

Measuring Broad Economic Goals

Part A

Measuring Employment

The *unemployment rate* (UR) is defined as

$$UR = \frac{\text{number of unemployed}}{\text{labor force}} \times 100$$

The *labor force participation rate* (LFPR) is defined as:

$$LFPR = \frac{\text{number in labor force}}{\text{adult population}} \times 100$$

How well has the U.S. economy met the goal of full employment? Use the formulas just given to fill in the last three columns of Figure 11.1. All of the population and labor-force data are in millions.



Figure 11.1
Civilian Employment 1960 to 2000

Year	Civilian Noninstitutional Population Aged 16 and Over	Civilian Labor Force			Unemployment Rate	Labor Force Participation Rate
		Employed	Unemployed	Total		
1960	117	66	4	70	5.7%	60%
1970	137	79	4	83	4.8%	61%
1980	168	99	8	107	7.5%	64%
1990	188	117	7	124	5.6%	66%
2000	209	135	6	141	4.3%	67%

- In which year was the economy very close to full employment as indicated in the Humphrey-Hawkins Act? *2000. The unemployment rate was the lowest in that year.*
- Why has the labor force participation rate increased since the 1960s? *More women and retirees have entered or re-entered the labor force.*
- Do the data on the national unemployment rate in Figure 11.1 reflect the extent of unemployment among a particular group in our society, such as teenagers aged 16 to 19? Explain. *No, the data are too aggregated. The data do not provide information for different demographic groups.*

Part B
Measuring Price Changes

$$\text{Price change} = \frac{\text{change in CPI}}{\text{beginning CPI}} \times 100$$

Here's the calculation for the example above:

$$\text{Price change} = \frac{165 - 150}{150} \times 100 = 10\%$$

Fill in the blanks in Figure 11.2, and then use the data to answer the questions.



Figure 11.2
Prices of Three Goods Compared with Base-Year Price

	Quantity Bought in Base Year	Unit Price in Base Year	Spending in Base Year	Unit Price in Year 1	Spending in Year 1	Unit Price in Year 2	Spending in Year 2
Whole pizza	30	\$5.00	\$150	\$7.00	\$210	\$9.00	\$270
Prerecorded audio cassette	40	6.00	\$240	5.00	\$200	4.00	\$160
Six-pack of soda	60	1.50	\$90	2.00	\$120	2.50	\$150
Total	—	—	\$480	—	\$530	—	\$580

4. What is the total cost of buying all the items in Year 2? \$580
5. What is the CPI for Year 2? 120.8 [(580 / 480) x 100]
6. What is the percentage increase in prices from the base year to Year 2? 20.8%
7. In August 2000 the CPI was 172.8, and in August 2001 the CPI was 177.50. What was the percentage change in prices for this 12-month period? 2.7%

Part C

Measuring Short-Run Economic Growth



Figure 11.3
Nominal and Real GDP

	Nominal GDP	Price Index	Population
Year 3	\$5,000	125	11
Year 4	\$6,600	150	12

8. What is the real GDP in Year 3? $\$4,000 [(100 \times \$5,000) / 125]$
9. What is the real GDP in Year 4? $\$4,400 [(100 \times \$6,600) / 150]$
10. What is the real GDP per capita in Year 3? $\$364 (\$4,000 / 11)$
11. What is the real GDP per capita in Year 4? $\$367 (\$4,400 / 12)$
12. What is the rate of real output growth between Years 3 and 4?
 $10\% [(4,400 - 4,000) / 4,000] \times 100$
13. What is the rate of real output growth per capita between Years 3 and 4?
(Hint: Use per-capita data in the output growth rate formula.)
 $0.82\% [(367 - 364) / 364] \times 100$