ECON 2080, part 1
Spring 2022
Pascal Michaillat
Brown University

Quiz 5: Wages and Unemployment Fluctuations

Question A

Consider a one-period matching model in which wages are determined by Nash bargaining between workers and firms. That is, the wage W maximizes $(a - W)^{1-\beta} \times (W - z)^{\beta}$, where a is labor productivity, z is the utility from nonwork, and $\beta \in [0, 1]$ is workers' bargaining power. Then, the wage is given by

1. $W = (1 - \beta) \times a + \beta \times z$
2. $W = \beta \times a + (1 - \beta) \times z$
3. $W = \beta \times (a + z)$
4. $W = (1 - \beta) \times (a + z)$
5. $W = \beta$
6. $W = 1 - \beta$
7. None of the above

Question B

Consider a matching model in which firms set wages by surplus sharing with workers. We expect wages to be higher when

1. Labor-market tightness is lower.
2. Labor-market tightness is higher.
3. Unemployment insurance is less generous.
4. Unemployment insurance is more generous.
5. Workers have less bargaining power.
6. Workers have more bargaining power.

7. None of the above.

Question C

In the United States, what is a plausible estimate of the elasticity γ of the real wage with respect to productivity?

1. $\gamma = 0$
2. $\gamma = 0.2$
3. $\gamma = 0.5$
4. $\gamma = 0.8$
5. $\gamma = 1$
6. None of the above

Question D

The surplus enjoyed by a worker from a worker-firm match is $(W - z)/[s + f(\theta)]$, where W is the wage, z is the value from unemployment, s is the job-separation rate, and $f(\theta)$ is the job-finding rate. Why is the term $s + f(\theta)$ in the denominator of the surplus?

1. Because $s + f(\theta)$ is the expected duration of unemployment for a worker who just lost her job.
2. Because $s + f(\theta)$ is the expected duration of employment for a worker who just found a job.
3. Because $1/[s + f(\theta)]$ is the expected duration of unemployment for a worker who just lost her job.
4. Because $1/[s + f(\theta)]$ is the expected duration of employment for a worker who just found a job.
5. Because $s + f(\theta)$ is the expected duration of the period during which a worker initially employed and a worker initially unemployed retain a different employment status.
6. Because $1/[s + f(\theta)]$ is the expected duration of the period during which a worker initially employed and a worker initially unemployed retain a different employment status.
7. None of the above.

Question E

Consider a matching model with surplus sharing and a linear production function. Assume that the value of unemployment is $z > 0$ and that the bargaining power of firms is 1. Then an increase in labor productivity a leads to

1. Higher tightness and lower unemployment
2. Lower tightness and higher unemployment
3. Higher tightness and higher unemployment
4. Lower tightness and lower unemployment
5. No effect on tightness and unemployment