

■ (3) Consider a hypothetical economy in which each worker has to decide whether to acquire education and become a high-skilled worker or remain low-skilled. Education carries a cost of  $C$ . Assume that interest-free education loans are available to everybody. Let  $I_H$  and  $I_L$  denote the incomes earned by a high- and low-skilled worker respectively. These incomes are defined as  $I_H = (1 + \theta)H$  and  $I_L = (1 + \theta)L$ , where  $H$  and  $L$  are constants ( $H > L$ ) and  $\theta$  is the fraction of the population that decides to become high skilled. This formulation captures the idea that a person's productivity is positively linked not only to his own skills, but also to that of his fellow workers. Assume that all individuals simultaneously choose whether or not to become skilled.

(a) Explain why this is like a coordination problem. What is the complementarity?

(b) Show that if  $H - L < C < 2(H - L)$ , there are three possible equilibria: one in which everybody acquires skills, one in which nobody does, and a third in which only a fraction of the population becomes high-skilled. Give an algebraic expression for this fraction in the last case, and argue intuitively that this equilibrium is "unstable" and is likely to give way to one of the two extreme cases.