economics

"But it Doesn't Feel Like a Recession"

Perhaps the bigger misconception about the yield curve concerns economic conditions during the that interim period between the yield curve inversion and onset of recession. We now know there's a significant lag between the two dates. And until the downturn? Conditions weaken somewhat, but overall, things still feel pretty good.

a. Job Growth

Job growth in the last three business cycles averaged about 221,000 jobs per month in the two quarters preceding the 3M/10Y yield curve inversion, falling to 125,000 per month in the following two quarters, as shown in this chart. Whether the yield curve itself triggers more cautious hiring behavior by firms is hard to say. Certainly, business sentiment falls during times of unsettled financial markets, as when the yield curve inverts. In any case, firms consistently trim their hiring once the yield curve inverts, but not to the point of actual layoffs.

Period	Job Growth / Month (000s)	Annualized Quarterly Real GDP	S&P 500
1Q + 2Q 1989	253	3.9%	20.8%
3Q + 4Q 1989	114	3.6%	5.4%
1Q + 2Q 2000	216	4.5%	5.4%
3Q + 4Q 2000	107	1.5%	-12.2%
1Q + 2Q 2006	196	3.2%	-4.1%
3Q + 4Q 2006	154	2.0%	15.9%
Avg: 6 mnths prior	221	3.9%	7.4%
Avg: 6 mnths after	125	2.4%	3.0%
1Q + 2Q 2019	193	2.6%	1.1%
3Q + 4Q 2019	156	2.0%	9.8%

Sources: BLS, BEA, and Federal Reserve Bank via FRED, Yahoo Finance, and Nelson Economics.

How does the current cycle compare? Job growth averaged about 193,000 jobs per month during the two quarters preceding the 2019 yield curve inversion, dropping to 156,000 per month in the following six months – almost identical to the pattern surrounding the last inversion, at 196,000 and 154,000 jobs per month, respectively.

b. GDP Growth

What about economic growth? That, too, slows after yield curve inversion but remains positive. Annualized real GDP growth averaged 3.9% in the two quarters preceding the last three curve inversions, slowing to 2.4% in the two quarters following. Similarly, GDP growth in current cycle averaged 2.6% in the two quarters preceding the inversion, dropping to 2.0% in the next two quarters. Still positive, but slower than before.

These patterns do not prove that the yield curve inversion *causes* the slowdown. However, there is a functional relationship at work here as well: Banks can't make money when the yield curve inverts because they generally borrow short and lend long. When short-term rates exceed long-term, there's no margin in lending, which causes banks and other lenders to pull back lending. And, indeed, growth in commercial lending has been declining steadily since the yield curve started invert last spring, compounding the slowdown in business investment that took hold with the rise in trade tensions in mid 2018. This decline in business investment is a key factor underlying recent declines in job and GDP growth.

c. The Stock Market

Finally, one might expect equity markets to slump once the yield curve inverts as investors anticipate the end of the business cycle. But as with jobs and GDP, investment gains generally continue for a while after the yield curve inverts, though at a slower pace. The S&P500 index grew by an average of 7.4% in the two quarters preceding the last three yield curve inversions, dropping to 3.0% in the two subsequent quarters. However, there is considerable variation among the last three cycles: in 1989 the stock market rose modestly in the six months following the inversion; in 2000 equities *fell* 12%; and in 2008 the market *gained* 16%.

In this cycle the S&P500 rose almost 10% in the two quarters after last year's yield curve inversion, which investors might be tempted to take as a positive omen. Such optimism seems misplaced, however. Despite initial equity gains following two of the last three yield inversions, the economy nonetheless fall into recession no later than 17 months after the 3M/10Y inversion – with significant impacts for stock prices. Measured from its level at the point when the 3M/10Y spread inverts, the S&P500 index falls on average 34% in the succeeding recessions, with the trough occurring just over two years (766 days) after the inversion.

Now What?

Economic and job growth shifted down in the second half of 2019 and seems poised to slow further this year. Among the factors: fading fiscal stimulus from the tax cuts and federal spending increases from early 2018; rising tariffs on a broader range of products, hitting trade; and slowing global growth and trade. Already our manufacturing sector seems to be in recession. And whether cause or effect, the yield curve also inverted in mid-2019. Based on recent economic history, this milepost suggests a downturn is in the offing for later this year.

To be sure, there are convincing reasons that this time might indeed be different. With inflation and interest rates so low, financial markets don't seem to work as they used to, inviting a wholesale rethinking of monetary policy and thus the mechanics of how and why yield curves invert.

And despite the slower growth, some recent economic trends are more encouraging, including a strengthening housing market, relatively robust consumer spending, resilience in the services sector, and perhaps easing trade tensions. Moreover, the economy is being bolstered by the Fed's rapid move to a more dovish monetary policy, dropping the target Federal Funds Rate just three months after the 3M/10Y inversion – after waiting more than a year in 2006-07 after the prior yield curve inversion. Lesson learned, perchance?

Finally, with no outsized imbalances in the economy or financial markets evident like those that preceded the last recessions, it's not clear what would trigger the next downturn: Middle East war? Renewed trade frictions? Hidden financial risks? Something else entirely? Or maybe we continue extending our record-long economic expansion longer still.

But before we dismiss the signals from the last yield curve inversion, it's worth remembering three lessons gleaned from recent inversions:

- The yield curve has proven to be a reliable harbinger of recessions for several decades, despite compelling explanations for why we should not heed its warning voiced prior to every recent recession.
- The fact that the curve has reverted to its normal positive slope does not imply that a recession has been averted. There is always a significant lag of at least a year between when the curve first inverts and when the economy turns negative. Moreover, the recession never starts when the curve is still inverted.
- As a corollary to this lag, the economy continues to expand after the yield curve inversion, though more slowly – until it falls into a recession. Equity markets also continue to rise after the inversion, typically right through the onset of recession, and then fall ultimately by an average of more than a third. Thus, investors today should not take any comfort from our continued economic growth and rising stock prices. These are normal patterns for the 12- to 18-month period between the yield curve inversion and recession.

A final note: When and if the downturn does come, we likely will not realize it for a while. Recession starts are known only in hindsight, as called by the grim reapers at the National Bureau of Economic Research, sometimes well after the fact. So even if the U.S. does fall into a recession later this year, we may well not know it until 2021. Should make for an even more interesting campaign season! Stay tuned.