

Measuring Price Changes and the Unemployment Rate

Calculating the Change in a Single Price

- When a good increases in price from one year to the next, it is easy to calculate the percentage of change in price. (See [Transparency 11-4](#).)
- For example, if a home increased in price from \$200,000 in 2004 to \$220,000 in 2005, the percentage change in price was 10 percent.

TRANSPARENCY 11-4: Calculating Change in Price

$$\text{Percentage change in price} = \frac{\text{Price in later year} - \text{Price in earlier year}}{\text{Price in earlier year}} \times 100$$

EXAMPLE: A home increases in price from \$200,000 in 2004 to \$220,000 in 2005.

$$\begin{aligned} \text{Percentage change in price} &= \frac{\$220,000 - \$200,000}{\$200,000} \times 100 \\ &= 10\% \end{aligned}$$

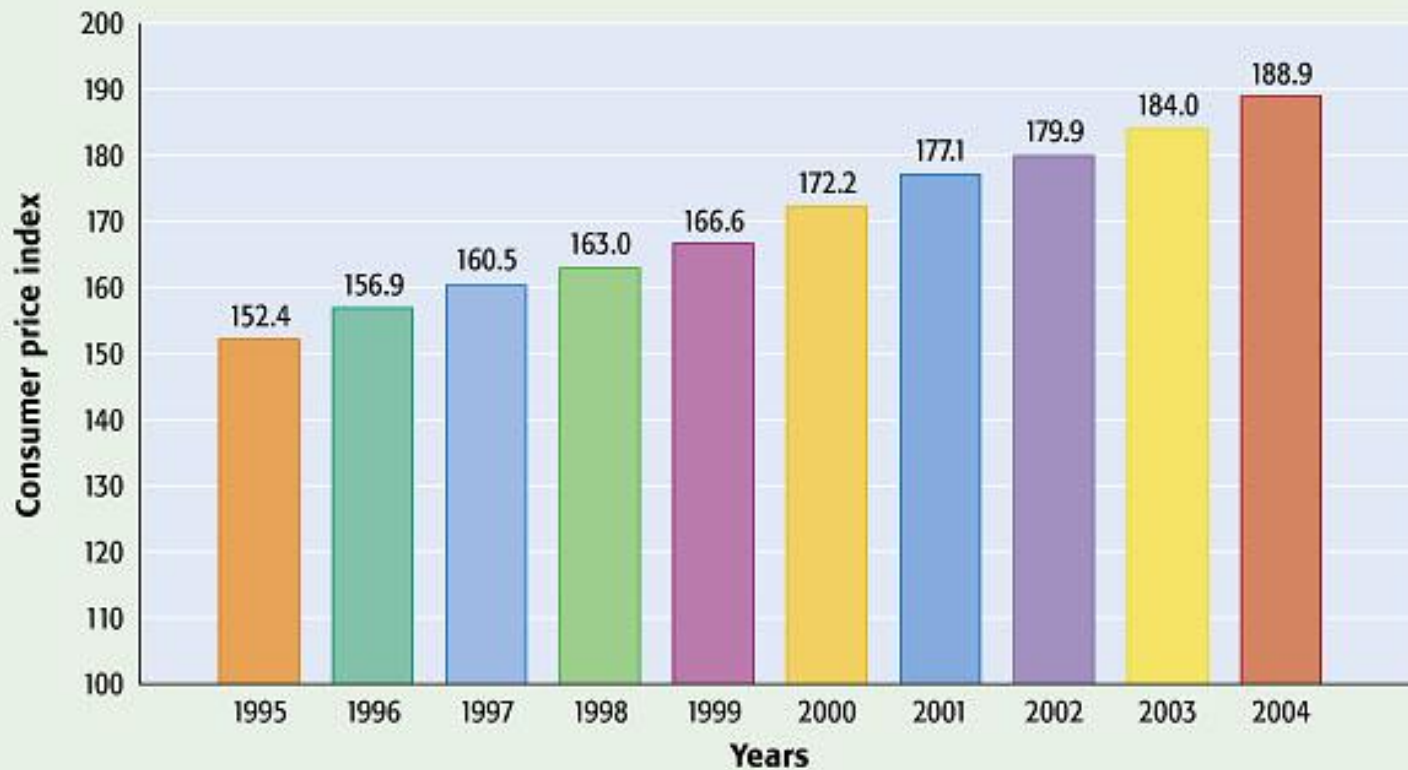
The Consumer Price Index

- Economists are much more interested in what happens to prices in general than in what happens to a single price.
- A **price index** is a measure of the price level, or the average level of prices.
- The most widely used price index is the **consumer price index (CPI)**.
- The consumer price index is calculated using a sampling of thousands of households. The survey asks what consumers paid for a group of goods that represent all the types of goods they might purchase in a year. This group of goods is called the *market basket*.

- The percentage change in the CPI is equal to the CPI in the later year minus the CPI in the earlier year, divided by the CPI in the earlier year, multiplied by 100. (See [Transparency 11-5](#).)
- Taken individually, CPI numbers mean very little. But if we compare the numbers, we can learn what is happening to prices over time. What happened to prices in the United States between 1995 and 2004? (*Answer*: They rose fairly steadily.)

TRANSPARENCY 11-5: The Consumer Price Index (CPI)

$$\text{Percentage change in CPI} = \frac{\text{CPI}_{\text{later year}} - \text{CPI}_{\text{earlier year}}}{\text{CPI}_{\text{earlier year}}} \times 100$$



Determining the Quantity of Goods and Services and the Price Level

- The same forces that determine the quantity of goods and services produced in a market hold true for economies.
- The **aggregate demand** curve shows the quantity of goods and services that buyers are willing and able to buy at different price levels.
- The **aggregate supply curve** shows the quantity of goods and services that producers are willing and able to supply at different price levels.

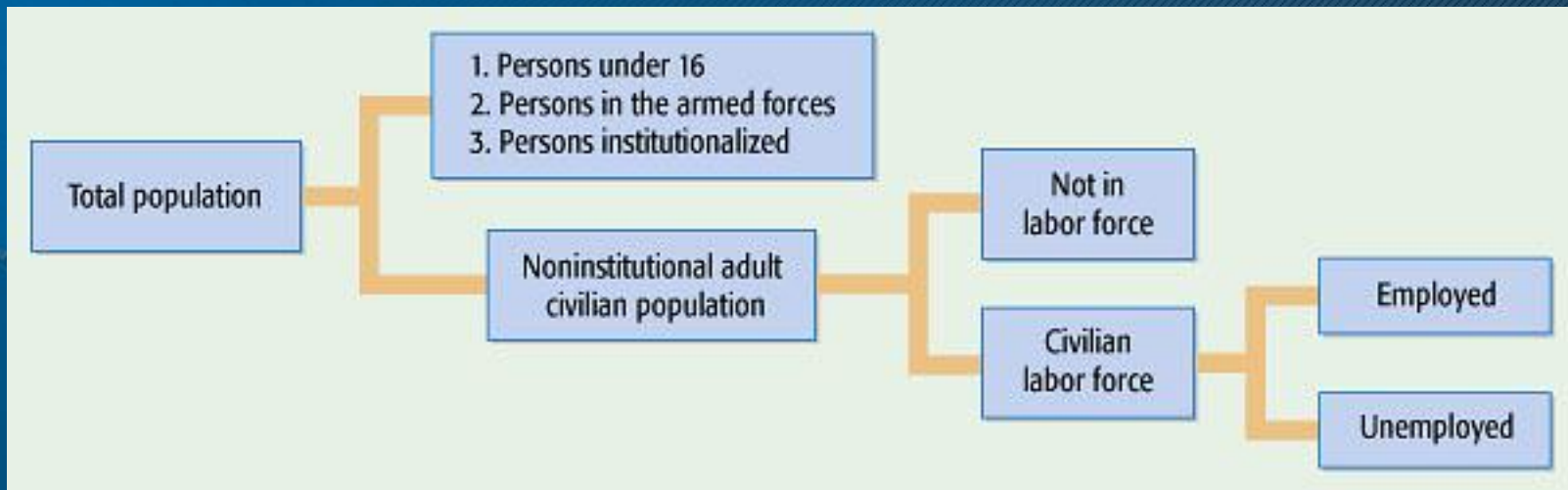
- The forces of aggregate demand and supply determine the equilibrium price level and equilibrium quantity of goods and services in an economy.
- Aggregate supply and demand are influenced by a number of factors. They also influence other factors. One of the factors influenced by aggregate supply and demand is unemployment.

The Unemployed, Unemployment Rates, and Employment Rates

- The total population can be divided into two major groups: the non-institutional adult civilian population, and all others. (See [Transparency 11-6.](#))
- The non-institutional adult civilian population can be further subdivided into two groups: persons in the civilian labor force and persons not in the labor force.
- The unemployed are persons in the civilian labor force who are looking for work but do not have jobs.

TRANSPARENCY 11-6: Employment Status, Unemployment Rate, and Employment Rate

Breakdown of the total U.S. population by employment status



$$\text{Unemployment rate} = \frac{\text{Unemployed persons}}{\text{Civilian labor force}}$$

$$\text{Employment rate} = \frac{\text{Employed persons}}{\text{Noninstitutional adult civilian population}}$$

- The **unemployment rate** is the percentage of the civilian labor force that is unemployed. It is equal to the number of unemployed persons divided by the civilian labor force.
- The **employment rate** is the percentage of the non-institutional adult civilian population that is employed. It is equal to the number of employed persons divided by the non-institutional adult civilian population.