Quiz on Matching Function

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Available at https://pascalmichaillat.org/c1/

Question 1

Which of these matching functions does not have constant returns to scale?

A. $m(U, V) = a \times U + b \times V$

B. $m(U, V) = U^a \times V^{1-a}$

C. $m(U, V) = [b \times U^a + (1 - b) \times V^a]^{1/a}$

D. $m(U, V) = U \times V$

E. $m(U, V) = \sqrt{U} \times \sqrt{V}$

Question 2

A Cobb-Douglas matching function gives the flow of new worker-firm matches created when they are U unemployment workers and V vacancies: $m = \omega \times U^{\eta} \times V^{1-\eta}$. We define the labor market tightness as $\theta = V/U$. What is the expression for the rate q at which a vacancy is filled?

A. $q(\theta) = \omega \times \theta^{\eta}$

B. $q(\theta) = \omega \times \theta^{1-\eta}$

C. $q(\theta) = \omega \times \theta^{-\eta}$

D. $q(\theta) = \omega \times \eta^{\theta}$

E. $q(\theta) = \theta^{-\eta}$

Question 3

A Cobb-Douglas matching function gives the flow of new worker-firm matches created when they are U unemployment workers and V vacancies: $m = \omega \times U^{\eta} \times V^{1-\eta}$. What is the expression for the rate f at which a worker finds a job?

A. $f(\theta) = \omega \times \theta^{\eta}$

B. $f(\theta) = \omega \times \theta^{1-\eta}$

C. $f(\theta) = \omega \times \theta^{-\eta}$

D. $f(\theta) = \omega \times \eta^{\theta}$

E. $f(\theta) = \omega \times \theta^{1+\eta}$

Question 4

What is a realistic specification for the matching function?

A. $m(U, V) = \omega \times U^{0.2} \times V^{0.8}$

B. $m(U, V) = \omega \times U^{0.5} \times V^{0.5}$

C. $m(U, V) = \omega \times U^{0.5} \times V^{0.8}$

D. $m(U, V) = \omega \times U^{0.3} \times V^{0.4}$

E. $m(U, V) = 0.5 \times U + 0.5 \times V$

Question 5

For any matching function, what is a key relationship between the job-finding rate f, vacancy-filling rate q, and labor market tightness θ?

A. $f + q = \theta$

B. $f \times q = \theta$

C. $f/q = \theta$

D. $f - q = \theta$

E. $q/f = \theta$