

# General Comments on Problem Set 12

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Since Problem Set 12 is relatively easy, students did very well in solving almost all questions. I feel happy to see that many of you has mastered the basic economic intuition and method. I will put emphasis on Part d) and e) of Question 1 and Part c) and d) of Question 2.

1) d) and e) of Question 1.

I found a small problem when I graded the second subquestion of d) of Q1. Quite a few of students said that if the manager hired low skilled workers the company got a loss of 2000 and that if high skilled workers were hired the company made zero profit. This is obviously true, but a better way to deliver it will be a comparison between the salary, 4000, and the expected revenue to the company, 5000. Also, a question with a few parts usually has some correlations between parts. The answer to d) is based on a).

e) sets a slightly difference in two subquestions: the minimal cost for low skilled workers and the maximal cost for high skilled workers. First, I remind you to read questions carefully, especially in the exam; second, to understand logic of a question is extremely important. The manager wants low skilled not to take the exam while wants high skilled to take it.

2) c) of Question 2.

Some of students answered 50 or 125 or other values, which means that these students did not understand how health insurance worked. 100 is the original cost for all residents with or without ball games. The contract reduces the cost caused by ball games from 100 to 50, so the average health cost for males should be the sum of the original cost and the cost from ball games.

Furthermore, the company pays 75, half of the total health cost for males, not only half of the cost from ball games because it cannot distinguish the cost from games. Suppose that a male resident broke his leg in a ball game. He asked the insurance company to cover the cost. The company did not know how he broke his leg; even he could lie to the company by claiming that he fell from the ladder when fixing the roof. Here comes the moral hazard, or in general, asymmetric information. Otherwise, if the company is able to know the reason, it just needs to add an item in the contract that any cost from ball games cannot be covered to solve the moral hazard problem. Thus the insurance company has to pay half of the total cost.

3) d) of Question 2.

A few of students reported wrongly the share to completely avoid the moral hazard. Frankly, I still do not understand the logic why they had a wrong answer. However, notice that to completely avoid the moral hazard in this question is to shut down the game, or  $B=0$ .

The true problem lies in the second subquestion. Very few students really touched the reason why  $S=1$  cannot be a reasonable solution. Although insurance companies aim to protect against risks, they

are still firms that maximize profits. They are still happy to see a positive profit even if they do not provide enough insurance against risks. The reason is as follows: the company first charges residents a certain amount of money;  $S=1$  implies that males have to pay for all of their medical costs, thus such a contract never attracts males.