

Econ 102 Discussion – Week 7

March 6 – 7, 2014

Inflation and Price Indices

1. You are given prices for three goods from 2007 – 2009. The market basket is two units of rice, one unit of apples, and one unit of oranges each year. The following table shows the price per unit of each good over this time period.

	2007	2008	2009
Rice	\$0.50	\$0.40	\$0.30
Apples	\$0.25	\$0.40	\$0.60
Oranges	\$0.40	\$0.50	\$0.40

- (a) Using 2007 as the base year, what is the price index in 2007?

$$\text{Price Index 2007} = \frac{\text{Cost of market basket 2007}}{\text{Cost of market basket 2007}} \times 100 = 100$$

- (b) Again using 2007 as the base year, what are the price indices in 2008 and 2009?

$$\text{Cost of market basket 2007} = (2 \times \$0.50) + (1 \times \$0.25) + (1 \times \$0.40) = \$1.65$$

$$\text{Cost of market basket 2008} = (2 \times \$0.40) + (1 \times \$0.40) + (1 \times \$0.50) = \$1.70$$

$$\text{Cost of market basket 2009} = (2 \times \$0.30) + (1 \times \$0.60) + (1 \times \$0.40) = \$1.60$$

$$\text{Price Index 2008} = \frac{\text{Cost of market basket 2008}}{\text{Cost of market basket 2007}} \times 100 = \frac{\$1.70}{\$1.65} \times 100 = 103$$

$$\text{Price Index 2009} = \frac{\text{Cost of market basket 2009}}{\text{Cost of market basket 2007}} \times 100 = \frac{\$1.60}{\$1.65} \times 100 = 97$$

- (c) What is the inflation rate from 2007 to 2008? Does it depend on the base year we choose?

$$\text{Inflation Rate} = \frac{\text{Price Index 2008} - \text{Price Index 2007}}{\text{Price Index 2007}} = \frac{103 - 100}{100} = 3$$

- (d) Using 2008 as the base year, what is the price index in 2009? Did deflation occur between 2008 and 2009? What is the inflation rate?

$$\text{Price Index 2009} = \frac{\text{Cost of market basket 2009}}{\text{Cost of market basket 2008}} \times 100 = \frac{\$1.60}{\$1.70} \times 100 = 94.1$$

Yes, deflation occurred between 2008 and 2009.

$$\text{Inflation Rate} = \frac{\text{Price Index 2009} - \text{Price Index 2008}}{\text{Price Index 2008}} = \frac{94.1 - 100}{100} = -5.9$$

Exam Problems

2. Which of the following factors could cause the demand curve for labor to shift to the right?

- (a) **The price of capital increases.**
(b) The wage rate increases.

If the price of capital increases, the demand for labor will increase if capital and labor are substitutes in the production process. If capital and labor are complements, the opposite effect would occur.

A change in the wage will always cause a movement along, not a shift of, the labor demand curve.

3. The GDP is the market value of all the final goods and services

- a) **produced domestically.**
b) produced by domestically owned factors of production.
c) produced by all factors of production.
d) bought by consumers during the time period under consideration.
e) Answers (a), (b), (c) and (d) are all true about GDP.

(b) would not be included in GDP if the factor of production was located abroad.

(c) would again could include factors of production located abroad, which would not be included in GDP.

(d) could include imports, which are not included in GDP.

4. Which of the following scenarios is an example that illustrates the concept of structural unemployment?

- a) Snow ski instructors being out of work every summer.
b) **People choosing to not work due to an increase in the benefits they receive from welfare.**

- c) A car manufacturing worker in Detroit is currently not getting paid due to a labor-management dispute that has resulted in autoworkers not working.
- d) After a stock market crash, people start saving to rebuild their lost wealth. Due to this saving, demand for products today is weak and so employers reduce the number of people they employ.
- e) Stanley and Alice both graduated from college in December and they are still looking to find a job that matches their skills and talents.

Structural unemployment occurs when the wage rate is persistently above the equilibrium wage. Generous benefits reduce a worker's incentive to find a new job quickly, which could cause structural unemployment. See p. 224 of the textbook.

5. Maria, George, and Farah produce roses and tulips. Maria has a comparative advantage over her friends George and Farah in producing roses, and George has a comparative advantage over Farah in producing tulips. The following graph shows their combined PPF (see exam). Which of the following statements is true?
 - a) Movement from point A to point B could occur if Farah produces more roses and fewer tulips.
 - b) **Movement from point A to point B can occur if and only if both Maria and Farah produce more tulips and fewer roses and George keeps producing exactly the same number of roses and tulips as he was producing at point A.**
 - c) Movement from point A to point B could occur if George produces more tulips and fewer roses.
 - d) Movement from point A to point B can occur if and only if both Maria and George produce more tulips and fewer roses and Farah keeps producing exactly the same number of roses and tulips as she was producing at point A.
 - e) Movement from point A to point B could occur if Farah produces more tulips and fewer roses and Maria and George keep producing exactly the same number of roses and tulips as they were producing at point A.

6. Majd and Salam can produce snowboards and skis. Every 2 hours, Majd can produce 4 snowboards and 12 skis, or he can produce 2 snowboards and 18 skis. Every hour, Salam can produce 4 snowboards and 8 skis, or he can produce 8 snowboards and no skis. Majd and Salam each work 4 hours a day. Working together, what is the maximum number of skis that Majd and Salam can produce in two days?
 - a) **224 skis**
 - b) 112 skis
 - c) 320 skis
 - d) 168 skis

e) 96 skis