FEDERAL RESERVE BANK of ST. LOUIS

CENTRAL TO AMERICA'S ECONOMY®

What Is the Best Strategy for Extending the U.S. Economy's Expansion?

James Bullard
President and CEO

CFA Society Chicago—Distinguished Speaker Series Breakfast

Sept. 12, 2018
Chicago, Ill.

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

Introduction

Main idea

- In this talk, I will discuss a possible strategy for extending the U.S. economic expansion.
- My preferred approach relies on placing more weight on market signals than has been customary in past U.S. monetary policy strategy.
- By "market signals," I am explicitly referring to information from the yield curve and from market-based measures of inflation expectations.

Key themes in this talk

- Empirical Phillips curve relationships have largely broken down in the last two decades, leaving monetary policymakers without a clear guidepost for action.
- To compensate, policymakers should now put more weight on financial market signals, such as the slope of the yield curve and market-based inflation expectations.
- Handled properly, these signals could help the Federal Open Market Committee (FOMC) better identify the neutral policy rate and possibly extend the U.S. economic expansion.

The Disappearing Phillips Curve

The inflation targeting era

- Around 1995, the U.S. inflation rate reached 2 percent, and U.S inflation expectations stabilized near that value.
- I interpret this as the U.S. having an implicit inflation target of 2 percent after 1995—the inflation targeting era—whereas inflation expectations were not as well anchored prior to that date.*

**The FOMC named an explicit inflation target of 2 percent in January 2012, but I am arguing that the Committee behaved as if it had a 2 percent target well before that date.*

The disappearing Phillips curve

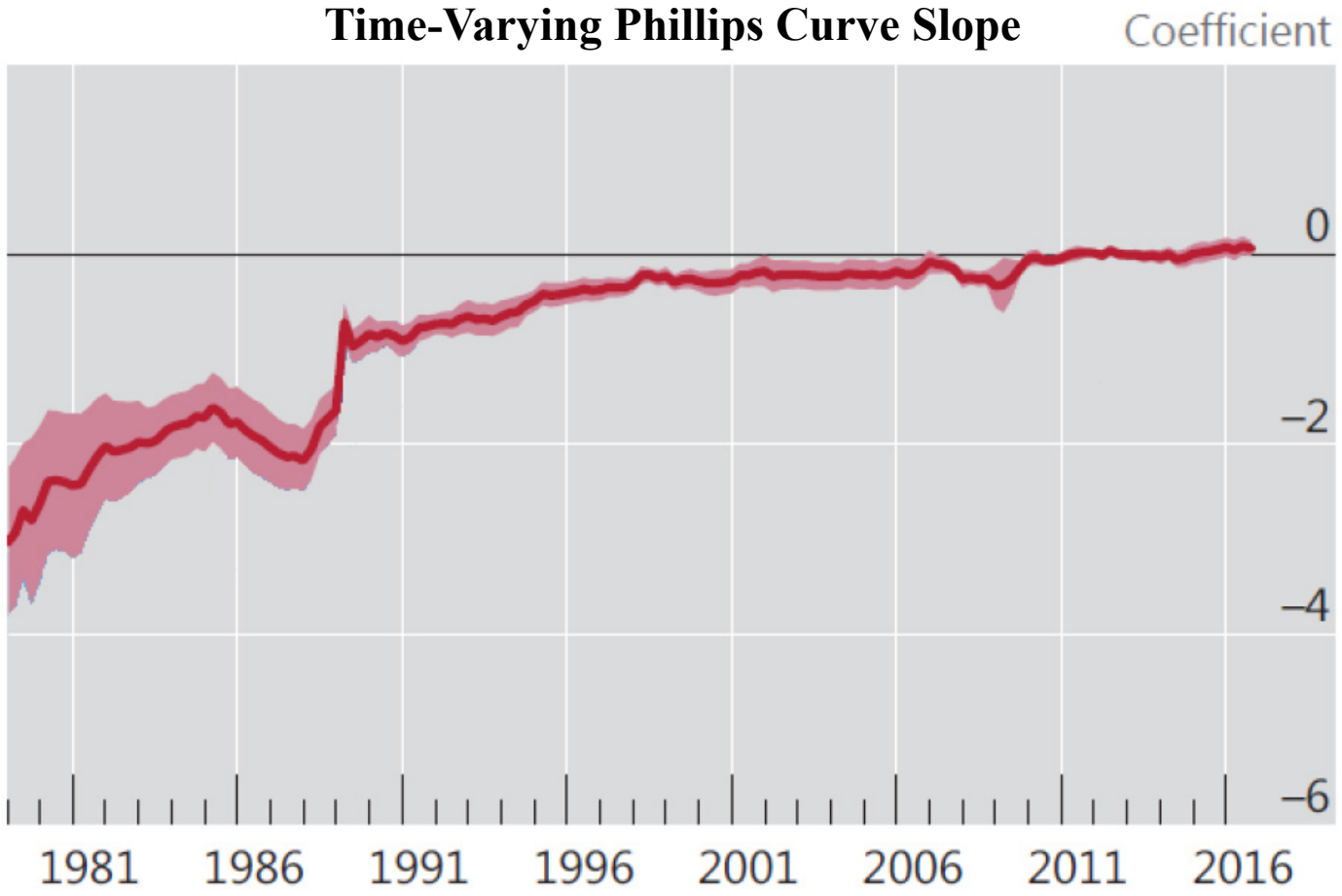
- The post-1995 time frame in the U.S. coincides with a global movement among central banks toward inflation targeting that began in the early 1990s.
- During this period, the 2 percent inflation target became an international standard.
- Once inflation expectations began to stabilize around this international standard, the empirical relationship between inflation and unemployment—the so-called "Phillips curve"—began to disappear. That relationship had previously been prominent.*

** See J. Bullard, "The Case of the Disappearing Phillips Curve," Remarks delivered at the 2018 ECB Forum on Central Banking, Sintra, Portugal, June 19, 2018.*

Empirical evidence on the Phillips curve

- The following chart shows the coefficient on a measure of resource slack (unemployment) in a regression of price inflation on resource utilization.
  - The analysis is contained in the 2016/17 BIS annual report.
  - The data are for a panel of G-7 economies.
  - The coefficient is estimated for rolling 15-year samples, from the 1980s to the present.
  - The point estimate is a weighted average across economies.
- The main idea of the chart is that the slope of the Phillips curve was once negative but has been drifting toward zero in the inflation targeting era. The coefficient has not been different from zero in recent years.

Flattening in G-7 economies



Source: Bank for International Settlements (2017).

Current monetary policy strategy

- The conventional wisdom in current U.S. monetary policy is based on the Phillips curve and suggests that the policy rate should continue to rise in order to contain any increase in inflationary pressures.
- However, in the current era of inflation targeting, neither low unemployment nor faster real GDP growth gives a reliable signal of inflationary pressure because those empirical relationships have broken down.
- Continuing to raise the policy rate in such an environment could cause the FOMC to go too far, raising recession risk unnecessarily.
- What can be done?

Using Financial Market Signals: The Yield Curve

An alternative set of signals

- An alternative to the Phillips curve is to place more emphasis than usual on financial market information.
- Generally speaking, financial market information suggests that current monetary policy is neutral or even somewhat restrictive today.
- Specifically, the yield curve is quite flat, and market-based inflation expectations, adjusted to a personal consumption expenditures (PCE) basis, remain somewhat below the FOMC's 2 percent target.
- Financial market information suggests the policy rate path in the June 2018 Summary of Economic Projections (SEP) is too hawkish for the current macroeconomic environment.

Nominal yield curve flattening

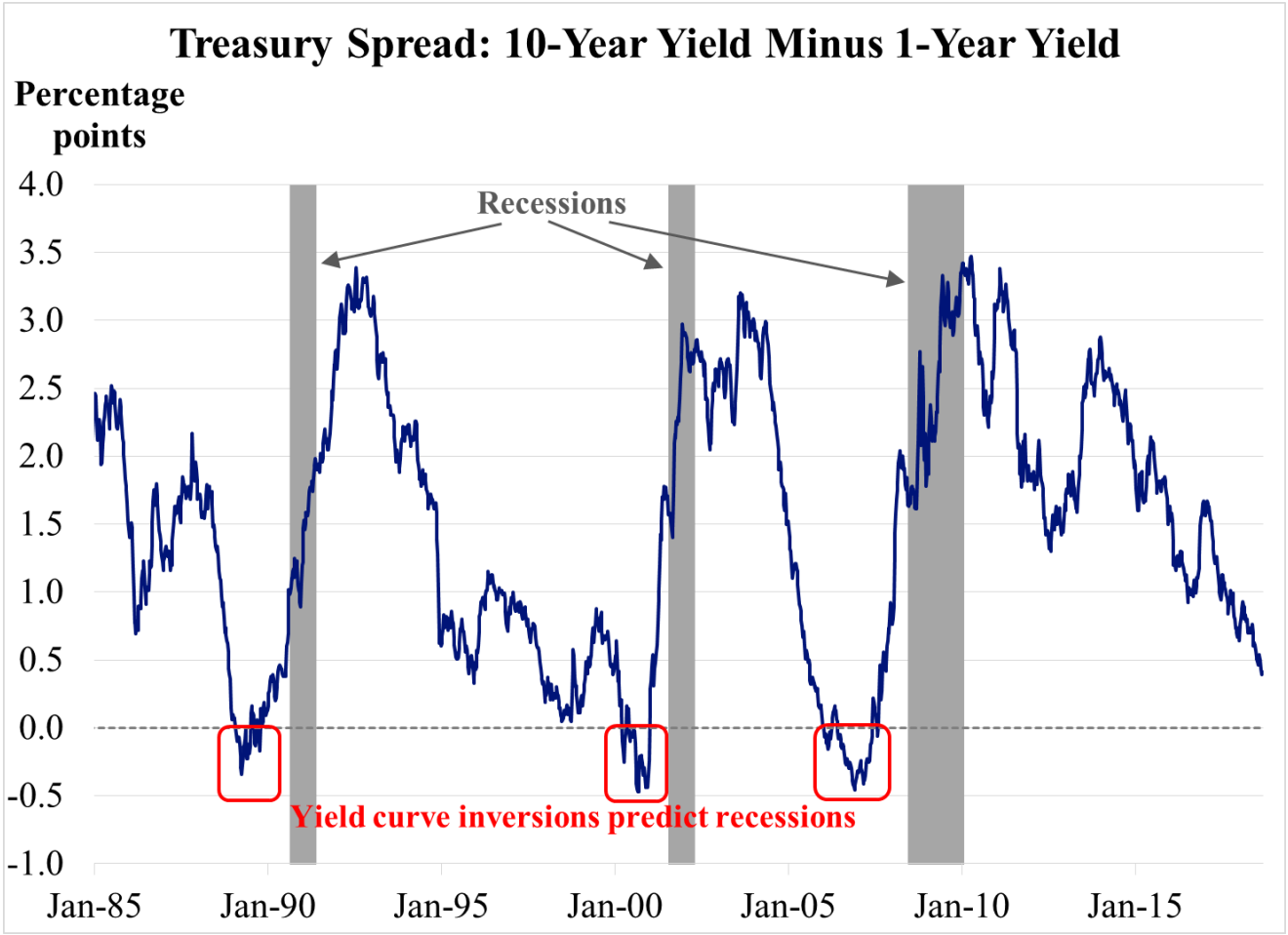
Sources: Federal Reserve Board and author's calculations. Last observation: Week of Sept. 5, 2018.

Slope of the yield curve as a predictor of economic activity

- 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.

** 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," FEDS Working Paper No. 2006-07, February 2006. A. Estrella's bibliography provides a comprehensive list of references on the topic.*

An inverted yield curve helps predict recessions



Sources: Federal Reserve Board and author's calculations. Last observation: Week of Sept. 5, 2018.
The shaded areas indicate NBER recessions.

Alternative term spreads

- One could consider alternative term spreads and other information.*
- However, various term spreads tend to be highly correlated, so switching to somewhat different measures tends not to change the 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.

** See P. Johansson and A. Meldrum, "Predicting Recession Probabilities Using the Slope of the Yield Curve," FEDS Notes, March 1, 2018.*

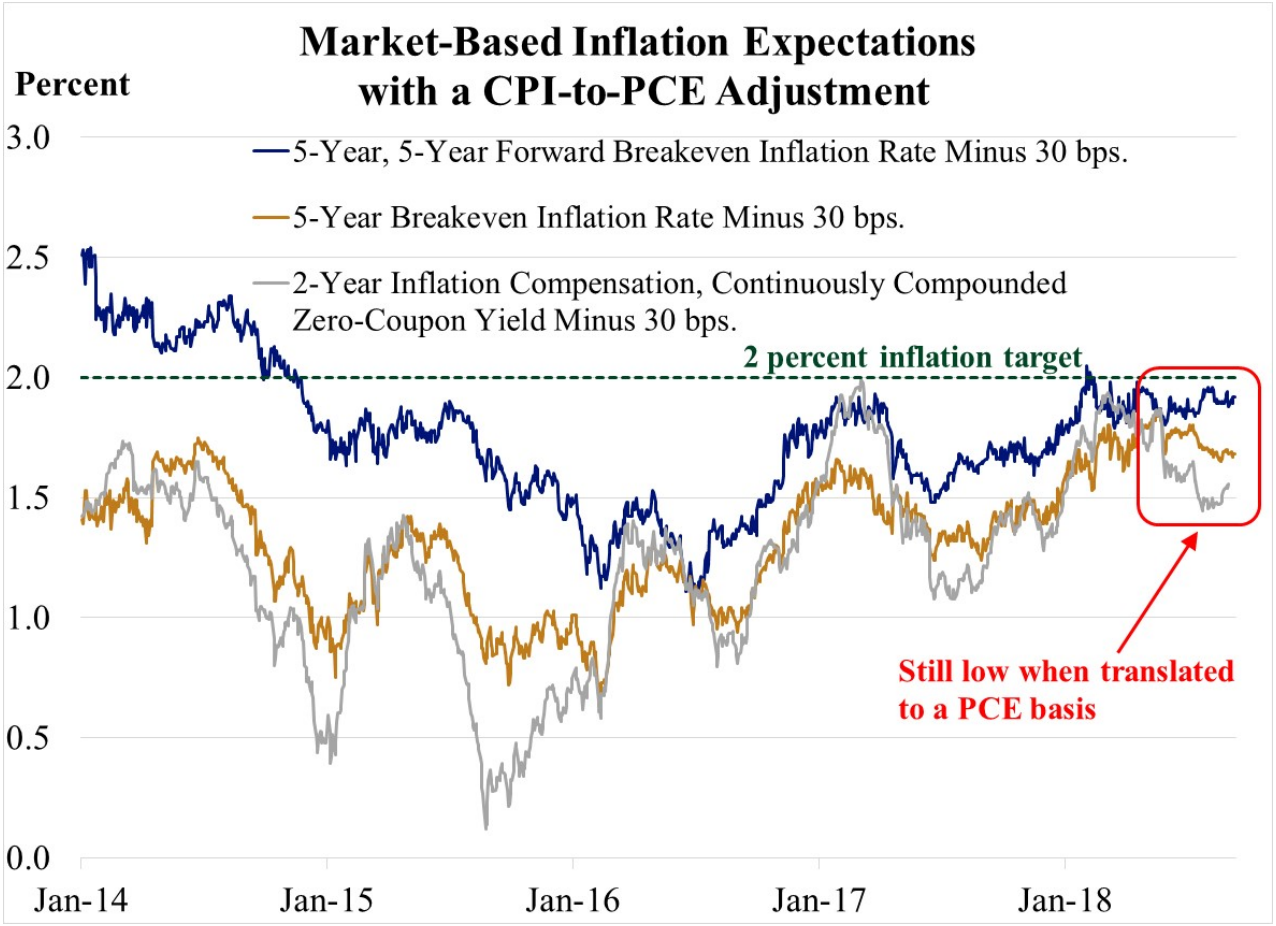
Using Financial Market Signals: Market-Based Inflation Expectations

Market-based inflation expectations

- The inflation compensation derived from Treasury Inflation-Protected Securities (TIPS) is based on headline consumer price index (CPI) inflation.
- The FOMC's 2 percent inflation target is in terms of the annual change in the price index for PCE.
- Historically, CPI inflation has run somewhat higher than PCE inflation, with an adjustment of about 30 basis points at an annual rate.*
- Other factors can influence TIPS-based expected inflation.

** This adjustment is conservative. The difference between CPI and PCE inflation since January 1960 was, on average, 46 basis points.*

Inflation expectations remain low



Source: Federal Reserve Board. Last observations: Sept. 10 (breakeven inflation rates) and Aug. 31, 2018.

The message from financial markets

- The yield curve information suggests that financial markets do not see excessive real growth or excessive inflationary pressure over the forecast horizon.
- The TIPS-based inflation compensation data suggest that markets do not expect the FOMC to achieve the 2 percent inflation target on average on a PCE basis over the next decade.

Strengths and Weaknesses of Financial Market Information

A forward-looking strategy

- More directly emphasizing financial market information naturally constitutes a forward-looking monetary policy strategy.
- One of the great strengths of financial market information is that markets are forward-looking and have taken into account all available information when determining prices.
- Thus, markets have made a judgment on the effects of the fiscal package in the U.S., ongoing trade discussions, developments in emerging markets, and a myriad of other factors in determining current prices.

Financial markets and the Fed

- Financial markets are also pricing in future Fed policy, which creates some feedback to actual Fed policy if policymakers are taking signals from financial markets.
- This has to be handled carefully: Ideally, there would be a fixed point between Fed communications and market-based expectations of future Fed policy, i.e., the two would be close to each other.
- Generally speaking, markets have currently priced in a more dovish policy than indicated by the FOMC's SEP—they expect the Committee to be more dovish than announced but still not enough to achieve the inflation target!

Caveats on financial market signals

- To be sure, financial market information is not infallible, and markets can only do so much in attempting to predict future macroeconomic performance.
- Nevertheless, the empirical evidence on yield curve inversion in the U.S. is relatively strong, and TIPS-based inflation expectations have generally been correct in predicting subdued inflationary pressures in recent years.
- Therefore, both policymakers and market professionals need to take these financial market signals seriously.

Risks and Opportunities

Risks

- Yield curve inversion would likely increase the vulnerability of the economy to recession.
- An inflation outbreak is possible but seems unlikely at this point. By closely monitoring market-based inflation expectations, the FOMC can keep inflationary pressure under close surveillance.
- Financial stability risks are generally considered moderate at this juncture. Arguably, these are being addressed through Dodd-Frank and related initiatives, including stress testing.

Opportunities

- The current expansion dating from the 2007-2009 recession has been long and subdued on average. The slow pace of growth suggests the expansion could have much further to go.
- The strong performance of current labor markets could entice marginally attached workers back to work, increasing skills and enhancing resiliency before the next downturn.

Uncertainty

- Another long-standing issue in macroeconomics is how to think about parameter uncertainty, or more broadly, model uncertainty.
- Brainard (1967) suggested that when model parameters are in doubt, policy should be more cautious than otherwise.*
- Hansen and Sargent (2008) suggested that, in some cases, policymakers may want to be more aggressive than otherwise.†
- This remains an important unresolved issue, but how to handle parameter uncertainty has been a concern for the FOMC for years.

* *W.C. Brainard, "Uncertainty and the Effectiveness of Monetary Policy,"* American Economic Review, *May 1967, 57(2), 411–25.*
† *See L.P Hansen and T.J. Sargent,* Robustness, *Princeton University Press, 2008, R. Tetlow, "The Monetary Policy Response to Uncertain Inflation Persistence,"* FEDS Notes, *Aug. 29, 2018, and C. Erceg et al., "Some Implications of Uncertainty and Misperception for Monetary Policy," FEDS Working Paper No. 2018-59, Aug. 9, 2018.*

Conclusion

Conclusion

- U.S. monetary policymakers should put more weight than usual on financial market signals in the current macroeconomic environment due to the breakdown of the empirical Phillips curve.
- Handled properly, current financial market information can provide the basis for a better forward-looking monetary policy strategy.
- The flattening yield curve and subdued market-based inflation expectations suggest that the current monetary policy stance is already neutral or possibly somewhat restrictive.

FEDERAL RESERVE BANK of ST. LOUIS

Connect With Us

James Bullard
stlouisfed.org/from-the-president

STLOUISFED.ORG

Federal Reserve Economic Data (FRED)
Thousands of data series, millions of users

Blogs and Publications
News and views about the economy and the Fed

Economic Education Resources
For every stage of life

Community Development
Promoting financial stability of families, neighborhoods

SOCIAL MEDIA

ECONOMY MUSEUM

ECONOMY MUSEUM
AT THE ST. LOUIS FED