Inflation
Measuring Price Changes
Inflation – Did You Know?

Relative
- Inflation is a general increase in the relative price level between two time periods
- The price index chart to the right demonstrates one measure of this increase since 1980

Measures
- There are different measures of price levels:
  - Consumer Price Index (CPI)
  - Producer Price Index (PPI)
  - Personal Consumption Expenditures Price Index (PCEPI)

Relationship
- 2% increase in prices, year to year, is considered stable by the Fed
- The PCEPI is the Fed’s preferred measure of inflation

**Personal Consumption Expenditures Price Index (PCEPI)**
(Annual average for years shown, 2009=100)

Since 1980 prices have been increasing. Compared to 1980, consumers in 2010 were paying 131% more on average, according to the PCEPI.
Measures of Price Levels

**Consumer Price Index (CPI)**
Change in the prices paid by urban consumers for a representative basket of goods and services

**Producer Price Index (PPI)**
Average change over time in the selling prices received by domestic producers for their output

**GDP Price Index**
Measure of the level of prices of all new, domestically produced, final goods and services in the economy

**Personal Consumption Expenditures Price Index (PCEPI)**
Measures the prices paid for goods and services purchased by U.S. residents

Sources: Bureau of Labor Statistics and Bureau of Economic Analysis
Note: See PowerPoint file for references
Using the PCEPI
(Personal Consumption Expenditures Price Index)

PCEPI Levels
(Annual average for years shown, 2009=100)

What is the percentage change in prices for all domestic personal consumption?

\[
\text{Percentage Change} = \frac{(\text{Current Price} - \text{Past Price}) \times 100}{\text{Past Price}}
\]

\[
\frac{(109.1 - 89.7) \times 100}{89.7} = 21.6\%
\]

This means that consumers are paying, on average, 21.6% more in 2014 for the same items as in 2004.

Source: Bureau of Economic Analysis
Personal Consumption Expenditures (PCE) Inflation

12-month Percent Change, Seasonally Adjusted through July 2015

Source: Bureau of Economic Analysis & FRBSF Calculations
Annotated Chart Notes
Personal Consumption Expenditures (PCE) Inflation
12-month Percent Change, Seasonally Adjusted through July 2015

CORE – excludes food and energy prices, which are typically more volatile
TOTAL – Includes all expenditures (a.k.a. “Headline Inflation”)

Source: Bureau of Economic Analysis & FRBSF Calculations
www.frbsf.org/education/teacher-resources/datapost
FRBSF Economic Education & Outreach
What Do You Think?

1. What is the Federal Reserve’s preferred measure of inflation in making monetary policy decisions?
2. What was headline inflation in June 2009? Core inflation in May 2012?
3. How would you describe the changes in headline inflation during the Great Recession?
4. What do you notice about the overall trend in “headline” inflation compared to “core”? 