

Inflation: Basic definitions

Principles of Macroeconomics // Spring 2025

Prof. Santetti

marcio.santetti@emerson.edu

Readings

Recommended readings

Required readings:

-  Consumer Price Index FAQs (*BLS*)
-  Consumer Expenditure surveys FAQs (*BLS*)

Recommended listening:

-  Planet Money Podcast: Inflation & drinking buddies (*NPR*)

Words of the day

- CPI;
- PCE.

Measuring inflation

Measuring inflation

As of February 2025, the U.S. *inflation rate*, measured by the **Consumer Price Index (CPI)**, is of 0.2%.

- How do you *interpret* this statistic?

Measuring inflation

Inflation is defined as the **percentage change** in the *price index* over a given time period.

- An economy's **price index** is an *index number* arbitrarily set to 1 or 100 for a certain period.
- The price index then increases (decreases) for each subsequent year by the *rate of inflation* (deflation/disinflation).

The *inflation rate* is nothing but the **growth rate** of a price index:

$$\text{Inflation rate (\%)} = \frac{\text{Final period's price index} - \text{Initial period's price index}}{\text{Initial period's price index}} \times 100$$

Measuring inflation

When defining inflation, the term **price index** was used.

This leads to the question of **what prices** we are considering.

In the U.S., there are a number of *different* measures of inflation.

The most common are:

- The *Consumer Price Index* (CPI);
- The *Personal Consumption Expenditure Deflator* (PCE).

Measuring inflation

The *Consumer Price Index* (CPI) is the most **popular** inflation measure across media outlets.

- Released by the **U.S. Bureau of Labor Statistics** (BLS), the CPI measures the average change over time in the prices paid by consumers for a *representative basket of consumer goods and services*.

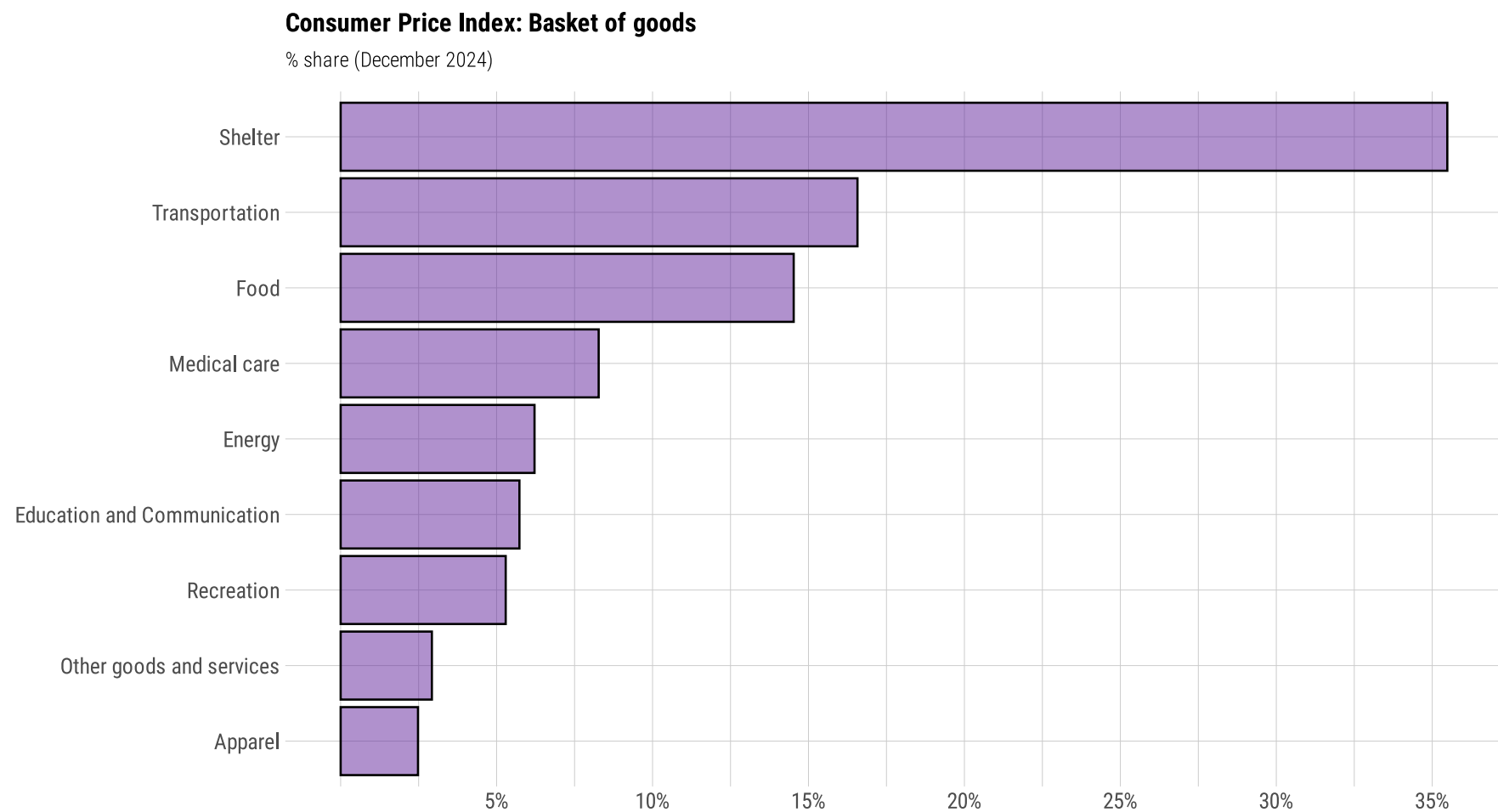
Its purpose is to reflect inflation as experienced by consumers in their *day-to-day living expenses*.

Measuring inflation

The CPI compiles data on expenditure items into more than **200** categories, arranged into **8 major groups**:

1. Food and beverages;
2. Housing (shelter);
3. Apparel;
4. Transportation;
5. Medical care;
6. Recreation;
7. Education and communication;
8. Other goods and services.

Measuring inflation



Source: U.S. Bureau of Labor Statistics.

Measuring inflation

 What lies in each category?

Measuring inflation

Before moving on...

Q: Why should we *care* about inflation?

A: Inflation **deteriorates** the **purchasing power** of money.

- Recall that one of the *functions* of money is to **store value**.
- Given that, US\$ 1,000 have *different* value properties when the inflation rate is **0.2%** and **5%**.
 - Why?

Measuring inflation

Back to the *Consumer Price Index* (CPI).

WHO

Q: What is the *sample* for the CPI?

A: **2** population groups:

- All *Urban* Consumers (CPI-U);
→ $\approx 90\%$ of the population.
- Urban *Wage* Earners and *Clerical* Workers (CPI-W).
→ $\approx 30\%$ of the population.

Measuring inflation

WHO

Q: What is the *sample* for the CPI?

A: *Consumer Expenditure* (CE) surveys conducted by the U.S. Census Bureau on behalf of the BLS.

- Two *independent* data collection surveys:
 - *Quarterly Interview* (monthly *out-of-pocket* expenditures);
 - *Weekly Diary survey* (weekly expenditures of *frequently* purchased items).
- \approx 7,000 households.

Measuring inflation

 [How the Consumer Price Index Measures Inflation \(WSJ\)](#)

Measuring inflation

Food and **energy** tend to be the most *volatile* components of the CPI.

To address this issue, we have the **Core CPI**.

“It provide(s) a better guide to monetary policy than the other indices, since it measures the more persistent underlying inflation rather than transitory influences on the price level.”

(Ben Bernanke, former chair of the U.S. Federal Reserve)

 **The latest numbers**

Measuring inflation

Another measure of inflation policymakers keep a close eye on is the *Personal Consumption Expenditures Price Index* (PCE).

The **PCE** has a *broader* scope than the CPI:

- Also includes *rural* consumers, as well as expenditures made on consumers' *behalf*.
 - Health insurance, Medicare, and Medicaid, for instance.

 The latest numbers

Measuring inflation

 Inflation over time

Next time: Inflation & other
aggregates