HE2002 Macroeconomics II AY23-24 SEMESTER 2

Tutorial 6

1. **Chapter 7, Q1.**

    Using the information in this chapter, label each of the following statements true, false, or uncertain. Explain briefly.

    (a) The unemployment rate tends to be high in recessions and low in expansions.

      True.

    (b) Workers who do not belong to unions have no bargaining power.

      False. The degree of bargaining power depends on the nature of the job and the employee?s skills.

    (c) It may be in the best interest of employers to pay wages higher than their workers' reservation wage.

      True.

    (d) The natural rate of unemployment is unaffected by policy changes.

      False. Many policy factors can impact this rate.

2. **Chapter 7, Q3. The natural rate of unemployment**

    Suppose that the markup of goods prices over marginal cost is 5%, and that the wage-setting equation is

    $$W = P(1 - u)$$

    where u is the unemployment rate.

    (a) What is the real wage, as determined by the price-setting equation?

    $$\frac{W}{P} = \frac{1}{(1 + m)} = \frac{1}{(1 + 0.05)} = 0.952$$

    (b) What is the natural rate of unemployment?

    $$u = 1 - \frac{W}{P} = 1 - 0.952 = 0.048 = 4.8\%$$

    (c) Suppose that the markup of prices over costs increases to 10%. What happens to the natural rate of unemployment? Explain the logic behind your answer.

      When $m = 10\%$, the real wage is $W/P = 1/(1 + m) = 1/1.1 = 0.91$. The natural rate of unemployment becomes $u = 1 - W/P = 1 - 0.91 = 0.09 = 9\%$. The increase in the markup lowers the real wage.

Algebraically, from the wage-setting equation, the unemployment rate must rise for the real wage to fall. So, the natural rate increases.

Intuitively, an increase in the markup implies more market power for firms, and therefore less production, since firms will use their market power to increase the price of goods by reducing supply. Less production implies less demand for labor, so the natural rate rises.

3. **Chapter 7, Q6. The existence of unemployment**

(a) Why does the wage-setting relation in the Figure have a downward slope? As employment N approaches labor force L, what happens to the unemployment rate?

The downward slope follows from the bargaining power of workers increasing as the unemployment rate falls. As total employment N approaches the total labor force L, the unemployment rate gets smaller.

(b) The price-setting relation is horizontal. How would an increase in the mark-up affect the position of the price-setting relation in the Figure? How would an increase in the mark-up affect the natural rate of unemployment in the Figure?

An increase in the markup would lower the price-setting relation. This increases the natural rate of unemployment.