

### Exercise Session #3

1. 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:

- A) accelerating inflation.
- B) deflation.
- C) disinflation.**
- D) a constant rate of inflation.

**Inflation year 0->1 =  $\frac{120-110}{110} = 9\%$ , 1->2 =  $\frac{130-120}{120} \approx 8.3\%$ , year 2 ->3 =  $\frac{140-130}{130} \approx 7.7\%$ , notice the difference between deflation and disinflation. Deflation means the opposite of inflation – price level falling, therefore, inflation itself is negative. Disinflation means that the rate of inflation is declining. Therefore, inflation itself can be positive but it is slowing.**

2. Disinflation occurs when:

- A) the price level is falling.
- B) investment plans exceed saving.
- C) a speculative investment "bubble" is bursting.
- D) the inflation rate is declining.**

3. 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 in 1972 = 41.8 and CPI in 2005 = 195?

$$=7000 * \frac{195}{41.8} = 32\ 655,5$$

4. Consider table below. Suppose in the basket there are 100 heads of cauliflower, 50 bunches of broccoli, and 500 carrots. calculate the inflation rate in year 2007.

Year	Cauliflower	Broccoli	Carrots
2006	\$2	\$1.5	\$0.1
2007	\$3	\$1.5	\$0.2

the cost of the market basket in current year:

**2006:  $(100 \times \$2) + (50 \times \$1.50) + (500 \times \$0.10) = \$325$**

**2007:  $(100 \times \$3) + (50 \times \$1.50) + (500 \times \$0.20) = \$475$**

**Then, using 2006 as the base year, we can compute the CPI in each year:**

**2006:  $\$325/\$325 \times 100 = 100$**

**2007:  $\$475/\$325 \times 100 = 146$**

**We can use the CPI to compute the inflation rate for 2007:**

**$(146 - 100)/100 \times 100\% = 46\%$**

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 iPod **introduction of new goods**
- b. the introduction of air bags in cars **unmeasured quality change**
- c. increased personal computer purchases in response to a decline in their price **substitution bias**
- d. more scoops of raisins in each package of Raisin Bran **unmeasured quality change**
- e. greater use of fuel-efficient cars after gasoline prices increase **substitution bias**

6. Which do you think has a greater effect on the consumer price index: a 10 percent increase in the price of chicken or a 10 percent increase in the price of caviar? Why?

**A 10% increase in the price of chicken has a greater effect on the consumer price index than a 10% increase in the price of caviar because chicken is a bigger part of the average consumer's market basket.**

7. Suppose that people consume only three goods, as shown in this table:

	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

- i) What is the percentage change in the price of each of the three goods?  
**The percentage change in the price of tennis balls is  $(2 - 2)/2 \times 100\% = 0\%$ .**  
**The percentage change in the price of golf balls is  $(6 - 4)/4 \times 100\% = 50\%$ .**  
**The percentage change in the price of Gatorade is  $(2 - 1)/1 \times 100\% = 100\%$ .**
- ii) Using a method similar to the consumer price index, compute the percentage change in the overall price level.  
**The cost of the market basket in 2011 is  $(\$2 \times 100) + (\$4 \times 100) + (\$1 \times 200) = \$800$ .**  
**The cost of the market basket in 2012 is  $(\$2 \times 100) + (\$6 \times 100) + (\$2 \times 200) = \$1,200$ .**  
**The percentage change in the cost of the market basket from 2006 to 2007 is  $(1,200 - 800)/800 \times 100\% = 50\%$ .**
- iii) 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?  
**This would lower my estimation of the inflation rate because the value of a bottle of Gatorade is now greater than before. The comparison should be made on a per-ounce basis.**
- iv) 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?  
**More flavors enhance consumers' well-being. Thus, this would be considered a change in quality and would also lower my estimate of the inflation rate. CPI inflation rate would not change because the basket is fixed and does not account for quality changes.**

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? **More investment would lead to faster economic growth in the short run because K/L would increase and thus productivity.**

b. What groups in society would benefit from. **The change would benefit many people in society who would have higher incomes as the result of faster economic growth. However, there might be a transition period in which workers and owners in consumption-good industries would get lower incomes, and workers and owners in investment-good industries would get higher incomes. In addition, some group would have to reduce their spending for some time so that investment could rise.**

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. **The opportunity cost of investing in capital is the loss of consumption that results from redirecting resources toward investment. Over-investment in capital is possible because of diminishing marginal returns. A country can "over-invest" in capital if people would prefer to have higher consumption spending and less future growth. The opportunity cost of investing in human capital is also the loss of consumption that is needed to provide the resources for investment. A country could "over-invest" in human capital if people were too highly educated for the jobs they could get—for example, if the best job a Ph.D. in philosophy could find is managing a restaurant.**

11. 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? **If output is rising and the number of workers is declining, then output per worker must be rising.**

b. In your opinion, should policymakers be concerned about the decline in the share of manufacturing employment?

Explain.

**Policymakers should not be concerned as long as output in the manufacturing sector is not declining. The reduction in manufacturing jobs will allow labor resources to move to other industries, increasing total output in the economy. An increase in productivity of workers (as measured by output per worker) is beneficial to the economy.**