


Economics 136

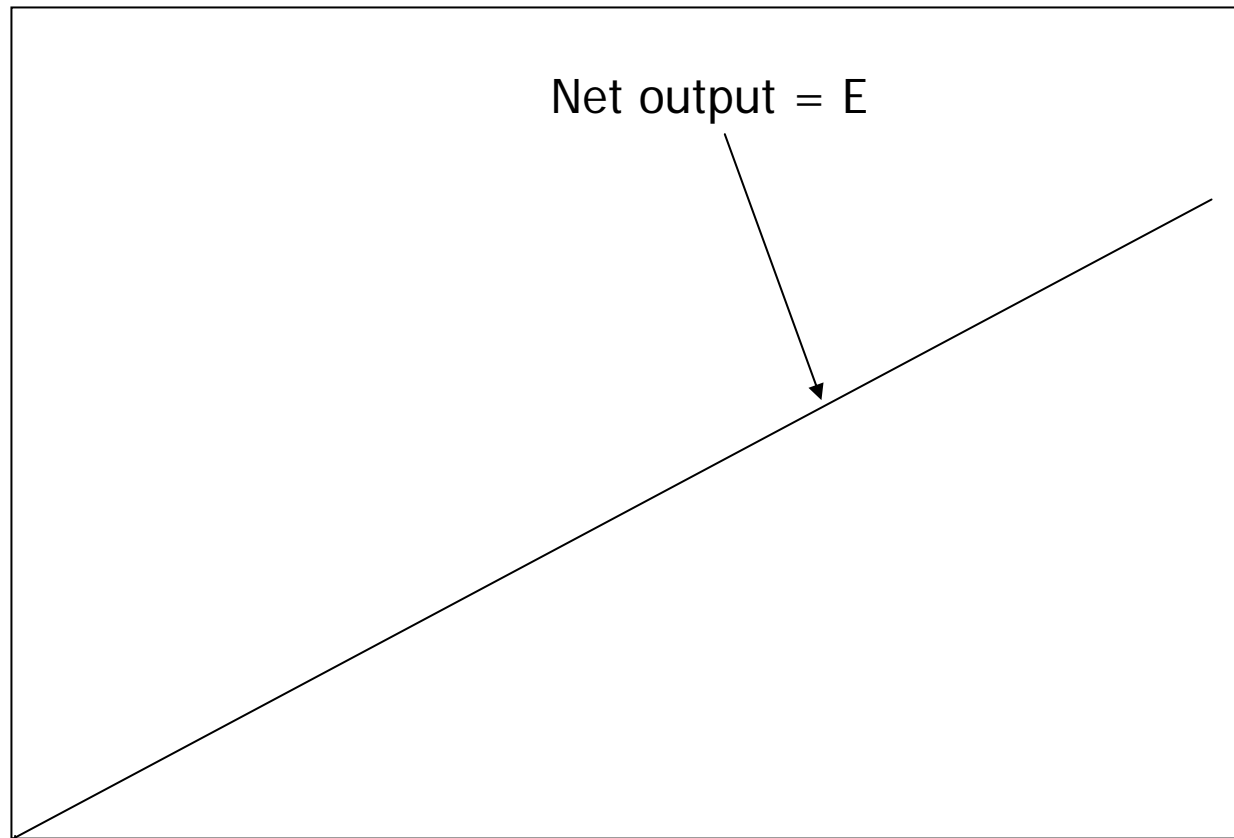
Chapter 5 Variable Pay or
Straight Pay?



PART II

Graph of solution for case where output = E (and E=Effort)

\$/hour

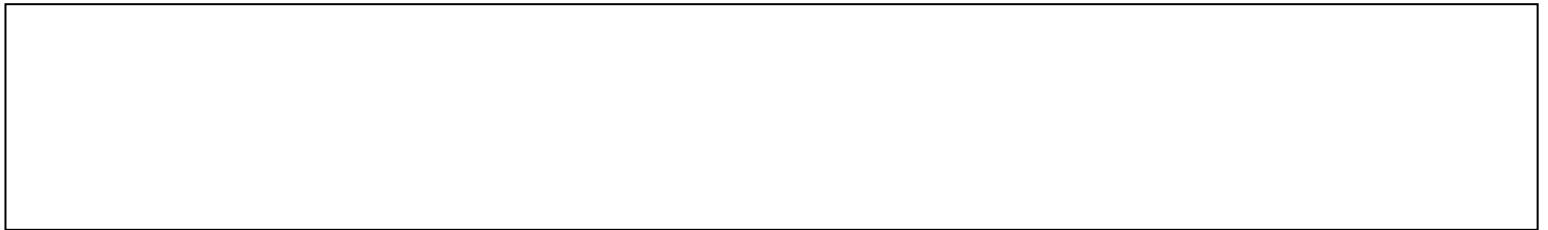


Effort (E)



Are There Any Real-World Examples of Paying 100% Commission on Net Revenues, After Extracting a Payment α

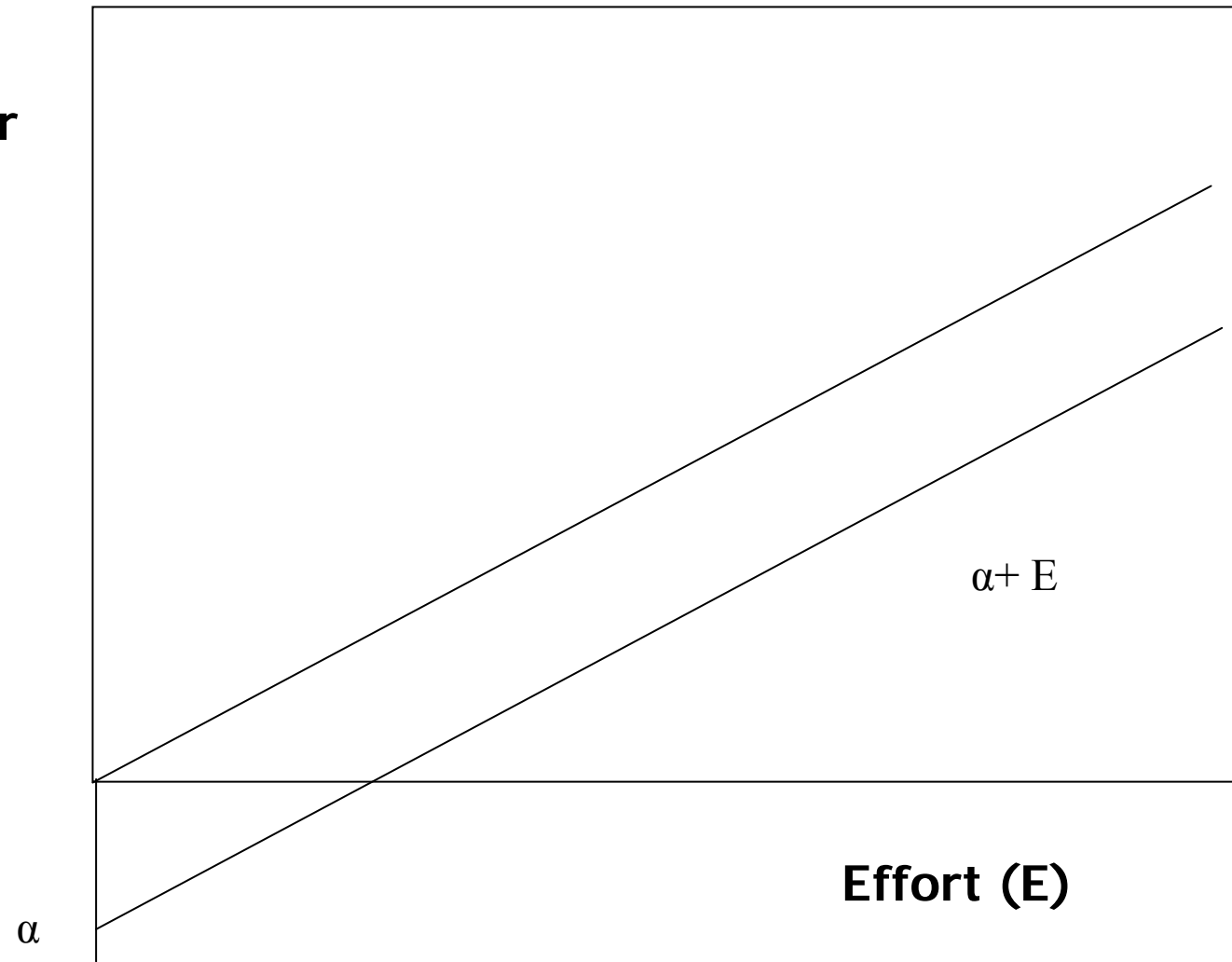
- a) Taxi drivers.



- b) Other examples (not quite as close a fit)
 - Farm workers
 - Garment workers
 - Safelite Glass workers
 - Lots of salespeople paid modified version of $\alpha + E$ (with firing rather than negative wage if low productivity)

Typical Salesperson Payment: Salary Floor Plus Incentives

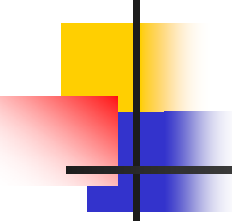
\$/hour



3) Should commission be based on total revenues or revenues net of costs (Π)?

- In theory, should be based on net revenues (profits). In practice often based on sales. WHY?

- In practice, a 100% commission on net revenues translates to a much smaller % commission on sales



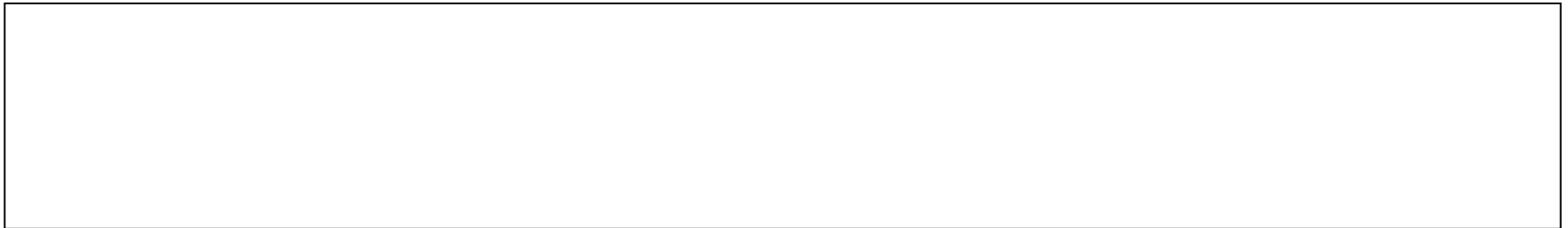
What to do if workers at your firm are always paid per hour or day worked?

- Firm could implicitly pay piece rates.
HOW?

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- Now, back to question 1 on relative advantages/disadvantages of fixed salary vs piece rates....

Advantages of Fixed Salaries over Piece Rates

- A) Piece rates encourage workers to run down the capital stock
 - Examples:



- B) With fixed salary don't need to measure individual output. Saves money
- C) Piece rates encourage quantity over quality
- D) Unpredictable events beyond worker's control makes piece rate risky.
 - Risk averse worker will prefer fixed salary to piece rate **if** both jobs have same expected pay



What is Risk Aversion?

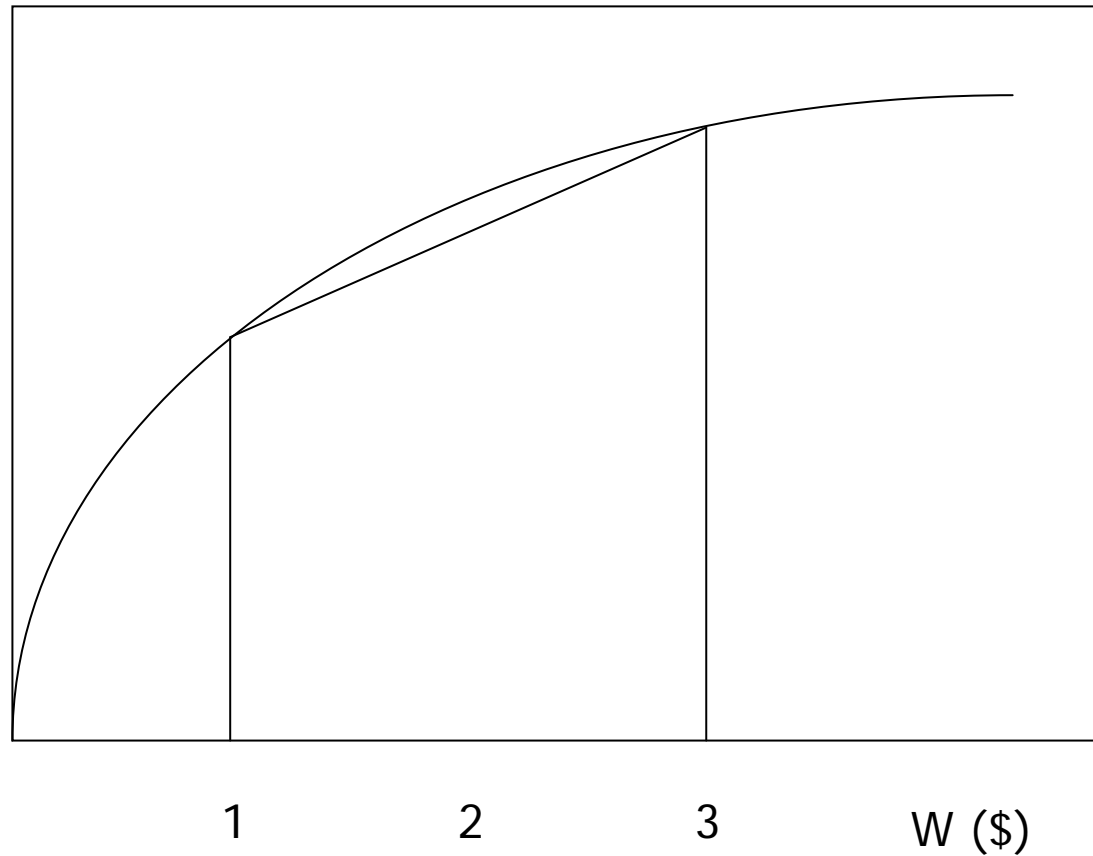
- Simple example in which worker's utility depends only on wages W (because s/he spends wages on consumption)
- $U = U(W)$, $U' > 0$
- Risk averse if $U'' < 0$ e.g. $d^2U/dW^2 < 0$
- Suppose worker will be paid \$1 or \$3 each with probability $\frac{1}{2}$
- $E(\text{payment}) = \$2$
- Expected utility $E(U) =$

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- In words: the worker would strictly prefer \$2 for sure to a risky situation with $E(\text{payment})$ of \$2



Here is why:

$U(W)$



Fixed Wage Viewed as Insurance



- A worker getting paid \$2 for sure is better off in utility terms
- The firm bears the risk; the worker is insured
- Generally speaking the less a worker earns the better it is to pay a fixed wage
- Reason:

4) How to reduce problems with variable pay?



- Can reduce neglect of capital and low quality by making pay partly dependent on these things

- Cost:

- Alternative solution to neglect of capital:



Aligning Workers' Interests with those of Owners

- Piece rates might increase worker's focus on short run if he discounts future \$ more than do shareholders
- One partial solution: make workers' earnings dependent on market value of the company's stock. How?

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- But this increases worker's risk.
 - This is why senior managers often receive combination of salary plus stock options



#2 from Sample Exercises for Chapters 4-6

- 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.