

Sample Problems to Accompany Chapters 7-8
Economics 152
Prof: Philip Babcock

1) Let $PV(A_t)$ be the present value of an employee's best alternative job, $PV(W_t)$ be the present value of wages to be paid by your firm to this worker up to retirement, $PV(V_t)$ be the present value of the worker's output at your firm up to retirement, and B be the present value of a buyout offer you make to the employee. Prove that the only way that the buyout offer will be in the interests of both the employee and the firm is if $PV(A_t) > PV(V_t)$.

2) Suppose the condition in Problem 1 is satisfied. (This means the condition in part b is satisfied for all the workers you want to retire early.) You know your workers can earn \$30K a year if they go to another company and you know that they will then retire after 2 years. A management guru suggests you give your workers "job training" for another career so that they can find better jobs. Job training costs \$6K per worker. After the job training seminar, each worker will be able to get a job as a telemarketer that pays \$34K a year. Do you follow the guru's suggestion and offer your workers job training? How much will you gain or lose if you do this?

3) State 3 cases in which it might make sense for your firm to "raid" workers from another firm.

4) Suppose there are two types of workers, low and high, with different lifetime value of marginal products: $VMP_{low} = 100,000\$$ and $VMP_{hi} = 200,000\$$. It is worth 80,000\$ to a low type not to have to go to the trouble of getting a 4-year college degree. It is worth 40,000\$ to a high type not to go to the trouble of getting a 4-year college degree. Suppose firms offer 2 jobs, one paying VMP_{hi} and the other paying VMP_{lo} . Assume education does not raise worker productivity. Should firms offer the high-paying job to those with at least 4 years of college? Or should the minimum required years of college be more than 4? Or less than 4? Explain why and draw a diagram that shows the signaling equilibrium.