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Monitoring the dual mandate: Stable prices

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What do we mean by “stable prices”?

- ▶ Does it mean zero inflation?
- ▶ By what measure?
- ▶ For most of its history, the Fed was not explicit about what “price stability” meant.
- ▶ For example, as former chair Alan Greenspan put it:

“Price stability is best thought of as an environment in which inflation is so low and stable over time that it does not materially enter into the decisions of households and firms.”



What do we mean by “stable prices”?

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- ▶ In 2012, under Fed chair Ben Bernanke, the FOMC did formalize the concept:

“The Committee judges that inflation at the rate of 2 percent, as measured by the annual change in the price index for personal consumption expenditures, is most consistent over the longer run with the Federal Reserve’s statutory mandate.”



What do we mean by “stable prices”?

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- ▶ In January 2016, under current Fed chair Janet Yellen, the FOMC further articulated the role of the 2 percent target:

“The Committee would be concerned if inflation were running persistently above or below this objective.”

- ▶ The FOMC emphasizes that “too low” is as bad as “too high.”
- ▶ And focus on “persistent” deviations gives a sort of time frame.



Let's unpack this a little...

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Price index

- Price index for PCE
- Rather than CPI, PPI, GDP deflator, etc.

Target rate

- 2 percent on a year-over-year basis
- Not 0 percent, also not 3, 4, etc.

Time frame

- So as to avoid "persistent" deviations
- Not moment to moment, month to month

So we only need to look at one chart, right?

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It's more complicated...

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- ▶ One reason inflation is so low after 2014 is drop in gasoline prices.
 - ▶ Fed probably wants to look past those kinds of price movements.
- ▶ Also, this data tells us where inflation has been. What can we say about where it's headed?
 - ▶ Fed needs to be forward-looking if it aims to hit target over medium term

What else do policymakers look at to monitor price stability?

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While the end goal is 2 percent PCE inflation, other data are useful for monitoring progress toward that goal. These include:

- ▶ "Core" inflation measures, not just for PCE
 - ▶ Strip away some of the "noise" in all-items index
- ▶ Inflation expectations
 - ▶ Are they consistent with hitting the target?
- ▶ Look for corroborating evidence in things like wage growth
 - ▶ Is it consistent with signals coming from inflation measures?

Core inflation measures

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- ▶ Strip out “noise” that comes from big transitory price movements
- ▶ Get better sense of trend or underlying inflation rate
 - ▶ That in itself is forward-looking
- ▶ There are a number of alternative measures of core inflation

Types of core inflation measures

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Ex food & energy

- Excludes food & energy items
- Conventional notion of “core”
- Oldest sort of core (1950s)
- Produced by official statistical agencies (BLS, BEA)

Trimmed means

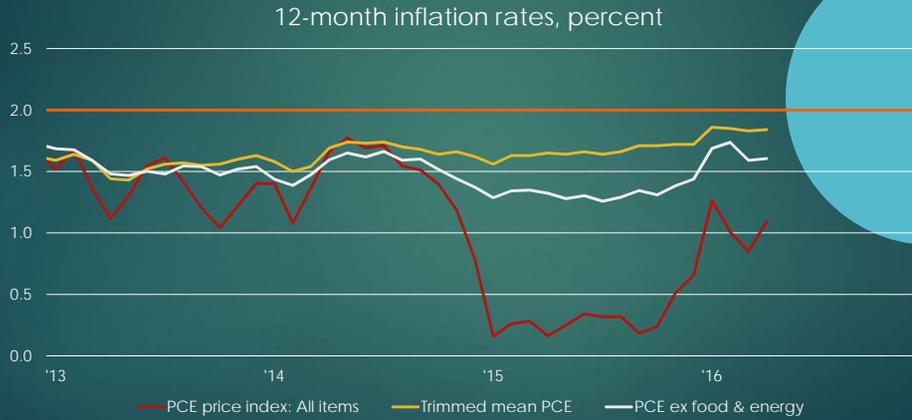
- Drop items with biggest price changes each month
- Median is an extreme form of trimmed mean
- Versions produced by Dallas Fed, Cleveland Fed

Theory-based

- Draw on theory of how monetary policy affects economy
- Models suggest which prices Fed should focus on
- Example, “sticky price CPI” from Atlanta Fed

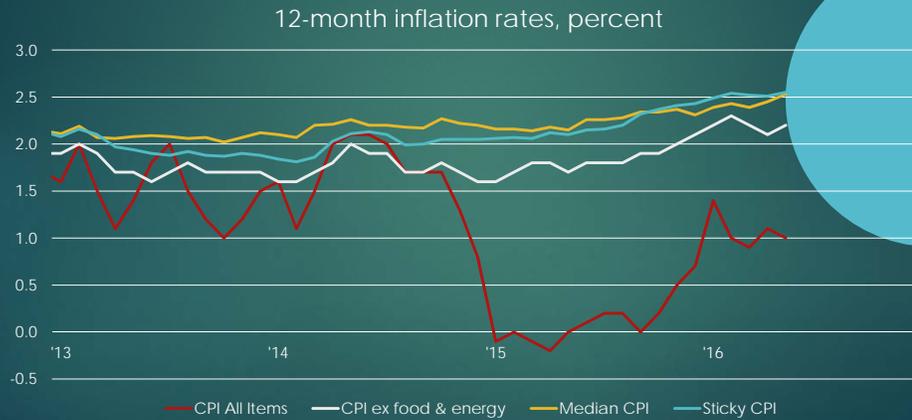
Core inflation measures for PCE

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Core inflation measures for CPI

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Inflation expectations

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- ▶ Almost every FOMC statement notes the behavior of inflation expectations
- ▶ Why? Inflation expectations play an important role in the behavior of actual inflation
 - ▶ Self-fulfilling aspect: High (low) inflation expectations beget high (low) actual inflation
- ▶ If PCE inflation were currently at 2 percent, but inflation expectations were way lower/higher than 2 percent, FOMC would be concerned about hitting its price stability mandate

Measures of inflation expectations

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Surveys of households

- Household's expectations of price changes
- University of Michigan survey
- NY Fed surveys
- Apparent biases

Surveys of professionals

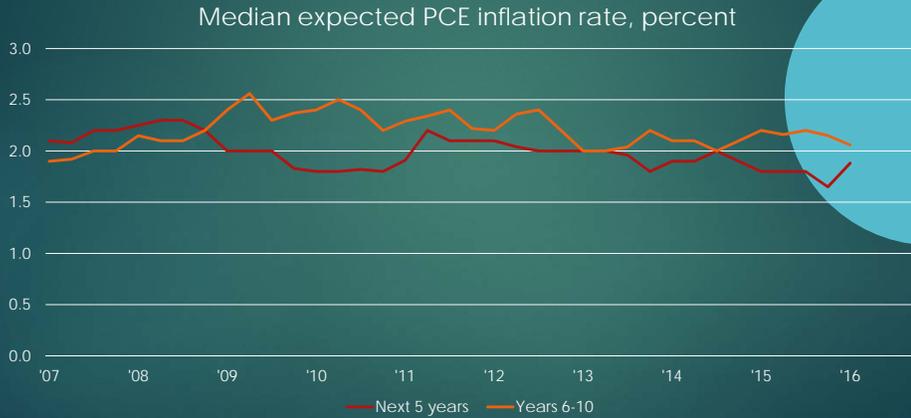
- People in the business of forecasting
- Models & judgment
- Popular sources are *Blue Chip*, Philly Fed survey

Financial market data

- Yields on nominal bonds vs. inflation indexed bonds
- Inflation swaps
- Volatile, vary with market liquidity

Philly Fed Survey of Professional Forecasters expected PCE inflation

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Cleveland Fed's expected inflation measure

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Looking for corroborating evidence

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- ▶ What does theory tell us about where inflation comes from?
- ▶ Slack in the economy plays a key role
 - ▶ "Output gap" or unemployment rate
- ▶ Higher prices and higher wages are both symptoms of reduced slack
- ▶ So we may look at wages to corroborate what we're seeing in prices

Economy growing faster than potential

Higher resource utilization, less "slack"

Firms face higher marginal costs

Firms raise prices

Two measures of wage inflation: Average Hourly Earnings & ECI

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One final point: Awareness of the dual mandate's other half

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- ▶ So far, we've just talked about monitoring price stability, not much about responding to deviations.
- ▶ Appropriate response may depend on what's going on with other half of mandate
- ▶ Most of the time, no conflict between getting inflation and unemployment both back to target
 - ▶ E.g., if inflation is too low and unemployment too high
- ▶ Occasionally, the achieving of both goals will be in conflict
 - ▶ Fed cannot look at price stability in isolation

Some useful inflation data sources

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FRED
fred.stlouisfed.org



Other Feds:
Cleveland,
Atlanta, NY, Philly