Inverted Yield Curves and Economic Growth

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Duke University and NBER

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Dissertation 1986

- My 1986 dissertation at the University of Chicago showed that the slope of the yield curve predicted real economic growth.
Dissertation 1986

• My committee was skeptical because the yield curve inverted before the last four recessions – and that was not much data.
• However, the theoretical foundation of the model was sound. Interest rates contain three components:
  – Expected inflation
  – Expected real rates (which link to real growth)
  – Risk premium (which is small for US government bonds)
Risk-Off Trade

• Greater economic uncertainty in the US or around the world leads to a flight to quality.
• US Treasury bonds are the lowest risk asset in the world.
• 10-year bond is the benchmark bond.
• Buying pressure drives down yields, contributing to an inversion.
Out of Sample

• Usually, after publication of research there are two possible outcomes:
  – 1. Effect becomes weaker.
  – 2. Effect goes away.
Out of Sample

- Crash of October 1987 was the first test.
- Most economists predicted a recession in 1988.
- Yield curve model predicted real 4.1% growth.
- Actual growth was 4.2%.
Out of Sample

• Yield curve inversions preceded 1990-91 recession as well as the 2001 recession (and did not get much attention).

• Yield curve inverted in July 2006 before the Global Financial Crisis.
  – In real time, this got very little attention.
  – Ex post, there was a realisation that the yield curve inversions were 7 for 7 in recession predictions ... without a false signal.
Out of Sample

Harvey: Yield Curve Inversion Lead Time to Recessions

- 10yr Spread

Recessions Shaded

14 mo.  14 mo.  16 months  22 mo.  ?

9 mo.  5 mo.  Lead Time to Recession: 8 months
Out of Sample

• My University of Chicago committee relieved they did not flunk me!
This Time Is Different

This time is different because of QE.

• My model is very simple (there is no central bank).
• Fed was more influential in the long-term bond market in the 1960s and 1970s with their Open Market Operations.
• Fed adds noise to yield curve indicator.
• Since 2017, Fed has been decreasing the size of their balance sheet. This should steepen the yield curve – so the logic goes the wrong way.
This Time Is Different

This time is different because self-fulfilling prophesy.

- My model has a history of being ignored. I named my daughter Cassandra! (email from two days ago from former Fed economist):
  - “…the Fed (mainly the economists at the Federal Reserve Board) mistakenly dismissed the yield curve inversion in 2006. In the fall of 2006, I met with Tim Geithner every week to give him briefing of the market development. Most of the meetings involved the interpretation of yield curve inversion. That was when I read your paper for the first time. I have been a fan of your paper since then, but the Board dominated the view in the Fed system at the time. The Fed dismissed the market signal about recession and kept the target rate for another whole year at 5.25%, until the fall of 2007! A clear mistake in retrospect.”
This Time Is Different

This time is different because self-fulfilling prophesy.

• The #invertedyieldcurve is no longer ignored.
Are We Near a Recession? The Godfather of the Inverted Yield Curve Says It’s ‘Code Red’

By Lucinda Shen  September 9, 2019

Prof who discovered inverted yield curves predict recessions weighs in on market volatility
This Time Is Different

Yield curve is “causal.”

• Given the track record and profile of the indicator, ignore it at your own risk.
• It is a risk management tool for both consumers, investors, and corporations.
• It could lead to, for example, companies being cautious in both their CAPEX and employment.
This Time Is Different

Yield curve is “causal.”

• While the caution could slow growth, it also moderates the blow if a slowdown occurs.
• A recession in 2020 will not be a surprise. The Global Financial Crisis recession was a surprise – and caused managers to slash jobs and spending.
• Risk management increases the chance of a “soft-landing.”
Yield Curve and Stock Returns

It is easy to manage in a bull market.

• It is much more difficult to manage around turning points and in bear markets.
• Now is the time for a strategic review.
• Should your portfolio be more defensively postured?
Yield Curve and Stock Returns

Event study has only 7 inversions.

• After observing one quarter of inversion (time zero), invest in portfolio and hold it for three years.
• Average over the 7 inversions
• Note most recent inversion is June 30, 2019 (and is not included).
Other Information

Confirmatory

• Duke-CFO Survey has 50% believing recession in 2020 and 85% 2020 or early 2021.
• ISM at lowest point since 2009.
• CFO CAPEX second-lowest since December 2009.
Other Information

Contradictory

• GDP growth is “robust.”
• Unemployment is at historic low, 3.5%.
False or True Signal

Very simple model – a single variable

• Yes, of course, the signal could be false.
• Best to combine with other information.
Resources: Follow me on LinkedIn

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PGP: E004 4F24 1FBC 6A4A CF31 D520 0F43 AE4D D2B8 4EF4