

Economics 136
Sample Problems for Chaps. 4-6
Julian Betts

1. You have three workers at your firm and two divisions, manufacturing and service (M & S). By rotating workers through both divisions, you have determined that the addition to net revenues generated by each worker is as follows:

Worker	Net revenues M	Net revenues S
1	200	190
2	50	30
3	20	40

a) Assuming that you can vary the size of both divisions in any way you want costlessly, who should work in M and in S? Explain your reasoning.

b) Suppose instead that because of large capital investments that your firm has made, you are currently required to put 1 worker into manufacturing and two into sales. What is the optimal job assignment now? Explain your reasoning and why the assignments change from part a).

2. A firm is trying to establish a wage $=a+bE$ where E is worker effort and a and b are to be chosen by the firm. The worker maximizes utility which is given by $\text{wage} - 5E^2$

where the latter term reflects the cost of effort to the worker.

Each unit of effort E produces 4 units of output, which can be sold for \$3 per unit. But additional worker effort of 1 unit also leads to additional material costs for your firm of \$2. Assume that the worker's utility must be at least zero for him or her to accept the job. Calculate the profit maximizing values of a and b , and the optimal effort E that results.

3. A dean of a major west-coast business school recently claimed that business schools face a very serious competitive threat -- corporate in-house training programs designed to substitute for MBAs. Do you think this is a serious threat? Why or why not? What kinds of companies do you predict are more likely to run such programs? What kinds of topics do you predict they would teach?