Seminar questions Econ1910 spring 2022

Session 1

1 Consider the case where the marginal product curve is

$$x_1 = 25 - 5 \cdot L_1 \tag{P1}$$

a) Draw the curve
b) Derive the marginal product when $L_1 = 4$
c) Shade the total product when the number of workers is $L_1 = 4$ and assess the value.
d) Derive the value of L_1 for which x_1 is zero.
e) Assume that there is alternative employment with fixed marginal product equal to 5. What is optimal (As in Ostrom) value of L_1 (and the resulting $\bar{L} - L_1$?)
f) What would be the the resulting value of L_1 the land is a commons resource. Illustrate the efficiency loss.
g) What is the outcome if the land is owned by a landlord who maximizes profits and pays as little as possible. Illustrate the income distribution between land owner and workers.

2. Consider the case where total product of land is independent of employment L_1.

$$Y = 10 \tag{P2}$$

a) What is the marginal product of labour?
b) Derive the expression for the average product for all L_1.
c) Assume that there is alternative employment with fixed marginal product equal to 5. What is optimal value of L_1 (and the resulting $\bar{L} - L_1$)? What will be the resulting L_1 when land is a common resource.
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3. Consider the case where there are two alternative sectors with profit maximizing owners in both sectors and marginal product as follows

$$x_1 = 10 - 2L_1 \tag{P3a}$$

$$x_2 = 5 - L_2 \tag{P3b}$$

a) Assume that total labour supply is $\bar{L} = 9$. Derive the equilibrium allocation of labour.
b) Assume that sector 1 is turned into a common resource. Derive the equilibrium allocation of workers.
c) illustrate with shading how going from a) to b) affected efficiency and income distribution.

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4. Consider Figure 12.7 in Ray's book. Draw a marginal production curve and two wage-curves (opportunity cost) that illustrate the exact same message regarding $L^\star$ and $L^{\star\star}$.
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5. Above (1g and 1g) you have compared private ownership to common ownership. A third alternative is share cropping. How does share cropping compare to the two other alternatives? Give a verbal discussion with graphical illustration.

false?

false?