


The Flattening Yield Curve



January 9, 2019


Cam Harvey looks at the yield curve today through the lens of his 1986 pioneering work on yield-curve inversions and their foreshadowing of economic downturns.


 **Cam Harvey, PhD** Partner & Senior Advisor,
Research Affiliates, and Professor, Duke University


 **Jim Masturzo, CFA** Head of Asset Allocation,
Research Affiliates





 **Conversations**


 Jim Over the past few months, there has been considerable discussion about the flattening US yield curve. We'll be talking about what this trend foreshadows and what it means for investors. Cam, in 1986, you pioneered work that demonstrated the shape of the yield curve foreshadows economic downturns. What did that work entail?


 Cam *That early work was actually my dissertation at the University of Chicago, and I published a paper on the same topic in 1988.* My research looked at the cyclical properties of the slope of the yield curve, which is the difference between a long-term US Treasury yield and a short-term US Treasury yield. Typically, the long-term Treasury has a higher yield than the short-term Treasury, but in certain situations this relationship is inverted, so that the short rate is higher than the long rate. I found that an inverted yield curve was bad news for the economy, foreshadowing a recession.*


 Jim And how has it done since then, out of sample since 1988?


 Cam *As a researcher, you're often disappointed because your findings get weaker after publication. But surprisingly, in the four recessions that followed my dissertation, the yield curve inverted before every single one of them, including the global financial crisis, and also—and this is surprising too—it hasn't provided any false signals so far.*


 Jim So far. And so one story for this could be that the Fed increases short rates and it slows down the economy too much. Is that the rationale, or are there other stories behind this?


 Cam *In my 1986 dissertation, I posited a fairly simple theory that interest rates have two components: an inflation (or nominal) component and a real component. The real component is linked to real economic growth. Whenever the real return over the longer horizon is less than over the shorter horizon, it's bad news for growth, and we can anticipate that the US economy is going to slow down. The evidence is supportive of that.*


 Jim So, as we know, the Fed has been doing quantitative easing over the last five to eight years, and they've bought a lot of longer-term debt, which has potentially pushed down interest rates. Do you think, under these circumstances, that an inversion could be a false signal this time?


 Cam *You make a very good point that although this indicator has worked in the past, maybe it won't work in the future because of Fed intervention. It's possible. I will say that the history of Fed intervention is actually a long history. Indeed, part of the quantitative easing was the so-called Operation Twist, but the original Operation Twist was in the mid-1960s, so in a way the Fed has a long tradition of intervening in this market. I would actually argue that the Fed interventions were more effective earlier in the sample, because the markets have gotten so big now. Even with all of these interventions since the 1960s, we still have an accurate predictor and no false signals yet.*


 Jim *In 1986 when you were doing this work, you were the only person, or potentially one of only a few folks, looking at this relationship. Today, talk of an inverted curve is all over the news. Do you think a potential or developing inversion could be a case of investors preparing for future downturns, and even be a reinforcement mechanism, so if investors think things are going to turn bad, therefore they will?*


 Cam *Yes, the so-called self-fulfilling prophecy is a possibility here. Again, the track record of the indicator is pretty good. We don't know if it is going to work in the future, but there's no structural reason to think the indicator is broken. We do know other things, such as that the business cycle has become much less volatile. That observation is potentially consistent with the idea that investors are getting better at looking at these indicators and making adjustments that effectively smooth out the fluctuations in the business cycle. Indeed, during the global financial crisis 10 years ago, the drawdown in GDP was less than 5%. That is much less volatile than what we've experienced historically.*

 Jim *When the yield curve inverts, it doesn't necessarily mean recession tomorrow or next week. There is some amount of lag. So, in your work, how long is that lag? What is the variation in that?*

 Cam *In my research, the lag is usually 12 to 18 months. That's the lead time before a recession. I also looked at other indicators like the stock market, and the stock market is famous for giving false signals. The best false signal was Black Monday in 1987, a dramatic decrease in the stock market. People said, "Well it's going to be a recession in 1988." But the yield curve was positively sloped and I said, "No, it's going to be 4% growth or more." My forecast was an outlier, but it turned out that my forecast was pretty close to being realized at 4+% growth. So be careful of the stock market. It's all over the place. You make an excellent point about timing. Even though a recession might be within the next year and a half, it's still possible the stock market could continue to rise leading up to that recession.*

 Jim And as I read about, or hear pundits talk about, the yield curve and inversion, there are always arguments about whether it's the 5-year/2-year slope, 10-year/3-month, 10-year/2-year, you know, pick your slope. What have you found?

 Cam *I think we need to go with the original research. In 1986, I looked at two parts of the yield curve, the 5-year note minus the 3-month bill, and the 10-year bond minus the 3-month bill. The crucial thing is to use a very short-term interest rate. Those two yield spreads are highly correlated. I get nervous when I see people talking about the 10-year minus the 2-year. I got all these emails last week about the 5-year minus the 3-year inverting, saying "Happy Yield-Curve Inversion Day!" An investor can data mine to find a piece of the yield curve—maybe it's the 11½-year minus the 7¾-year—that has an inversion. That doesn't mean anything. I think we need to go with the original un-data-mined theory, which is based on a longer-term rate and a 3-month rate, and the inversion importantly needs to last for a quarter. If it's a day, so what? GDP is measured quarterly, so we need to measure this quarterly also.*

 Jim This is very helpful. Thank you. To reiterate and summarize, we should be looking at the long-term rate versus the short-term rate, and understand that the slope should stay inverted for at least a quarter, and that the recession that follows might be down the road multiple quarters, or even a year or more.

 Cam *That's correct.*

Endnote

* Harvey, Campbell. 1988. "The Real Term Structure and Consumption Growth." Available at SSRN.

CONTACT US

www.researchaffiliates.com

Americas

phone: +1.949.325.8700

email: info@researchaffiliates.com

media: hewesteam@hewescomm.com

Europe

phone: +44 (0) 203 929 9880

email: uk@researchaffiliates.com

media: ra@jpespartners.com

Disclosure

The material contained in this document is for general information purposes only. It is not intended as an offer or a solicitation for the purchase and/or sale of any security, derivative, commodity, or financial instrument, nor is it advice or a recommendation to enter into any transaction. Research results relate only to a hypothetical model of past performance (i.e., a simulation) and not to actual results or historical data of any asset management product. Hypothetical investor accounts depicted are not representative of actual client accounts. No allowance has been made for trading costs or management fees, which would reduce investment performance. Actual results may differ. Simulated data may have under-or-over compensated for the impact, if any, of certain market factors. Simulated returns may not reflect the impact that material economic and market factors might have had on the advisor's decision-making if the advisor were actually managing clients' money. Simulated data is subject to the fact that it is designed with the benefit of hindsight. Simulated returns carry the risk that the performance depicted is not due to successful predictive modeling. Simulated returns cannot predict how an investment strategy will perform in the future. Simulated returns should not be considered indicative of the skill of the advisor. Investors may experience loss. Index returns represent back-tested performance based on rules used in the creation of the index, are not a guarantee of future performance, and are not indicative of any specific investment. Indexes are not managed investment products and cannot be invested in directly. This material is based on information that is considered to be reliable, but Research Affiliates™ and its related entities (collectively "Research Affiliates") make this information available on an "as is" basis without a duty to update, make warranties, express or implied, regarding the accuracy of the information contained herein. Research Affiliates is not responsible for any errors or omissions or for results obtained from the use of this information. Nothing contained in this material is intended to constitute legal, tax, securities, financial or investment advice, nor an opinion regarding the appropriateness of any investment. The information contained in this material should not be acted upon without obtaining advice from a licensed professional. Research Affiliates, LLC, is an investment adviser registered under the Investment Advisors Act of 1940 with the U.S. Securities and Exchange Commission (SEC). Our registration as an investment adviser does not imply a certain level of skill or training.

Investors should be aware of the risks associated with data sources and quantitative processes used to create the content contained herein or the investment management process. Errors may exist in data acquired from third party vendors, the construction or coding of indices or model portfolios, and the construction of the spreadsheets, results or information provided. Research Affiliates takes reasonable steps to eliminate or mitigate errors, and to identify data and process errors so as to minimize the potential impact of such errors, however Research Affiliates cannot guarantee that such errors will not occur. Use of this material is conditioned upon, and evidence of, the user's full release of Research Affiliates from any liability or responsibility for any damages that may result from any errors herein.

The trademarks Fundamental Index™, RAFI™, Research Affiliates Equity™, RAE™, and the Research Affiliates™ trademark and corporate name and all related logos are the exclusive intellectual property of Research Affiliates, LLC and in some cases are registered trademarks in the U.S. and other countries. Various features of the Fundamental Index™ methodology, including an accounting data-based non-capitalization data processing system and method for creating and weighting an index of securities, are protected by various patents, and patent-pending intellectual property of Research Affiliates, LLC. (See all applicable US Patents, Patent Publications, Patent Pending intellectual property and protected trademarks located at <http://www.researchaffiliates.com/Pages/legal.aspx>, which are fully incorporated herein.) Any use of these trademarks, logos, patented or patent pending methodologies without the prior written permission of Research Affiliates, LLC, is expressly prohibited. Research Affiliates, LLC, reserves the right to take any and all necessary action to preserve all of its rights, title, and interest in and to these marks, patents or pending patents.

The views and opinions expressed are those of the author and not necessarily those of Research Affiliates, LLC. The opinions are subject to change without notice.

©2019 Research Affiliates, LLC. All rights reserved.