

Tim Duy's **Fed Watch**

FEBRUARY 27, 2019

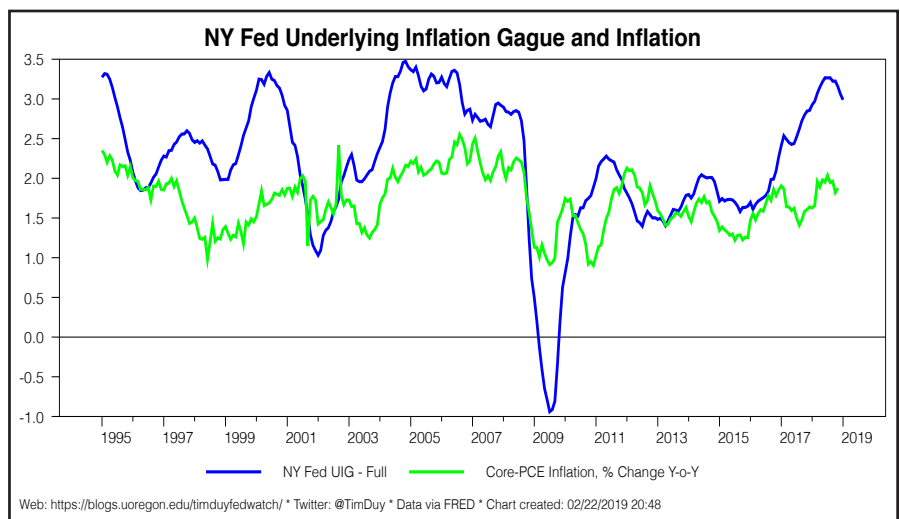
What Can We Learn From The New York Fed's Underlying Inflation Gauge?

Working on examples for a class, I stumbled upon one with implications for market participants. Specifically, what has the New York Federal Reserve's Underlying Inflation Gauge (UIG) been telling us? The answer is somewhat surprising. **It does provide new information about the path of core-inflation. Still, even at its height it wasn't predictive of any worrisome inflation. There are two interpretations. One is that you ignore the UIG, the other is that you embrace the predictions of low inflation. I pick the latter interpretation.**

The [New York Fed UIG](#) is an effort to capture the underlying trend in inflation. An attractive feature of the UIG is that its construction utilizes a wide array of financial and economic variables; The "full-data-set" version is based on 346 monthly, weekly, and daily series. This allows it to capture a number of factors such as, for example, tighter labor markets that may influence the path of core inflation. The objective is to add information to our traditional measures of core-inflation as those measures arguably exclude important information that might shape our inflation forecast.

Last year the UIG created angst within some quarters of the investment community as it rose to highs last seen prior to the Great Recession. Examples can be found in the news [here](#), [here](#), [here](#), and [here](#). Neil Dutta of Renaissance Macro Research, however, [argued prior to the highs](#) in the UIG that "...if loose financial conditions and stronger growth do little to move price inflation, perhaps the premise of those who rely on UIG to claim inflation will turn up is flawed."

With this in mind, I set out to understand a bit more about



the dynamics between the UIG and inflation. While the UIG is presented along with year-over-year core CPI inflation, I focus on year-over-year core PCE inflation because the latter is the Fed's preferred inflation measure (technically, the Fed targets headline inflation but use core as a predictor of the likely path of headline inflation). I also use the "full-data-set" version of the UIG as it received the most press last year and I am interested in the importance of the wider range of variables in predicting inflation.

Visually, the turning points of the UIG correspond to turning points of core-inflation. Moreover, high values of the UIG have corresponded to inflation rates in excess of the Fed's 2% target. This is more easily seen in a scatterplot.

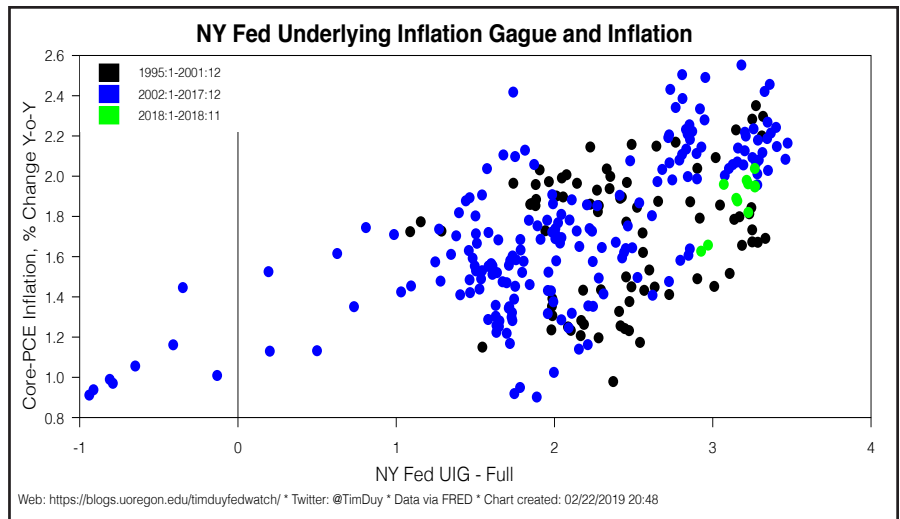
What I want to know is a.) does a change in the UIG predict a change in core-inflation and b.) what does the UIG say about the inflation forecast? To get at these issues I set up a simple two-variable vector autoregression with six lags. The Granger causality tests indicate that the UIG and inflation both have an impact on inflation but inflation does not have an impact on the UIG. That suggests a shock to the UIG will have an impact on inflation but not vice-versa, which is what the impulse response function show.

Roughly, a 0.07 percentage point shock to the UIG will be translated into an equal shock to core-inflation after three months (right hand charts). Moreover, the impact on core-inflation is fairly persistent (upper right chart). Shocks to core-inflation are not persistent and dissipate over the next twelve months (upper left chart) while having very little impact on the UIG (lower left chart). These basic results are not very sensitive to the choice of lag length, but lag lengths beyond 12 months tend to result in models where the cycles overrun each other and are not particularly instructive.

I find these results reassuring in that they suggest the UIG does capture factors that have a persistent impact on core-inflation. That said, has the magnitude of shocks been sufficient to heighten inflation concerns? To get at that question, I compute the 24-month inflation forecasts from the model for each month beginning with 2017:1 and ending 2018:11 (using recursive regressions that re-estimate the model each month). Those forecasts (see next page) all point toward inflation settling into a range of 1.7-1.8%. In other words, adding the UIG to the inflation forecast has indicated for the past two year that inflation will fall short of the Fed's target.

I think these results point toward the strength of the mean reverting properties of inflation in recent years as inflation expectations have become more entrenched and the Phillips curve less pronounced.

Bottom Line: The New York Fed UIG appears to provide new information about the direction of inflation but that information for the past two years has indicated inflation below the Fed's target.

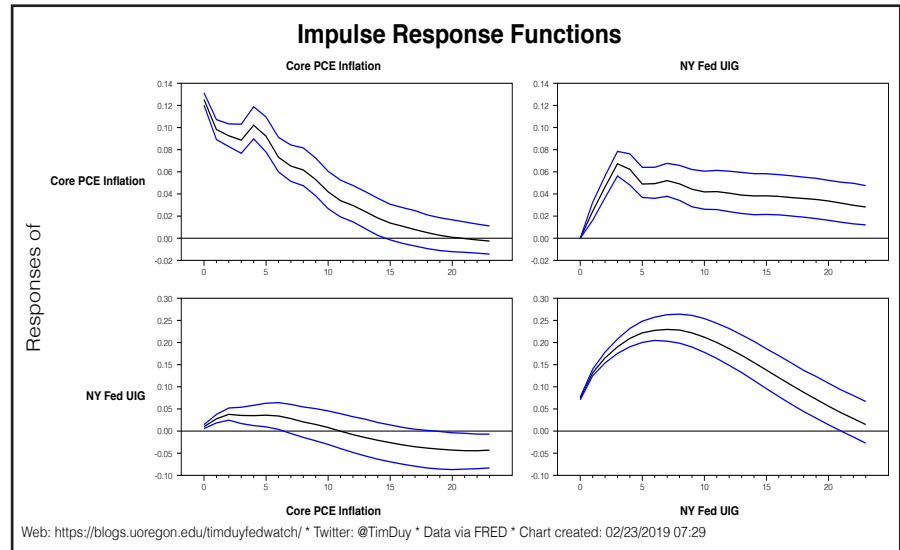


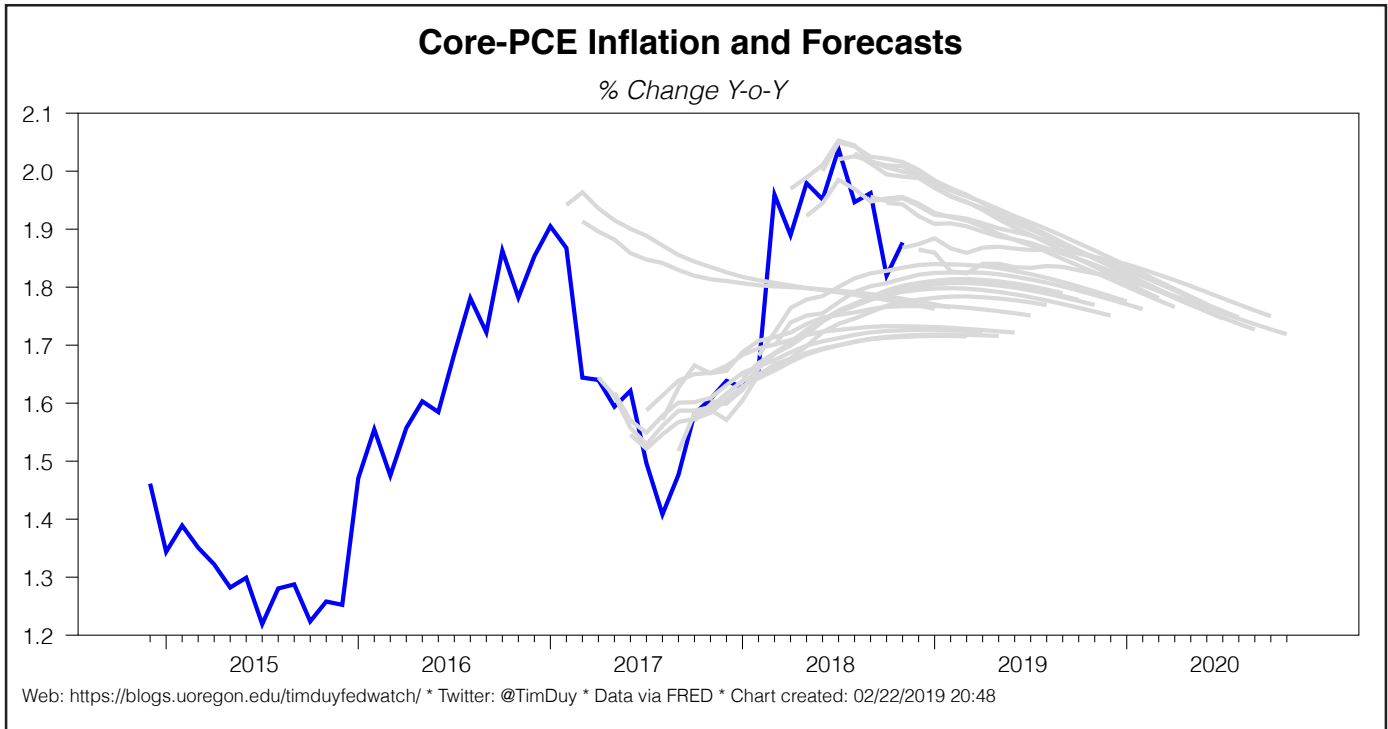
F-Tests, Dependent Variable COREPCEYOY

Variable	F-Statistic	Signif
COREPCEYOY	184.6888	0.000000
NYFULL	6.7660	0.000011

F-Tests, Dependent Variable NYFULL

Variable	F-Statistic	Signif
COREPCEYOY	1.7201	0.1163978
NYFULL	3729.2323	0.000000






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Professor Duy received his B.A. in Economics in 1991 from the University of Puget Sound, and his M.S. and Ph.D. in Economics in 1998 from the University of Oregon. Following graduate school, Tim worked in Washington, D.C. for the United States Department of Treasury as an economist in the International Affairs division and later with the G7 Group, a political and economic consultancy for clients in the financial industry. In the latter position, he was responsible for monitoring the activities of the Federal Reserve and currency markets. Tim returned to the University of Oregon in 2002. He is the Senior Director of the Oregon Economic Forum and the author of the University of Oregon Statewide Economic Indicators, Regional Economic Indicators, and the Central Oregon Business Index.

Tim has published in the *Journal of Economics and Business* and is currently a member of the Oregon Governor's Council of Economic Advisors and the State Debt Policy Advisory Commission. Tim is a prominent commentator on the Federal Reserve. MarketWatch describes his blog as "influential." The Huffington Post identified him as one of the top 26 economists to follow on Twitter, and he is listed on StreetEye as one of the top 100 people to follow to discover finance news on Twitter. Major national and international news outlets frequently quote him, including the *New York Times*, the *Washington Post*, the *Financial Times*, the *Wall Street Journal*, and *Bloomberg*. He also writes a regular column for *Bloomberg Prophets*.

Notice: This newsletter is commentary, not investment advice.

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