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A Successful Normalization, With Challenges Ahead

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*Any opinions expressed here are my own and do not necessarily reflect those of the
Federal Open Market Committee.*

Introduction

A successful normalization

- The Federal Open Market Committee (FOMC) indicated at its most recent meeting that, if the economy evolves about as expected, the current level of the policy rate—the federal funds rate target range—will be appropriate through 2019.
- The FOMC also indicated that the Fed’s balance sheet reduction program will end this autumn.
- These events mark the end of monetary policy normalization in the U.S.
- The campaign has been largely successful: Nominal short-term interest rates have been raised from near-zero levels, and the size of the Fed’s balance sheet has been reduced as the economic expansion has continued.

An appropriate stopping point

- The end of normalization has occurred in an environment with interest rates still low by U.S. postwar standards and the balance sheet still relatively large compared to pre-crisis levels.
- However, current rates in the U.S. are relatively high compared with those in Europe and Japan, where negative rates remain the norm.
- The Fed's balance sheet cannot return to its pre-crisis level because of developments in currency demand, the Treasury's general account and reserve demand driven by Dodd-Frank regulatory requirements.
- Given these considerations, the FOMC's recent judgement to end the normalization program is likely appropriate.

Monetary policy going forward

- While normalization has come to an end, the conduct of monetary policy itself has not.
- The FOMC may elect to adjust monetary policy going forward, but any such adjustments would be in response to incoming macroeconomic data and not part of an ongoing normalization strategy.
- In this talk, I will discuss macroeconomic challenges that the FOMC faces during 2019.

Challenges ahead

- The FOMC may miss its inflation target on the low side in 2019 based on current readings of market-based inflation expectations, following seven years of inflation mostly below target.
- The U.S. labor market is performing well, but feedback from labor markets to inflation is very weak.
- The Treasury yield curve has flattened significantly, and a meaningful and sustained yield curve inversion would send a bearish signal for the U.S. economy.

Market-Based Inflation Expectations Are Low

The importance of inflation expectations

- The FOMC has a stated inflation target of 2 percent.
- An important component of monetary policy is to be able to keep the actual inflation rate close to the target.
- In this quest, inflation expectations are both an important theoretical variable and also an important market-based evaluation of current monetary policy.

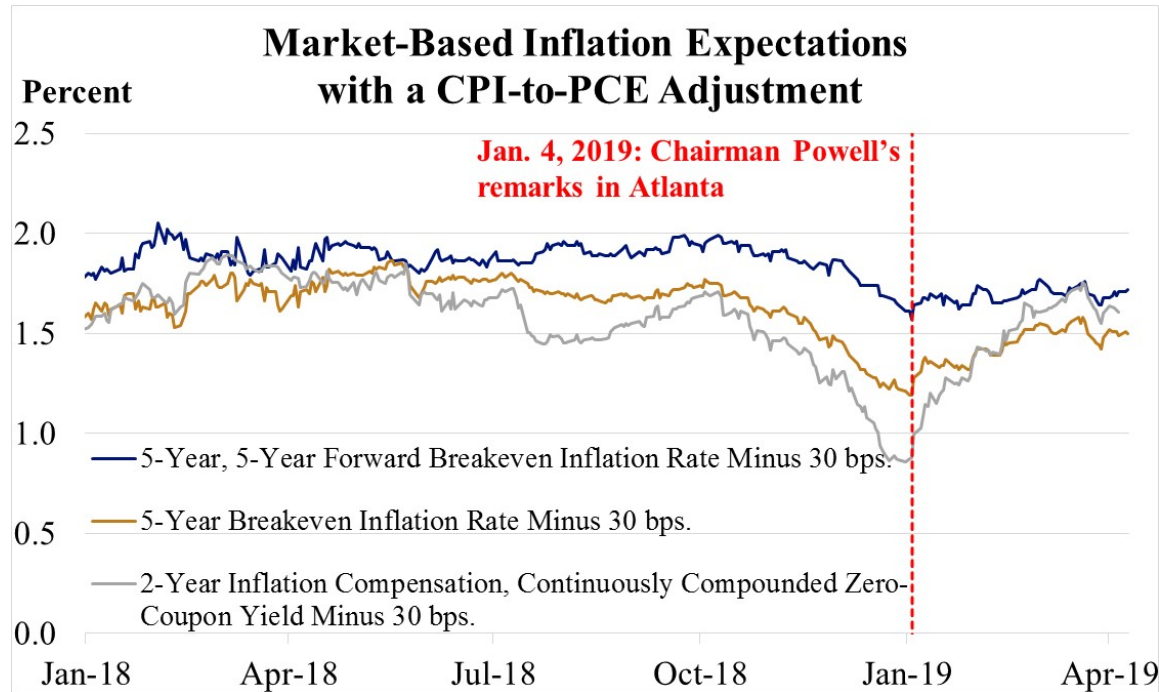
Market-based inflation expectations

- Market-based measures of inflation expectations provide an important benchmark for current monetary policy.
- Inflation-protected securities trade based on consumer price index (CPI) inflation, whereas the FOMC prefers to target personal consumption expenditures (PCE) inflation.
- Accordingly, we subtract 30 basis points from market-based measures of inflation expectations to roughly translate to a PCE inflation basis.

Inflation expectations remain subdued

- The FOMC has missed its PCE inflation target for much of the period since 2012.
 - PCE inflation has averaged just 1.41 percent since January 2012.
- Market-based measures of inflation expectations suggest that financial markets believe the FOMC will again miss its PCE inflation target to the low side in 2019 and, indeed, for the next five years.
- These expectations take into account all available information affecting the likely evolution of inflation going forward.

Real-time inflation expectations are low



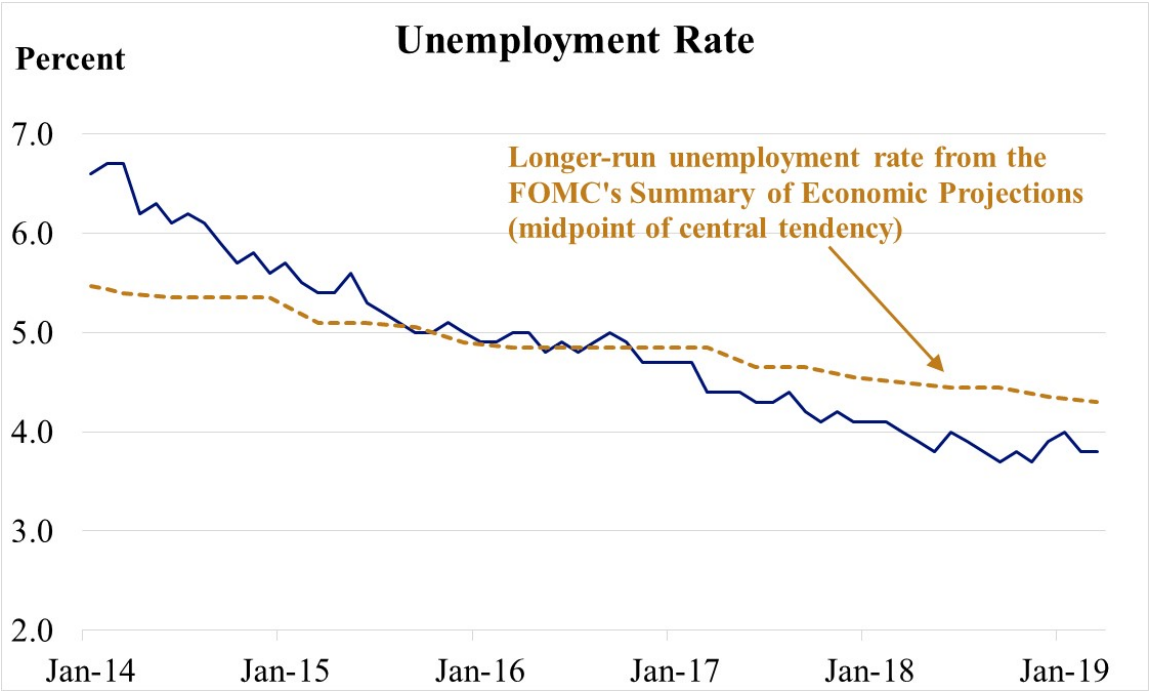
Sources: Federal Reserve Board and author's calculations. Last observations: April 9 and April 5, 2019.

Feedback from Labor Markets to Inflation Is Weak

Phillips curve correlations are weak

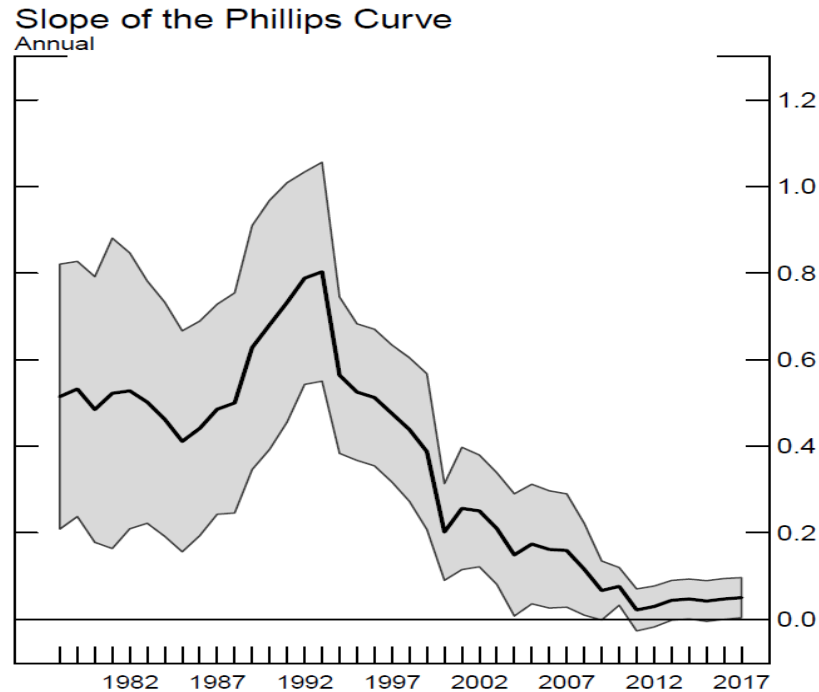
- Many have argued that inflation is coming because labor markets are strong.
- U.S. monetary policymakers and financial market participants have long relied on the Phillips curve—the correlation between labor market outcomes and inflation—to guide monetary policy.
- However, these correlations have broken down during the last two decades, so they no longer provide a reliable signal.
- Policymakers have to look elsewhere to discern the most likely direction for inflation.

Labor markets are performing well



Sources: Bureau of Labor Statistics and Federal Reserve Board. Last observation: March 2019.

... but feedback to inflation is weak



Source: J.H. Powell, "[Monetary Policy and Risk Management at a Time of Low Inflation and Low Unemployment](#)," remarks delivered at the 60th Annual NABE Meeting "Revolution or Evolution? Reexamining Economic Paradigms," Boston, Mass., Oct. 2, 2018. Last observation: 2017. Note: Rolling 20-year window estimates and confidence bands; negative of the Phillips curve slope portrayed.

The Phillips curve breakdown

- It is no longer enough to merely cite strong labor markets and simply assert that inflation must be around the corner.
- Theoretical Phillips curves may still exist—this is what the academic literature is talking about—even when empirical Phillips curves have disappeared.*
- This is a key issue for central banks in the modern era.

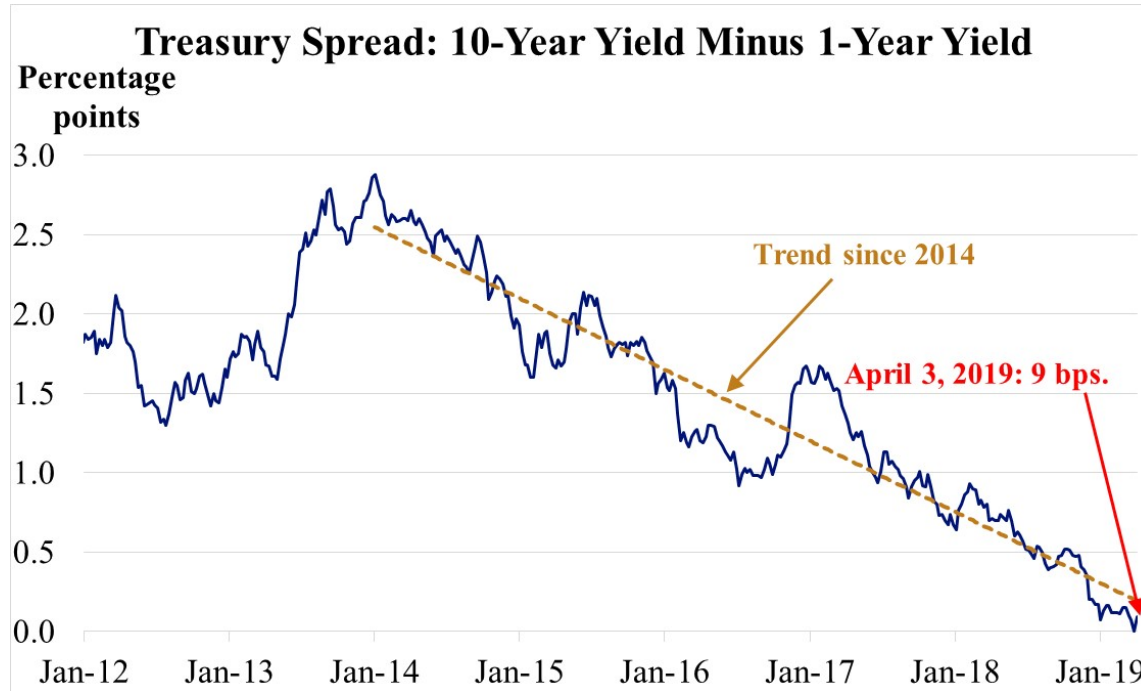
* See M. McLeay and S. Tenreyro, "[Optimal Inflation and the Identification of the Phillips Curve](#)," London School of Economics, unpublished manuscript, January 2019.

Meaningful and Sustained Yield Curve Inversion Threatening

Yield curve issues

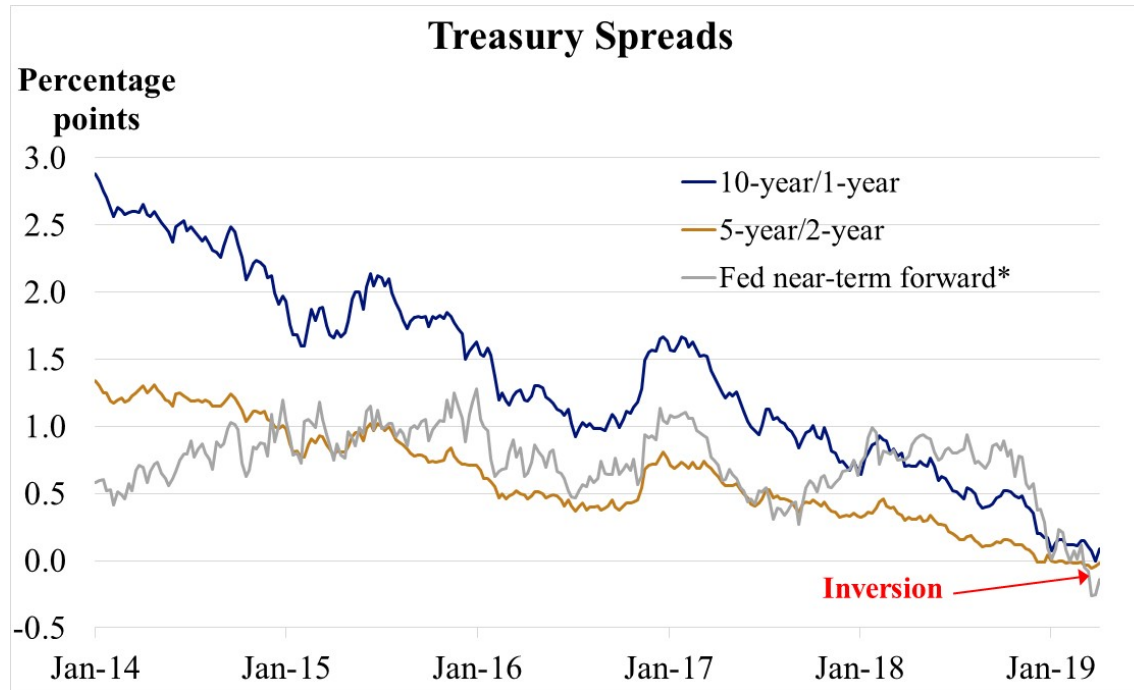
- A meaningful and sustained inversion of the Treasury yield curve would be a bearish signal for the U.S. economy.
- An inversion would suggest that financial markets expect less inflation and less growth ahead for the U.S. economy than does the FOMC, which influences the short end of the curve.
- Inversions have been associated with recessions in the postwar U.S. data.

The yield curve has been flattening



Sources: Federal Reserve Board and author's calculations. Last observation: Week of April 3, 2019.

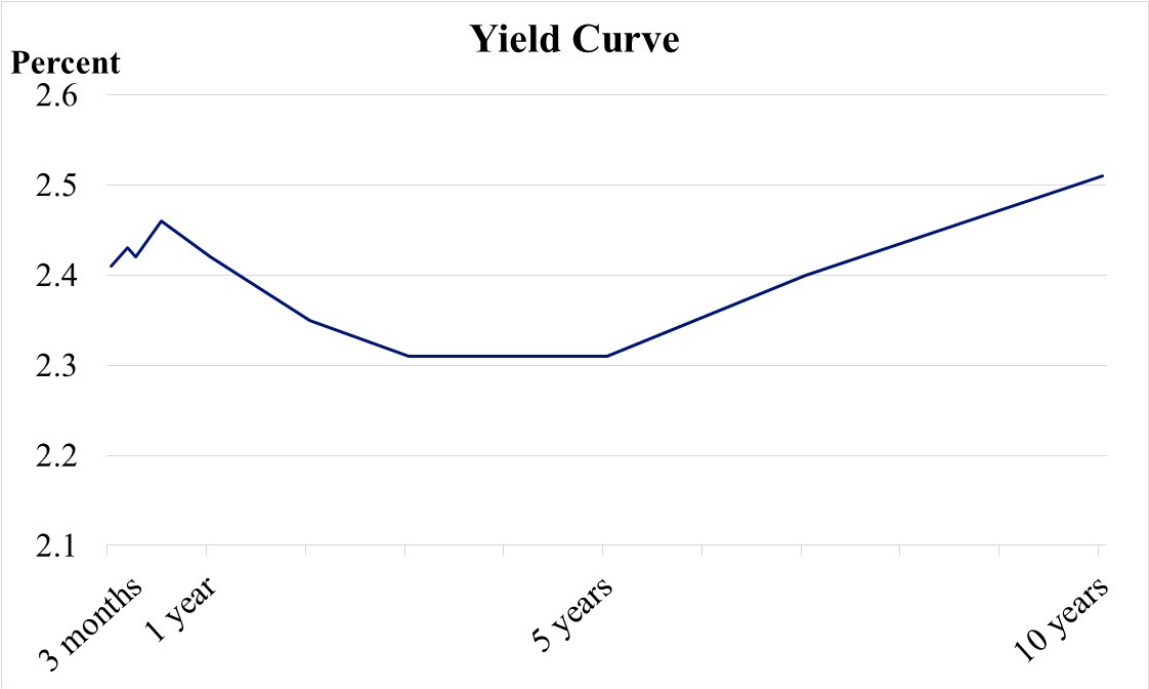
Various measures are all trending toward inversion



Sources: Federal Reserve Board, Bloomberg and author's calculations. Last observation: Week of April 3, 2019.

* For details, see E. Engstrom and S. Sharpe, "[The Near-Term Forward Yield Spread as a Leading Indicator: A Less Distorted Mirror](#)," Federal Reserve Board FEDS Working Paper No. 2018-055, July 2018.

The current yield curve in the U.S.



Sources: Federal Reserve Bank of New York and U.S. Treasury. Observation: April 9, 2019.

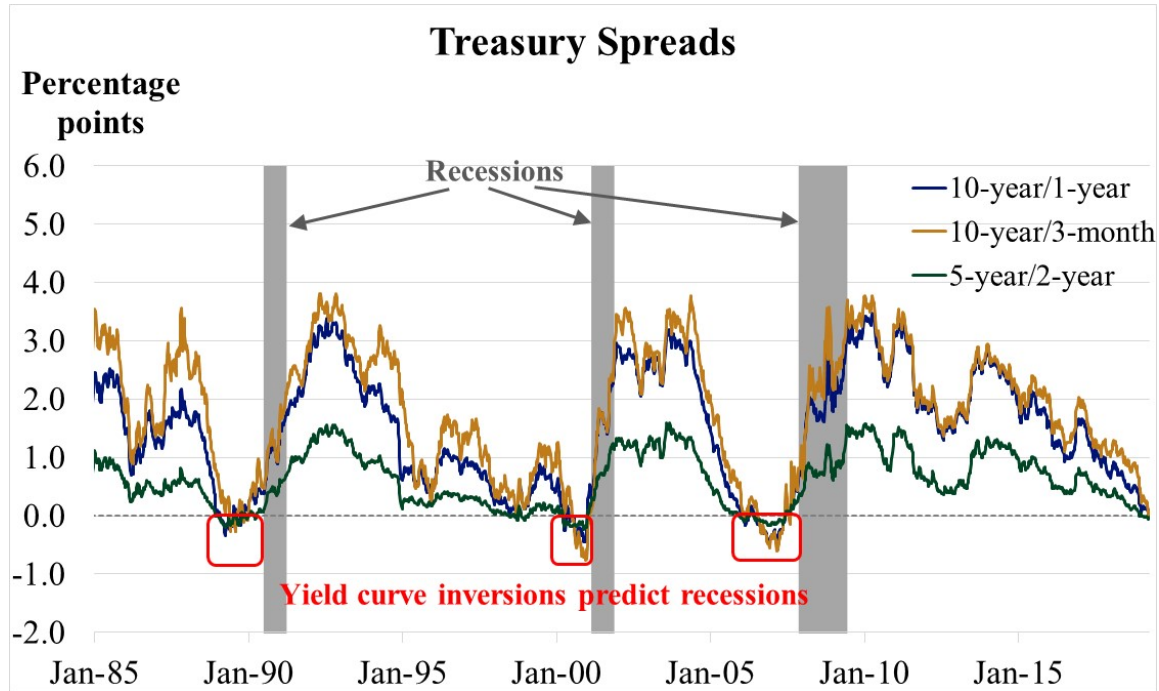
Consequences of an Inverted U.S. Yield Curve

The yield curve and forecasting

- The slope of the yield curve is considered a good predictor of future real economic activity in the U.S.*
- This is true both in empirical academic research and in more casual assessments, such as the next chart.
- Various term spreads tend to be highly correlated, so different measures tend to support a similar broad macroeconomic interpretation.
- The 10-year Treasury yield is a bellwether rate determined mostly by market forces, and the one-year is closely related to Fed policy. An inversion suggests a very different outlook at the Fed versus in the market.

* For example, see A. Estrella and G.A. Hardouvelis, "[The Term Structure as a Predictor of Real Economic Activity](#)," *Journal of Finance*, June 1991, 46(2), 555–76, and J.H. Wright, "[The Yield Curve and Predicting Recessions](#)," *Federal Reserve Board FEDS Working Paper No. 2006-07*, February 2006.

An inverted yield curve helps predict recessions



Sources: Federal Reserve Board and author's calculations. Last observation: Week of April 3, 2019.
The shaded areas indicate NBER recessions.

Caveats on the empirical evidence

- The empirical proposition that an inverted yield curve helps predict recessions makes sense to the extent that lower longer-term nominal interest rates may be a harbinger of both lower growth prospects and lower inflation in the future.
- To be sure, yield curve information is not infallible, and inversion could be driven by other factors unrelated to future macroeconomic performance.
- Nevertheless, the empirical evidence is relatively strong. Therefore, both policymakers and market professionals need to take the possibility of a meaningful and sustained yield curve inversion seriously.

Conclusion

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- The FOMC's normalization program has come to a close at an appropriate point.
- Going forward, the FOMC may adjust monetary policy, but any changes would be in response to incoming macroeconomic data and not part of an ongoing normalization strategy.
- The FOMC faces challenges, in that inflation expectations remain somewhat low and parts of the Treasury yield curve are inverted.
- These market-based signals indicate that the FOMC needs to tread carefully going forward in order to sustain the economic expansion.



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