FEDERAL RESERVE BANK *of* ST. LOUIS

A Primer on Price Level Targeting in the U.S.

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

Introduction

Key themes in this talk

- U.S. inflation surprised to the downside in 2017, spurring talk of whether Fed models require updating.
- One possible update would be to consider "price level targeting."
- In this talk, I will define price level targeting and discuss some features of this framework.
- While price level targeting has been considered and could continue to be considered as a policy option by the Federal Open Market Committee (FOMC), it would likely take a lot of careful preparation and debate before any changes could be made.

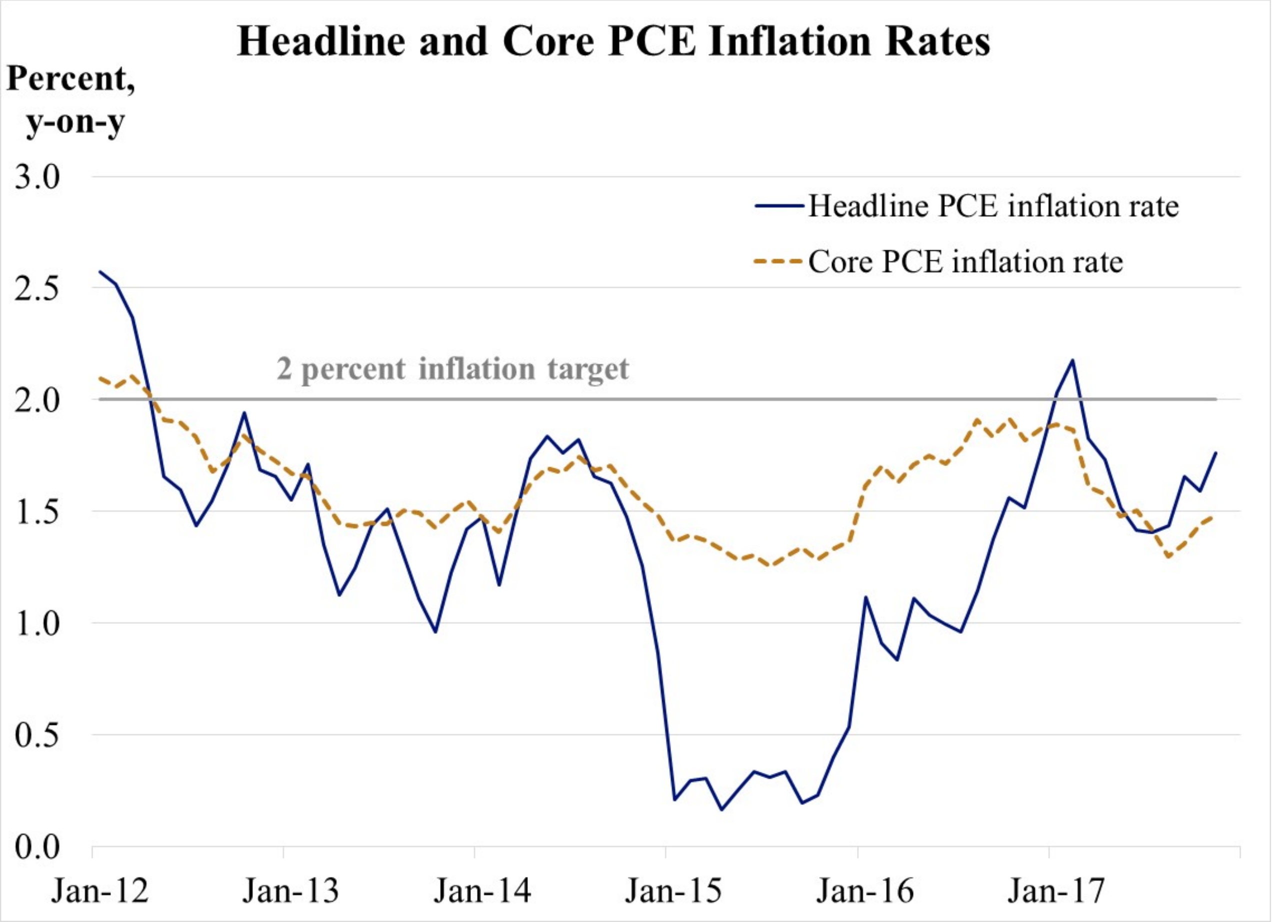
Context:
A Downside Inflation Surprise in 2017

The 2017 inflation surprise

- The U.S. inflation rate has mostly been below the 2 percent inflation target since 2012.*
- Inflation data during 2017 surprised to the downside in an environment of low unemployment and accommodative monetary policy.
- This has led to reflection within monetary policy circles on possible new approaches to hitting and maintaining the inflation target.

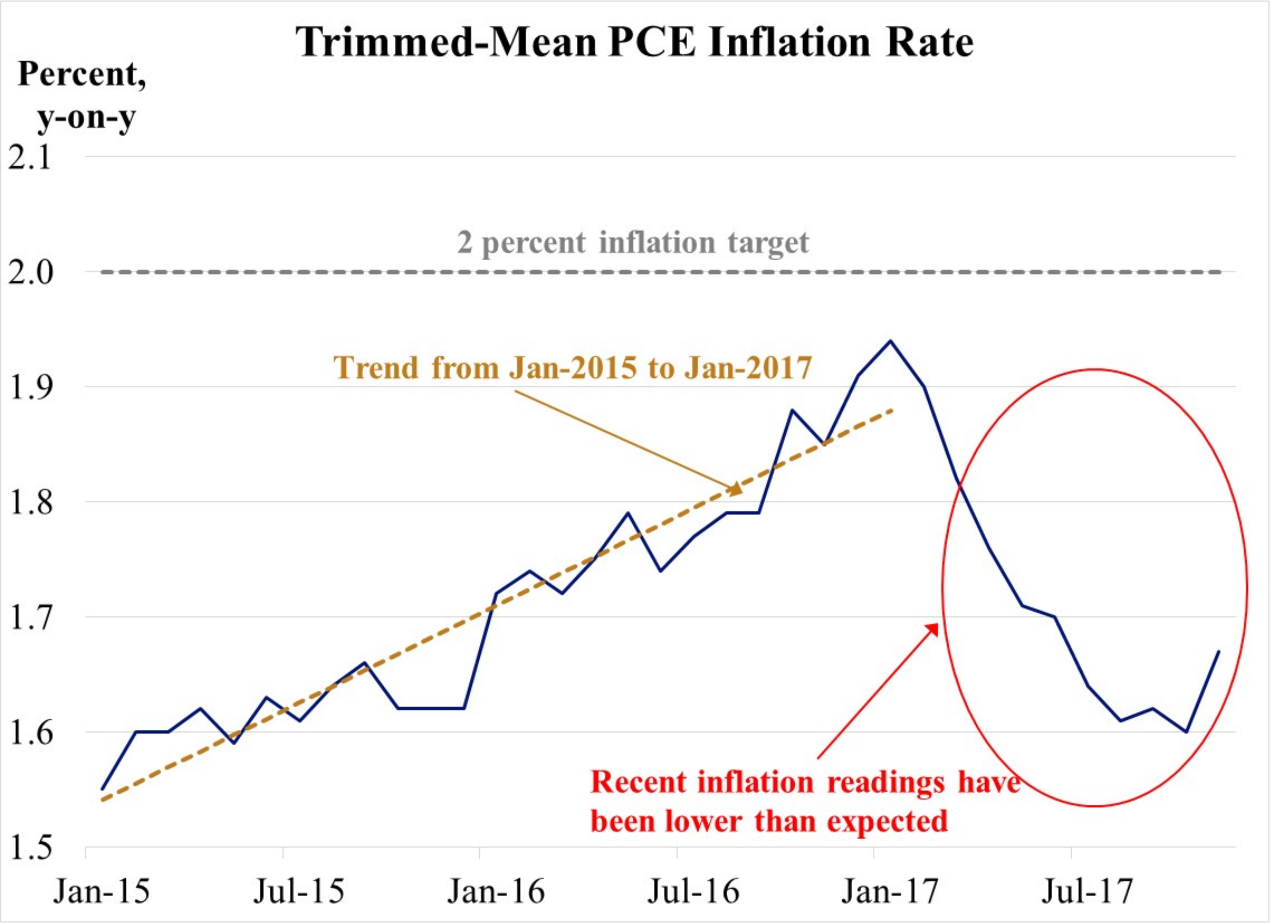
** The inflation target is in terms of the annual change in the price index for personal consumption expenditures (PCE).*

U.S. inflation has been mostly below target since 2012



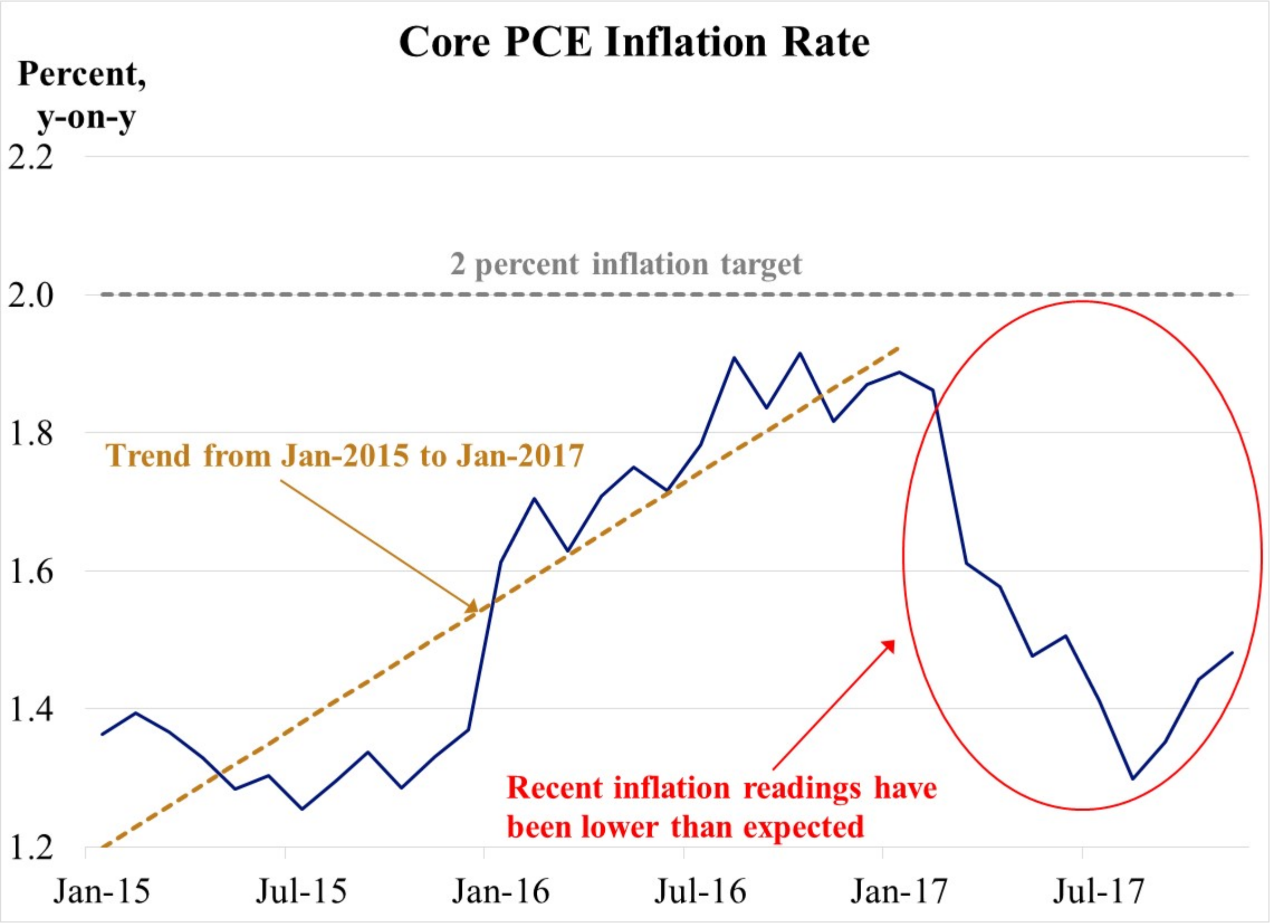
Source: Bureau of Economic Analysis. Last observation: November 2017.

Trimmed-mean PCE inflation lower than expected



Sources: FRB of Dallas and author's calculations. Last observation: November 2017.

Core PCE inflation lower than expected



Sources: Bureau of Economic Analysis and author's calculations. Last observation: November 2017.

Price Level Targeting

Price level targeting: hitting the inflation target on average

- One possible alternative framework for the FOMC to consider is known as price level targeting.
- In this approach, the FOMC commits to keeping the price level on a path defined by a 2 percent inflation rate.
- The hallmark of price level targeting is that monetary policy explicitly commits to hitting the inflation target on average over the medium term.
- Deviations from target are overcome by allowing for higher or lower inflation in the future in such a way that the inflation target is maintained on average.
    - In contrast, today's inflation targeting regime simply allows misses and does not do anything about them.

Why price level targeting?

- Why is price level targeting a possible alternative?
  - It is because price level targeting or its close cousin, nominal income targeting, constitutes optimal monetary policy in many macroeconomic models.*

** See the following for details:*

- *Azariadis, C.; Bullard, J.; Singh, A. and Suda, J. "Optimal Monetary Policy at the Zero Lower Bound." FRB of St. Louis Working Paper No. 2015-010A, May 2015.*
- *Bullard, J. "A Singular Achievement of Recent Monetary Policy." Invited lecture delivered at the University of Notre Dame, Sept. 20, 2012a.*
- *Bullard, J. "Price Level Targeting: The Fed Has It About Right." Remarks delivered at the Economic Club of Memphis, Oct. 4, 2012b.*
- *Bullard. J. "Allan Meltzer and the Search for a Nominal Anchor." Remarks delivered at* Meltzer's Contributions to Monetary Economics and Public Policy, *Philadelphia, Pa., Jan. 4, 2018.*
- *Bullard, J. and Singh, A. "Nominal GDP Targeting With Heterogeneous Labor Supply." FRB of St. Louis Working Paper No. 2017-016A, February 2017.*
- *Mester, L.J. "Monetary Policy Frameworks." Remarks delivered at the ASSA Annual Meeting, Philadelphia, Pa., Jan. 5, 2018.*
- *Rosengren, E. Remarks delivered at the Brookings Institution conference* Should the Fed Stick with the 2 Percent Inflation Target or Rethink It?, *Washington, D.C., Jan. 8, 2018.*
- *Williams, J.C. Remarks delivered at the Brookings Institution conference* Should the Fed Stick with the 2 Percent Inflation Target or Rethink It?, *Washington, D.C., Jan. 8, 2018.*
- *Woodford, M.* Interest and Prices. *Princeton, NJ: Princeton University Press, 2003.*

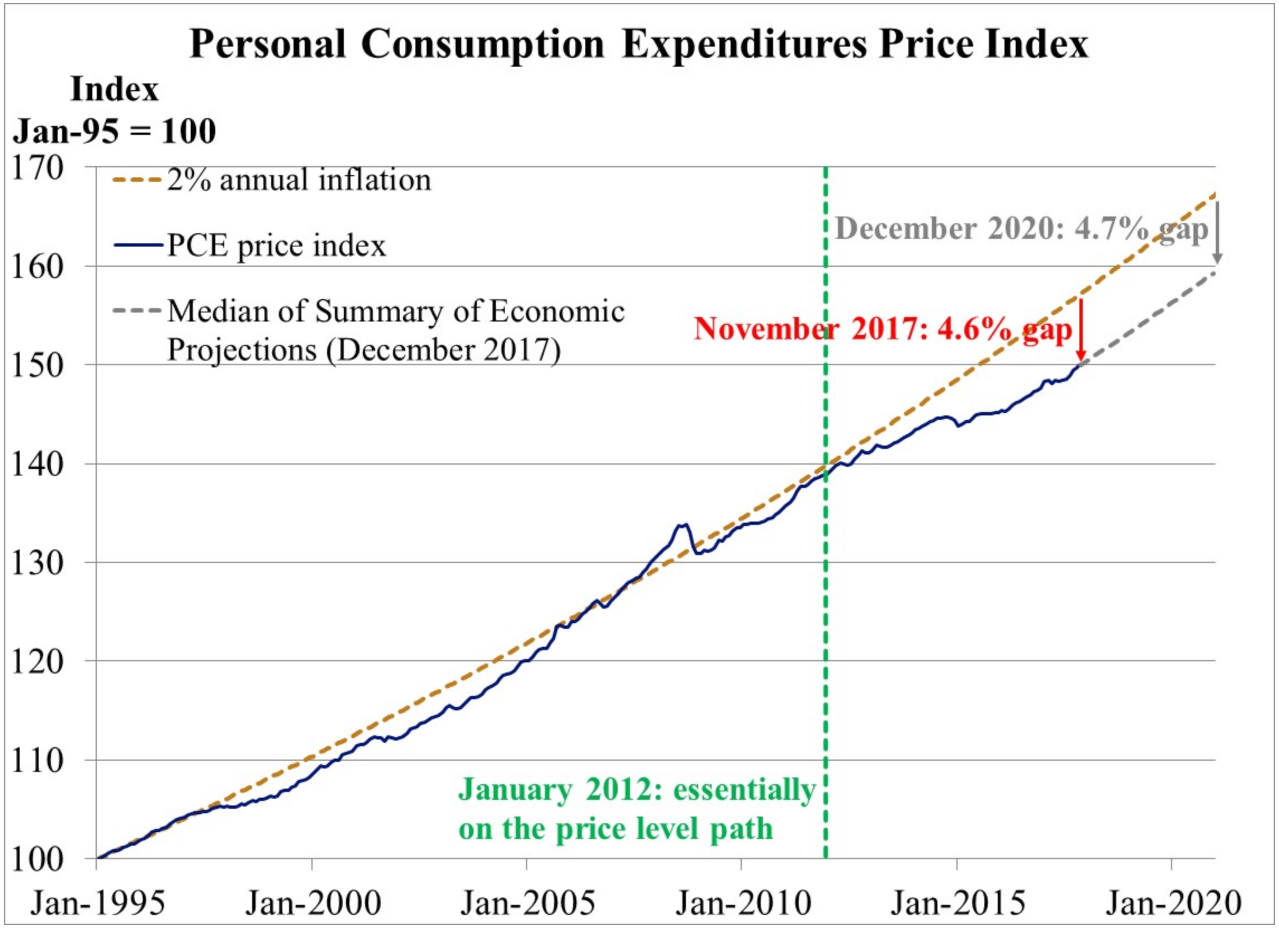
The Starting Point Issue

The starting point matters

- A price level targeting approach requires commitment to a particular price level path, and the starting point matters.
- I have argued that 1995 is the appropriate starting point for the U.S.*
- At that time, U.S. inflation converged near 2 percent, and policymakers acted to maintain low inflation.
- The 2 percent price level path was then maintained until 2012—despite the global financial crisis during the intervening years.
- This could be interpreted as optimal monetary policy during this period.

** See Bullard (2012a, 2012b).*

The U.S. price level path since 1995



Sources: Bureau of Economic Analysis, Federal Reserve Board and author's calculations. Last observation: November 2017.

What Would It Take to Return the U.S. Economy to the Price Level Path?

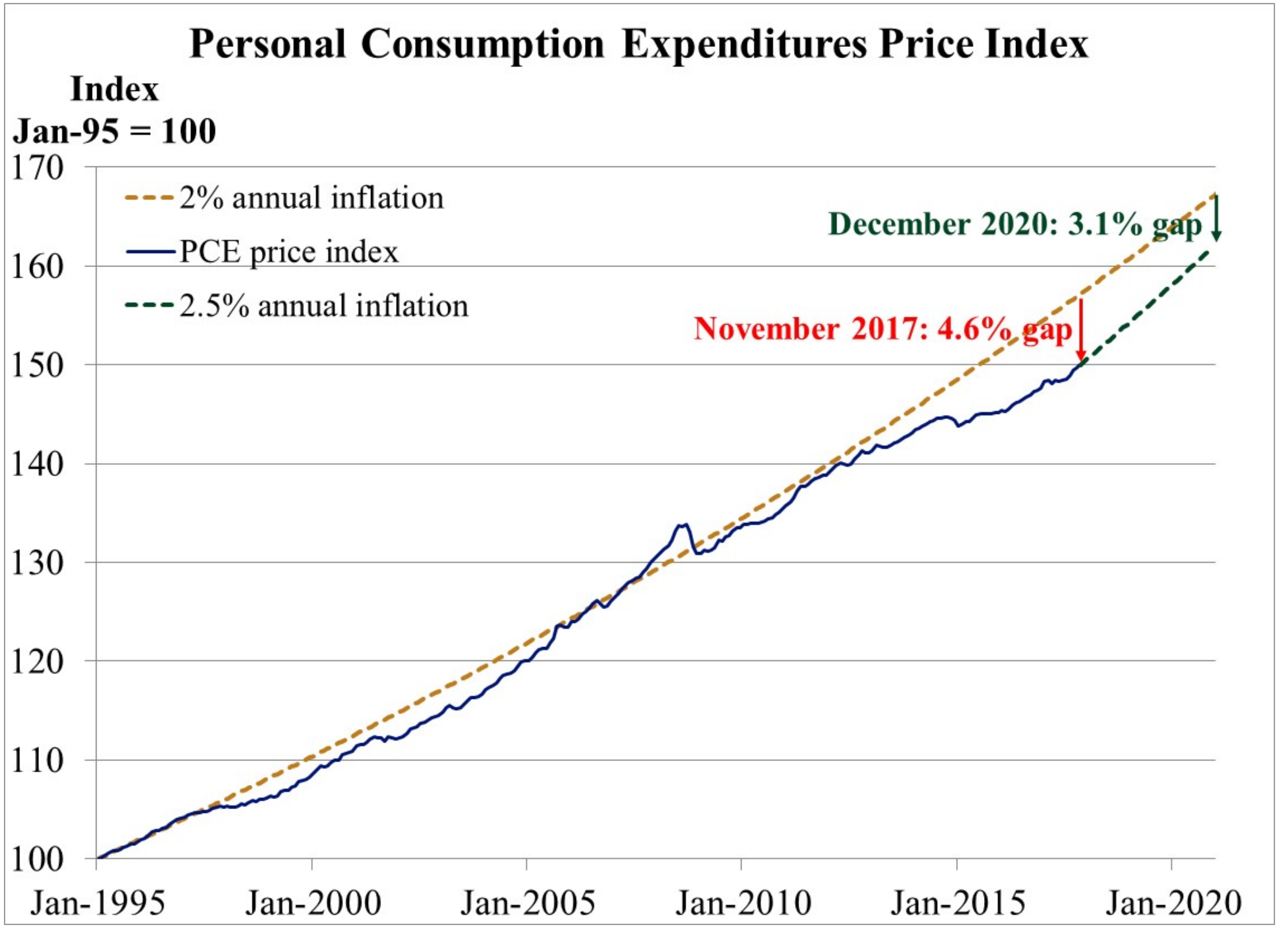
The U.S. price level path since 1995

- Since 2012, the U.S. has fallen away from the price level path defined by 2 percent inflation beginning in 1995.
- This is because inflation has been below target during almost the entire period since 2012.
- The current differential between the 2 percent price level path that began in 1995 and the actual price level path is about 4.6 percent.
- A price level targeting approach to monetary policy would suggest aiming at returning the U.S. to the 2 percent price level path.

Returning to the price level path

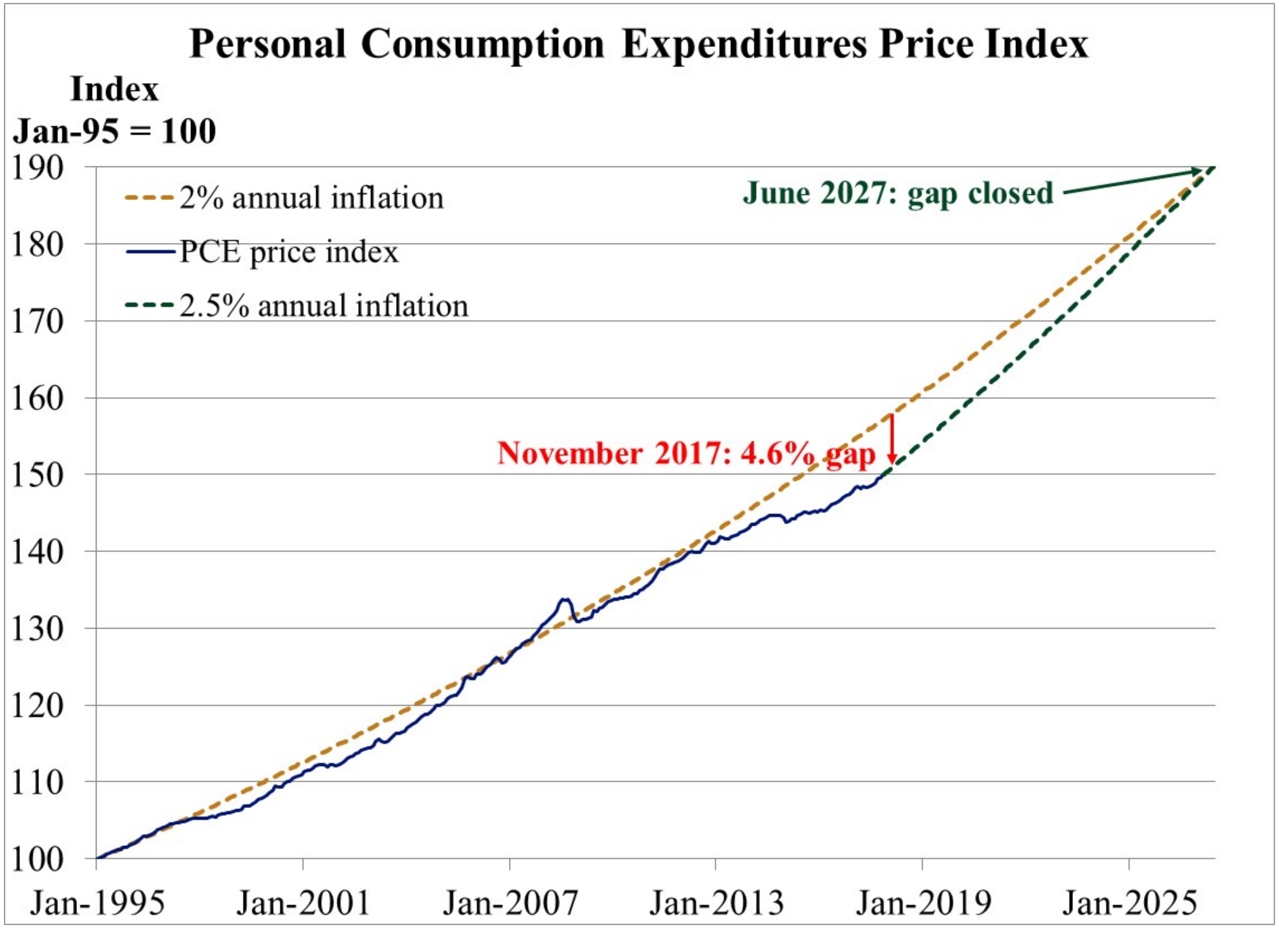
- The deviation from the 1995 price level path of 2 percent in the U.S. is the result of lower-than-promised inflation over a five-year period.
- To return the economy to the price level path would require above-target inflation for some period of time.
- There are many ways to achieve this, but to get an idea of magnitude, let’s consider a 2.5 percent inflation rate.
- How long would it take to return to the price level path if the inflation rate going forward was 2.5 percent?
- The answer is about 10 years.

Narrowing the price level gap



Sources: Bureau of Economic Analysis and author's calculations. Last observation: November 2017.

Closing the price level gap



Sources: Bureau of Economic Analysis and author's calculations. Last observation: November 2017.

Remarks on the return

- Why does it take so long to return to the price level path?
  - It is because for the past five years in a row, the inflation target has been missed to the low side, and this has opened up a substantial gap between the actual and desired price level.
- Is 2.5 percent inflation within the experience of the U.S. economy in recent years?
  - It is not too different from the average inflation rate during the 2004-2007 period.
- Is low inflation drift harming inflation expectations?
  - It may be. The private sector expectation may be that U.S. policymakers will allow average inflation to be lower than the stated target over the medium term.

Related Approaches

Nominal income targeting

- A close cousin of price level targeting is nominal income targeting.
- Nominal gross domestic product (GDP) targeting may do a better job of adjusting monetary policy for fundamental factors that are changing over time, such as productivity growth or demographic factors.
- I have not discussed this alternative approach here today.

Implementation issues

- Inflation targeting has become an international standard, with many central banks adopting a 2 percent inflation target over the last 25 years.
- This standard has been successful in keeping inflation low and stable.
- Price level targeting, in contrast, has not been implemented at major central banks in the modern era.
- However, it could become a focus of future monetary policy arrangements.
- To implement price level targeting in the U.S. would therefore require considerable study.

Approximate price level targeting

- Even if formal adoption of price level targeting is not realistic in the near term, the ideas behind it could nevertheless influence near-term policy.
    - To the extent the arguments behind price level targeting are compelling, actual policy might lean in the direction of the policy recommendations coming from such an approach.
    - Generally speaking, this would suggest leaning toward inflation somewhat in excess of the stated inflation target to help make up for past misses on the low side.
    - The FOMC’s current Summary of Economic Projections does show some, but not much, projected inflation in excess of the stated inflation target.

Conclusion

Conclusion

- U.S. inflation surprised to the downside in 2017, despite low unemployment and accommodative monetary policy.
- This has led some to suggest rethinking the FOMC’s approach to inflation.
- One possible alternative approach is price level targeting.
- I have discussed this approach and commented on some aspects of it.
- Price level targeting and its close cousin, nominal income targeting, are approaches that have considerable appeal, but whose formal adoption would require further study.

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