

# Problem Sets Macroeconomics Week 3

## Suggested Solution

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### Quick Check Multiple Choice

- Suppose that the CPI for a particular economy rose from 110 to 120 in year 1, 120 to 130 in year 2, and 130 to 140 in year 3. We could conclude that this economy is experiencing:
  - Accelerating inflation.
  - Deflation.
  - Disinflation.
  - A constant rate of inflation.
- Disinflation occurs when:
  - The price level is falling.
  - Investment plans exceed saving.
  - A speculative investment "bubble" is bursting.
  - The inflation rate is declining.
- Your father graduated from school and took his first job in 1972, which paid a salary of \$7,000. What is this salary worth in 2005 dollars, given that  $CPI_{1972} = 41.8$  and  $CPI_{2005} = 195$ ?
- Consider the table below. Suppose in the basket there are 100 heads of cauliflower, 50 bunches of broccoli, and 500 carrots. Calculate the inflation rate in 2007.

Year	Cauliflower	Broccoli	Carrots
2006	\$2	\$1.50	\$0.10
2007	\$3	\$1.50	\$0.20

Table 1: Prices of goods in 2006 and 2007.

- Which of the problems in the construction of the CPI might be illustrated by the following situations? Explain.
  - The invention of the iPod.
  - The introduction of airbags in cars.
  - Increased personal computer purchases in response to a decline in their price.

- d. More scoops of raisins in Raisin Bran packages.
  - e. Greater use of fuel-efficient cars after gasoline prices increase.
6. Which has a greater effect on the CPI: a 10% increase in the price of chicken or caviar? Explain.
7. Suppose people consume only three goods, as shown in the table:

Year	Tennis Balls	Golf Balls	Gatorade Bottles
2011 Price	\$2	\$4	\$1
2011 Quantity	100	100	200
2012 Price	\$2	\$6	\$2
2012 Quantity	100	100	200

Table 2: Prices and quantities for goods in 2011 and 2012.

- a. What is the percentage change in the price of each of the three goods?
  - b. Using a method similar to the consumer price index, compute the percentage change in the overall price level.
  - c. If you were to learn that a bottle of Gatorade increased in size from 2011 to 2012, should that information affect your calculation of the inflation rate? If so, how?
  - d. If you were to learn that Gatorade introduced new flavors in 2012, should that information affect your calculation of the inflation rate? If so, how?
8. The annual percentage rate of change in the price level is the:
- A. Relative price
  - B. Price index
  - C. Cost of living
  - D. Rate of inflation
9. Suppose that society decided to reduce consumption and increase investment.
- a. How would this change affect economic growth?
  - b. What groups in society would benefit from the change, and who might be adversely affected?
10. 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.
11. From 1950 to 2000, manufacturing employment as a percentage of total employment in the U.S. economy fell from 28% to 13%. 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.