

Discussion Handout 2: Ch. 11 - Measuring the Cost of Living

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II. Measuring Cost of Living

Big Picture: Why do we care about measuring the cost of living? Why do we worry about inflation?

Definitions:

- Consumer Price Index (CPI): Measure of overall cost of the goods and services bought by a typical consumer. Basket of goods fixed. Indicator discussed by the textbook.
- Core CPI: Same as CPI but excludes food and energy spending since they can be more volatile.
- Core Personal Consumption Expenditure (PCE): Measures overall cost of goods and services bought by a typical consumer excluding food and energy. Basket of goods changes and is broader compared to CPI. Indicator discussed in lecture and preferred by the Federal Reserve.
- Inflation: Percent change in the price index

How to Calculate CPI and CPI Inflation:

1. Fix Basket
2. Find the Prices for Each Year
3. Compute the Basket Cost for Each Year
4. Compute CPI: $CPI = (\text{Price of Basket in Current Year}) / (\text{Price of Basket in Base Year}) \times 100$
5. Compute Inflation: $\text{Inflation since last year} = (\text{CPI Today} - \text{CPI Last year}) / (\text{CPI Last Year})$. Can be adjusted for any two years.

CPI vs. GDP Deflator:

In Chapter 10, you were introduced to the GDP Deflator, which reflects the prices of goods and services:

$$\text{GDP deflator} = (\text{Nominal GDP}) / (\text{Real GDP}) \times 100$$

Where Real GDP is measured by holding prices constant at base-year levels. You can think of this as another way of measuring the price level, the same goal of CPI.

Then Inflation can also be measured using the GDP Deflator as:

$$\text{Inflation} = (\text{GDP Deflator Year 2} - \text{GDP Deflator Year 1}) / (\text{Deflator in Year 1}) \times 100$$

The GDP Deflator reflects prices, for firms and households, of all goods and services produced domestically vs. the CPI which reflects the prices of all goods and services bought only by consumers.

Correcting for inflation: To adjust prices from the past to today's dollar in order to compare them, we can use the formula:

$$\text{Today's Dollars} = \text{Amount in Past} \times (\text{CPI Today} / \text{CPI in the Past})$$