

## The CPI is used for three basic purposes:

1. It is a measure of inflation experienced by consumers, and an important indicator of the condition of the economy.
2. It can be used to adjust other economic data for changes in price level and to convert them into inflation-free dollars. For example, retail sales, and income data are "deflated" to assess their "real" movements over time. Another example is to estimate changes in the purchasing power of a dollar.
3. Various government income programs, such as Social Security; use the CPI to adjust payments or income eligibility levels.

## What the CPI is not used for:

- While the CPI is used to calculate cost-of-living adjustments (COLA), the CPI in and of itself is not a cost-of-living index. It does not take into account changes in buying patterns that consumers make to adjust to relative price changes. Consumers usually react to relative price changes beef prices rising more than the price of chicken by substituting less expensive alternatives for the more expensive, i.e., substituting chicken for beef. The CPI does not reflect short run adjustments made in response to price changes as a cost-of-living index would.
- Even though the CPI is calculated from data collected from many metropolitan areas, it cannot be used to compare living costs between local areas.
- While the CPI can be used to "deflate" government revenue data, it should not be used to adjust government expenditure data for the effects of inflation. Although they closely resemble each other, an implicit price deflator, such as one for state and local government purchases should be used instead of the CPI.

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## CPI Calculations

### To Convert Nominal (or Current) Prices into Real (or Constant) Prices:

- What would an item or service purchased in 1998 be worth in 1950 dollars?

The CPI can be used to calculate how prices have changed over the years. Let's say you have \$7 in your pocket to spend today. How much money would you have needed in 1950 to buy an equivalent amount of goods and services?

- The CPI for 1950 = 24.1
- The CPI for 1998 = 163.0
- Use this formula to compute what \$7 would have bought in 1950:

$$1950 \text{ Price} = 1998 \text{ Price} \times (1950 \text{ CPI} / 1998 \text{ CPI})$$

$$1950 \text{ Price} = \$7.00 \times (24.1 / 163.0)$$

$$1950 \text{ Price} = \$1.04$$

## To Compare Historical Prices to Current Prices:

- What would an item or service purchased in 1950 be worth in 1998 dollars?

Let's say that in 1950 a movie ticket cost 25 cents. How could you tell if ticket prices have increased faster or slower than most goods and services? To convert that price into today's dollars, use the CPI.

- The CPI for 1950 = 24.1
- The CPI for 1998 = 163.0
- A movie ticket cost \$0.25 in 1950
- Use this formula to convert the 1950 ticket price into 1998 prices:

$$\text{1998 Price} = \text{1950 Price} \times (\text{1998 CPI} / \text{1950 CPI})$$

$$\text{1998 Price} = \$0.25 \times (163.0 / 24.1)$$

$$\text{1998 Price} = \$1.69$$

## To Calculate the Rate of Inflation:

- What was the rate of consumer price inflation between 1997 and 1998?

Price escalation (inflation) provisions are commonly included in collective bargaining agreements, insurance policies, and rental contracts. The CPI is the most widely used price measure to adjust wage / payment rates for the effects of inflation. If a rental contract stipulated a \$1,000 per month payment in 1997, what would the rate be adjusted to in 1998 due to inflation?

- The CPI for 1997 = 160.5
- The CPI for 1998 = 163.0
- The initial rental rate = \$1,000
- Calculate the inflation rate between 1997 and 1998:

$$\text{Inflation rate} = ((\text{1998 CPI} - \text{1997 CPI}) / \text{1997 CPI}) \times 100$$

$$\text{Inflation rate} = ((163.0 - 160.5) / 160.5) \times 100$$

$$\text{Inflation rate} = 1.56\%$$

In 1998 the rental rate should be increased by 1.56% to \$1,015.60