

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%

1. 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.**
2. Why has the labor force participation rate increased since the 1960s? **More women and retirees have entered or re-entered the labor force.**
3. 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

- What is the total cost of buying all the items in Year 2? \$580
- What is the CPI for Year 2? 120.8 [(580 / 480) x 100]
- What is the percentage increase in prices from the base year to Year 2? 20.8%
- 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.)
 $0.82\% [(367 - 364) / 364] \times 100$

All About GDP

Part A

Is This Counted as Part of GDP?

Which of the following are *included* and which are *excluded* in calculating GDP? Explain your decisions.

1. A monthly check received by an economics student who has been granted a government scholarship
Excluded: transfer payment from government to an individual
2. A farmer's purchase of a new tractor *Included: business fixed investment*
3. A plumber's purchase of a two-year-old used truck *Excluded: Truck was not produced in current year.*
4. Cashing a U.S. government bond *Excluded: Bond is a financial asset.*
5. The services of a mechanic in fixing the radiator on his own car *Excluded: This is a nonmarket activity.*
6. A Social Security check from the government to a retired store clerk *Excluded: transfer payment from government to an individual*
7. An increase in business inventories *Included: Inventory is an investment.*
8. The government's purchase of a new submarine for the Navy *Included: government purchase of a good*
9. A barber's income from cutting hair *Included: income from services provided*
10. Income received from the sale of Nike stock *Excluded: Stock is a financial asset.*

Part B**GDP: Is It Counted and Where?**

For each of the following items, write one of the following in the space provided:

C if the item is counted as *consumption spending*.

I if the item is counted as *investment spending*.

G if the item is counted as *government spending*.

NX if the item is counted as *net exports*.

NC if the item is *not counted* in GDP.

- C 11. You spend \$7.00 to attend a movie.
- I 12. A family pays a contractor \$100,000 for a house he built for them this year.
- NC 13. A family pays \$75,000 for a house built three years ago.
- C 14. An accountant pays a tailor \$175 to sew a suit for her.
- G 15. The government increases its defense expenditures by \$1,000,000,000.
- NC 16. The government makes a \$300 Social Security payment to a retired person.
- NC 17. You buy General Motors Corp. stock for \$1,000 in the stock market.
- I 18. At the end of a year, a flour-milling firm finds that its inventories of grain and flour are \$10,000 above the amounts of its inventories at the beginning of the year.
- NC 19. A homemaker works hard caring for her spouse and two children.
- I 20. Ford Motor Co. buys new auto-making robots.
- C 21. You pay \$300 a month to rent an apartment.
- I 22. Apple Computer Co. builds a new factory in the United States.
- NC 23. R.J. Reynolds Co. buys control of Nabisco.
- NX 24. You buy a new Toyota that was made in Japan.
- C 25. You pay tuition to attend college.

Part C**Why Are Items Counted or Not Counted in GDP?**

26. We count only the final retail price of a new good or service in GDP. Why? *To avoid double counting*
27. A purely financial transaction will not be counted in GDP. Why? *A financial transaction does not involve production of a good or service. It is a transfer of assets.*
28. When a homeowner does home-improvement work, the value of the labor is not counted in GDP. Why? *The labor does not involve a market transaction, and it is difficult to compute the value.*