Tutorial Questions 5

November 2010

1. Suppose a) because of globalization, consumer demand becomes more elastic; and b) nominal wages rise. To maximize profits, how should the monopolistically competitive firm change prices in each of these cases?

2. According to the New Keynesian model, what are the implications or procyclical marginal costs for prices over the business cycle?

3. According to the New Keynesian model, a firm's price exceeds marginal cost; i.e., $p > MC$. Explain clearly why the firm would *reduce* profits if it produced more. Would the firm be willing to produce more at a *constant* price?

4. What would happen to the optimal price if unions increased wages by some proportion, γ. In a symmetric equilibrium—i.e., where all firms were the same—what would happen to the real wage?

5. What would happen to a firm's markup if nominal wages increased, but its price stayed fixed?

6. In a boom, suppose there is "learning by doing," as the firm produces more; that is, the workers learn to work more efficiently as they work harder in a boom. Explain how this mechanism acts as a form of *real rigidity*, which reduces incentives of the firm to change its price. How is the power of monetary policy affected? What implications does this have for the New Keynesian model's prediction for the cyclical nature of productivity?

7. Explain how *efficiency wages* act as a form of real rigidity. Efficiency wages refer to the idea that, as real wages rise, workers become more efficient.

8. Contrary to the model presented in class, suppose real wages are determined by trade unions. Suppose further that, in a boom, unions have more bargaining power. How does this mechanism affect the degree of real rigidity, and what are the implications for money nonneutrality?

9. Suppose that there is an increase in the money supply, causing demand to increase to Y' and the real wage to rise to w'. Suppose further there is a menu cost of C to changing prices (i.e., a *nominal* rigidity). Give a condition that ensures it is optimal for the firm not to change prices, and therefore to continue producing at the fixed price. Assume there is no real rigidity.