

Practice Question #2

Course 14.454 – Macro IV, Fall 2004

1. The Political Economy of Labor Market Institutions

Consider the one-period model of specificity we saw in class: There are two factors, k and l . One unit of a factor can either produce in home production, earning its ex-ante opportunity cost w_i , or enter into joint production with one unit of the other factor to produce y . However, even if two units agree to enter into joint-production, either one can break up the joint unit before production is completed. Units that break up have a different outside option than units in home production. The ex-post outside value of each factor is $(1-\phi_i)w_i$, where $0 \leq \phi_i \leq 1$. The two factors bargain to split the surplus (the value of production minus the ex post opportunity costs) of joint production evenly. Autarky rewards are $w_k = 1$ for capital and $w_l = 2L^{1/\eta}$ for labor, where L is the number of units of labor employed in joint production. Joint production units produce output, $y \in [2,3]$.

- (a) Assuming no specificity ($\phi_i = 0$), derive expressions for employment and payments to factors in the autarky and joint production sectors.

Now let's consider the introduction of various labor market institutions, and suppose that we add the following features:

- A firing tax f per joint production unit. This tax must be paid by capital if it separates from labor before joint production takes place.
 - A strengthening of union legislation that effectively makes a fraction ϕ_k of capital specific to the joint production relationship it enters.
 - Unemployment benefits b , paid to each worker in autarky
 - An output tax τ per joint production unit
 - Assume $\phi + f + b + \tau \leq 1$
- (b) What are the new ex-post opportunity costs for capital and labor? (Label them as b_k and b_l respectively).
- (c) What is the new autarky wage for labor? What is the new surplus?
- (d) What are the new ex-ante entry conditions for capital and labor? Which constraint will be binding, and why?
- (e) Solve for the equilibrium labor supply. How do each of the parameters, τ, b, ϕ_k, f , affect the equilibrium labor supply? Explain.
- (f) Now solve for the equilibrium wages and surplus. Which type of labor benefits from the labor unions (higher ϕ_k) and regulation (higher f). Why don't unemployment benefits lead to labor segmentation?