

Ch. 3 Lazear: Hiring the Right People

Appendix: You are responsible for only pp. 67-68 of the appendix.

Main question: How do you find the most able people for a given job?

One solution: *offer high wage*. But this alone not enough.

Suppose that workers' productivity in all firms identical, and they know their productivity, but not immediately evident to firms.

Problem: if offer \$30 per hour, all workers whose productivity \leq \$30 per hour likely to apply:



So average applicant will have productivity less than \$30 per hour. this is the problem known as ADVERSE SELECTION.

SOLUTIONS?

1. If *certain observable characteristics of applicants linked to productivity*, then use this information.

Example: For white collar jobs those with more education likely to be more productive.

Such 'screening mechanisms' should be harder for less productive workers to obtain; otherwise all workers will get the credential.

If the wage gap between those with and without the credential is small, then only the most able will find it worth the effort to obtain.

2. *Contingent contracts*

- payment that depends on worker output and/or tenure at the firm.

Example 1: Pay piece rates.

That is, fixed dollar amount for each unit produced. (example: sales commissions). Only more productive workers are likely to accept this over a fixed wage job.

Example 2: Bonuses if workers exceed some quota.

General problems:

1)

2)

Example 3: Probation

Useful if cannot observe worker's true productivity until have hired person, use low initial wage to keep less productive workers away, while offering big raise to those who are not fired after first period to attract more productive workers.

Proposition 1: As the premium G that more productive workers earn in the general labor market rises, the gap between the probationary wage and the wage paid after the probationary period must rise.

Intuition: Must keep period 1 wage to what low productivity workers could earn elsewhere or below.

Assume 2 periods, interest rate=0. Unskilled and skilled workers' wages in the general labor market are:

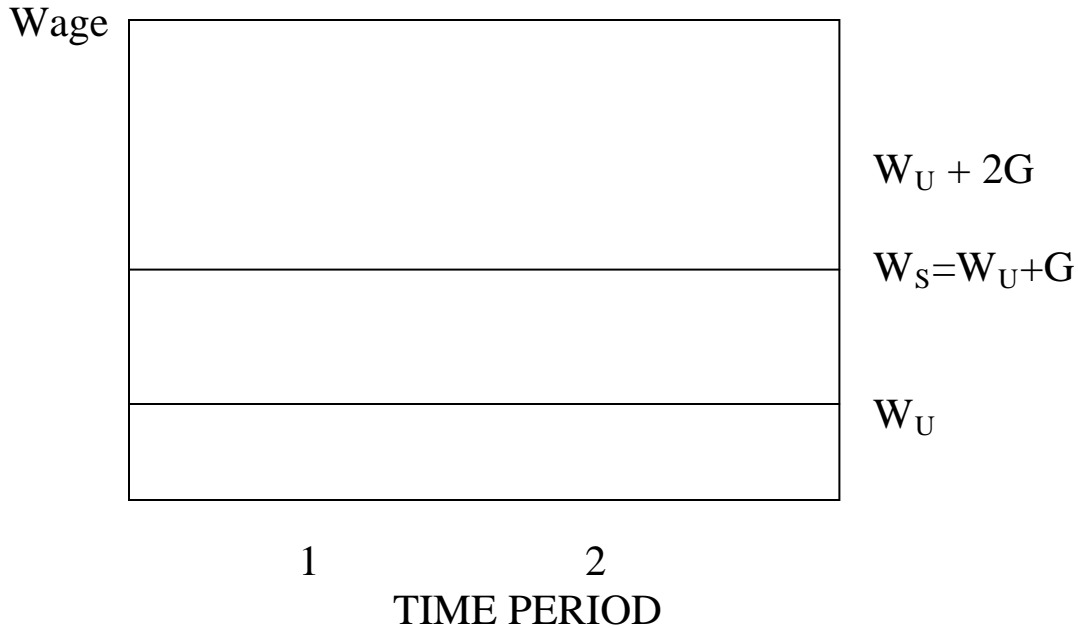
$$W_U \text{ and } W_S = W_U + G.$$

Period 2: Must offer SUM of wages over two periods that at least matches what skilled worker could get elsewhere: $W_1 + W_2 \geq 2W_S$

Will be an equality in order to minimize cost: $W_1 + W_2 = 2W_S$

Period 1: To make Unskilled indifferent between applying and not, offer $W_1 = W_U$

Substitute into above: $W_2 = 2W_S - W_U = W_U + 2G$



Note: In practice if a firm wanted to make absolutely sure that no unskilled workers would apply it could pay slightly below W_U in period 1 and correspondingly more in period 2:

$$W_1 = W_u - a \text{ and } W_2 = W_U + 2G + a$$

where $a > 0$ but small.

Proposition 2: As the probability P that less productive workers will not be detected at the end of period 1 rises, the probationary wage must fall while the wage paid after the probationary period must rise.

Intuition: If unskilled workers now have a CHANCE to get the W_2 payoff, must reduce the wage they now would get for sure in period 1 and increase wage paid in period 2, to lower the overall expected payment they get, while keeping skilled workers happy.

Proof: See Appendix.

Read example of Valuejet on p. 62 and how it explicitly used 90-day probation, and after that how it attempted to set pay based on individual evaluations of productivity. Possible for smaller firms only?

Monitoring Costs and Sorting

To pay piece rates, must monitor output (ex.: hire additional supervisors). These are real costs. The worker must pay these costs through lower wages if the results of the monitoring are observed by other firms. Otherwise the firm that monitors will try to reduce the worker's salary to pay for the costs, and will have worker stolen by other firms. If result of monitoring not observable, then worker and firm may share cost.

Either way, is a social cost that reduces efficiency of economy.

What are costs and benefits of paying piece rates?

Assume for the start that workers cannot vary effort but vary in ability.

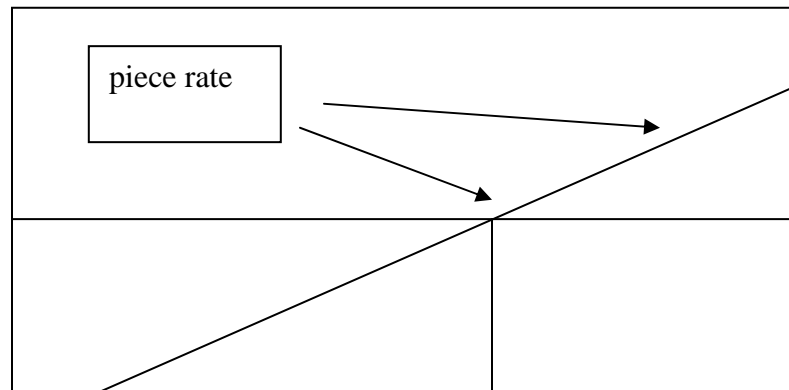
Benefit #1:



wage per day

fixed salary

Monitoring
cost per
period



Choose salary

Choose piece rate

Worker Productivity

Benefit #2 of piece rates:

Costs:

While paying piece rates will attract better than average workers, it may not always be worth it. Text pp. 59-61 gives example in which law requiring ALL firms to pay straight salary would lead to greater production. Assumptions: monitoring costs > 0 for piece rate system, and paying piece rates has no effect on effort. Then it is best to pay everybody salary, and not waste money on monitoring.

A bit forced -- it's likely that paying piece rates DOES increase effort.

Q: If you examine two firms, one paying piece rates and one paying straight salary, and productivity at former firm higher, should both firms offer piece rates?

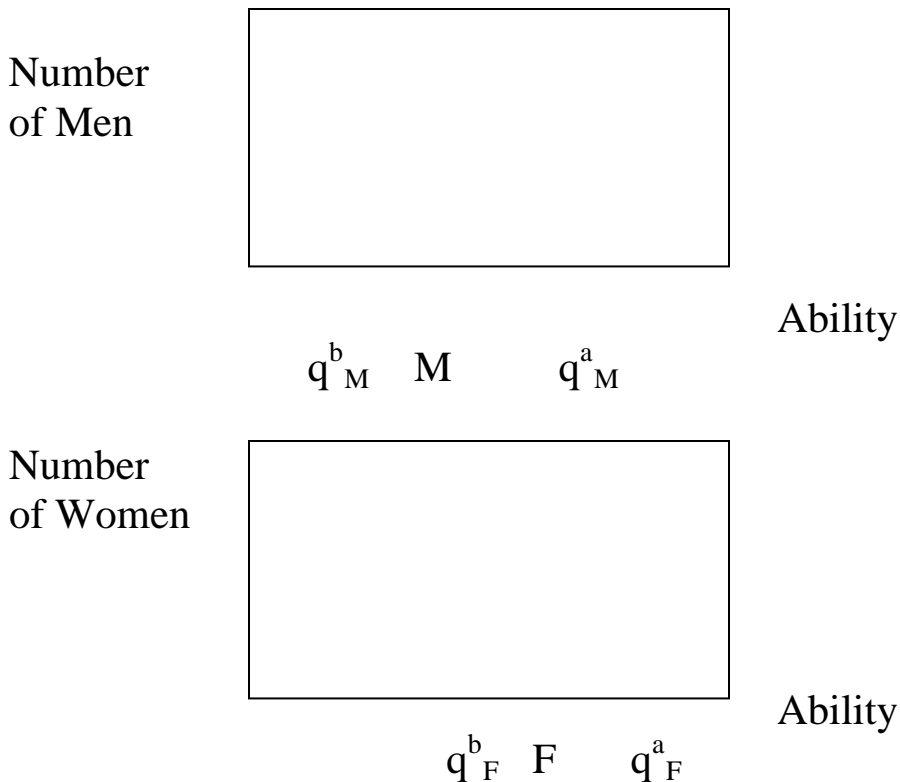
A: It depends. If higher prod'y at firm 1 is due solely to sorting of workers, and no positive effect on effort, then firm 1 might have higher or lower profits than firm 2.

More Examples of Sorting

1. Consequences of Unequal Access to Good Jobs among Groups (e.g. men/women, races/ethnicities)

p. 63 gives example of men and women under assumption that distribution of ability of men and women identical. If two types of jobs a and b, good and bad, and if cutoff ability for good job is F for females and M for males, with $F > M$,

then AVERAGE ABILITY OF WOMEN (Q_F) IN EITHER JOB IS HIGHER THAN THE AVERAGE ABILITY OF MEN (Q_M) IN SAME JOB:



Could find same thing for whites and minorities.

Why? Racism/sexism one possibility. Another might be firms with good jobs 'statistically discriminating' against women because of belief that males might be less likely to quit (increasingly less true each year).

2. Early Retirement Incentives Can Backfire

Textbook gives example of how the end of mandatory retirement caused universities to worry **“that their classrooms would come to be filled by senile, lethargic professors rather than the erudite and energetic ones to which the students had grown accustomed”**. (What university is this?!!)

Solution adopted: Universities offered early retirement incentives to all older faculty.

Problem:

Q: How to fix?

A: Make retirement package more generous for less productive researchers.

Note: In general, ‘wage compression’ i.e. offering the same package to all workers, will lead to adverse selection, with less productive than average workers flocking to take the package. Unions tend to compress wages.

Example: Unionized university faculties tend to be of lower average quality than non-union faculties.

APPENDIX

Look at the first mathematical example there. The second example, showing how to calculate expected productivity, requires some knowledge of statistics. Skip that example.

The math:

Assume 2 periods, interest rate=0. Unskilled and skilled workers' wages in the general labor market are:

$$W_U \text{ and } W_s = W_U + G.$$

What period 1 and 2 pay to set, if have a chance P of not detecting unskilled labor after 1 period?

To attract skilled workers, must meet or beat his/her best alternative:

$$W_1 + W_2 \geq 2W_s = 2(W_U + G) \quad (1)$$

To deter unskilled workers from applying, his/her expected earnings at firm must be less than or equal to best alternative:

$$W_1 + P*W_2 + (1-P)W_U \leq 2W_U \quad (2)$$

2 equations, 2 unknowns. See appendix for one solution method.

A second: assume that (1) holds with equality due to cost minimization. The subtract (1) from (2) to remove W_1 .

$$(P-1)*W_2 + (1-P)W_U \leq 2W_U - 2(W_U + G)$$

Re-arranging,

$$(1-P)W_U + 2G \leq (1-P)*W_2 \text{ or}$$

$$W_2 \geq W_U + 2G/(1-P)$$

To minimize costs, set W_2 to the minimum above:

$$W_2 = W_U + 2G/(1-P)$$

Substitute into (1) (expressed as an equality) to get

$$W_1 = W_U - 2GP/(1-P)$$

So $\partial W_2/\partial P =$

How about $\partial W_1/\partial P$?

What about as gap in wages between unskilled and skilled, G , increases in rest of labor market?

(What are the signs of $\partial W_2/\partial G$ and $\partial W_1/\partial G$?)