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Quiz 3: Labor Supply and Demand

Question A

In the matching model, the labor supply is increasing in labor market tightness because

1. A higher tightness makes it more expensive to hire producers.
2. A higher tightness makes it cheaper to hire producers.
3. A higher tightness makes it easier to fill vacancies.
4. A higher tightness makes it easier to find jobs.
5. A higher tightness reduces the job-separation rate.
6. None of the above.

Question B

If the labor-force participation rate suddenly increases, what necessarily happens in the matching model?

1. The labor supply curve is not affected.
2. The matching function is more effective.
3. The matching functions is less effective.
4. The labor-supply curve shifts inward.
5. The labor-supply curve shifts outward.
6. None of the above.

Question C

In the matching model, an increase in the job-separation rate would

1. Have no effect on the labor-supply curve

2. Shift the labor-supply curve inward
3. Shift the labor-supply curve outward
4. Make the matching function more effective
5. Make the matching function less effective
6. None of the above.

Question D

Consider a matching model of unemployment with labor force of size H, a recruiting cost of $r > 0$ recruiters per vacancy, a job-separation rate $s > 0$, and a Cobb-Douglas matching function: $m = \sqrt{U} \times \sqrt{V}$. Define the labor market tightness as $\theta = V/U$. Using the assumption that labor-market flows are balanced, compute the recruiter-producer ratio $\tau = R/N$.

1. $\tau(\theta) = \frac{\sqrt{\theta}}{1 - r \times s \times \sqrt{\theta}}$
2. $\tau(\theta) = \frac{r \times s}{1 - r \times s \times \sqrt{\theta}}$
3. $\tau(\theta) = \frac{r \times s \times \sqrt{\theta}}{1 - r \times s \times \sqrt{\theta}}$
4. $\tau(\theta) = \frac{r + s}{r + s \times \sqrt{\theta}}$
5. $\tau(\theta) = \frac{r \times s \times \sqrt{\theta}}{r \times s \times \sqrt{\theta} - 1}$
6. None of the above

Question E

The recruiter-producer ratio derived in Question D has the following properties:

1. It is increasing in θ and positive on $\mathbb{R}_+$, with $\lim_{\theta \to \infty} \tau(\theta) = \infty$.
2. It is decreasing in θ and positive on $\mathbb{R}_+$, with $\lim_{\theta \to \infty} \tau(\theta) = 0$.
3. It is increasing in θ and positive on $[0, rs]$, with $\lim_{\theta \to rs} \tau(\theta) = \infty$.
4. It is increasing in θ and positive on $[0, 1/rs]$, with $\lim_{\theta \to 1/rs} \tau(\theta) = \infty$.
5. It is decreasing in θ and positive on $[0, rs]$, with $\lim_{\theta \to rs} \tau(\theta) = 0$.
6. None of the above.