

- a. What is GDP in this economy? Explain.
 - b. *Value added* is defined as the value of a producer's output minus the value of the intermediate goods that the producer buys. Assuming there are no intermediate goods beyond those described above, calculate the value added of each of the three producers.
 - c. What is total value added of the three producers in this economy? How does it compare to the economy's GDP? Does this example suggest another way of calculating GDP?
10. Goods and services that are not sold in markets, such as food produced and consumed at home, are generally not included in GDP. Can you think of how this might cause the numbers in the second column of Table 3 to be misleading in a comparison of the economic well-being of the United States and India? Explain.
 11. Until the early 1990s, the U.S. government emphasized GNP rather than GDP as a measure of economic well-being. Which measure should the government prefer if it cares about the total income of Americans? Which measure should it prefer if it cares about the total amount of economic activity occurring in the United States?
 12. The participation of women in the U.S. labor force has risen dramatically since 1970.
 - a. How do you think this rise affected GDP?
 - b. Now imagine a measure of well-being that includes time spent working in the home and taking leisure. How would the change in this measure of well-being compare to the change in GDP?
 - c. Can you think of other aspects of well-being that are associated with the rise in women's labor-force participation? Would it be practical to construct a measure of well-being that includes these aspects?

- affect your calculation of the inflation rate? If so, how?
4. Beginning in 1994, environmental regulations have required that gasoline contain a new additive to reduce air pollution. This requirement raised the cost of gasoline. The Bureau of Labor Statistics decided that this increase in cost represented an improvement in quality.
 - a. Given this decision, did the increased cost of gasoline raise the CPI?
 - b. What is the argument in favor of the BLS's decision? What is the argument for a different decision?
 5. Which of the problems in the construction of the CPI might be illustrated by each of the following situations? Explain.
 - a. the invention of the Sony Walkman
 - b. the introduction of air bags in cars
 - c. increased personal computer purchases in response to a decline in their price
 - d. more scoops of raisins in each package of Raisin Bran
 - e. greater use of fuel-efficient cars after gasoline prices increase
 6. *The New York Times* cost \$0.15 in 1970 and \$0.75 in 2000. The average wage in manufacturing was \$3.23 per hour in 1970 and \$14.32 in 2000.
 - a. By what percentage did the price of a newspaper rise?
 - b. By what percentage did the wage rise?
 - c. In each year, how many minutes does a worker have to work to earn enough to buy a newspaper?
 - d. Did workers' purchasing power in terms of newspapers rise or fall?
 7. The chapter explains that Social Security benefits are increased each year in proportion to the increase in the CPI, even though most economists believe that the CPI overstates actual inflation.
 - a. If the elderly consume the same market basket as other people, does Social Security provide the elderly with an improvement in their standard of living each year? Explain.
 - b. In fact, the elderly consume more healthcare than younger people, and healthcare costs have risen faster than overall inflation. What would you do to determine whether the elderly are actually better off from year to year?
 8. Income tax brackets were not indexed until 1985. When inflation pushed up people's nominal incomes during the 1970s, what do you think happened to real tax revenue? (Hint: This phenomenon was known as "bracket creep.")
 9. When deciding how much of their income to save for retirement, should workers consider the real or the nominal interest rate that their savings will earn? Explain.
 10. Suppose that a borrower and a lender agree on the nominal interest rate to be paid on a loan. Then inflation turns out to be higher than they both expected.
 - a. Is the real interest rate on this loan higher or lower than expected?
 - b. Does the lender gain or lose from this unexpectedly high inflation? Does the borrower gain or lose?
 - c. Inflation during the 1970s was much higher than most people had expected when the decade began. How did this affect homeowners who obtained fixed-rate mortgages during the 1960s? How did it affect the banks that lent the money?

- ing on health programs as a form of consumption or investment? Would you distinguish between health programs for the young and health programs for the elderly?
4. What is the opportunity cost of investing in capital? Do you think a country can "overinvest" in capital? What is the opportunity cost of investing in human capital? Do you think a country can "overinvest" in human capital? Explain.
 5. Suppose that a U.S. firm builds a factory in Malaysia.
 - a. What sort of foreign investment would this represent?
 - b. What would be the effect of this investment on GDP in Malaysia? Would the effect on Malaysian GNP be larger or smaller?
 6. In the 1980s, Japanese investors made significant direct and portfolio investments in the United States. At the time, many Americans were unhappy that this investment was occurring.
 - a. In what way was it better for the United States to receive this Japanese investment than not to receive it?
 - b. In what way would it have been better still for Americans to have made this investment?
 7. In the countries of South Asia in 1992, only 56 young women were enrolled in secondary school for every 100 young men. Describe several ways in which greater educational opportunities for young women could lead to faster economic growth in these countries.
 8. International data show a positive correlation between income per person and the health of the population.
 - a. Explain how higher income might cause better health outcomes.
 - b. Explain how better health outcomes might cause higher income.
 - c. How might the relative importance of your two hypotheses be relevant for public policy?
 9. International data show a positive correlation between political stability and economic growth.
 - a. Through what mechanism could political stability lead to strong economic growth?
 - b. Through what mechanism could strong economic growth lead to political stability?
 10. From 1950 to 2000, manufacturing employment as a percentage of total employment in the U.S. economy fell from 28 percent to 13 percent. At the same time, manufacturing output experienced slightly more rapid growth than the overall economy.
 - a. What do these facts say about growth in labor productivity (defined as output per worker) in manufacturing?
 - b. In your opinion, should policymakers be concerned about the decline in the share of manufacturing employment? Explain.