## ASYMMETRIC INFORMATION

## Problem \#1

Are the following statements true or false?
a) An insurance company must take into account the possibility that someone will buy fire insurance for a house and set it on fire himself. This is an example of moral hazard.
b) A company selling life insurance must take into account the possibility that persons who buy such insurance are not as healthy as persons who do not. This is an example of adverse selection.
(...)
e) An example of a "market for lemons" is a situation where there exist many types of a certain good, however only the lowest quality ones are for sale in the market.

## Problem \#6

A series of new cars consists of seemingly identical cars which can, however, be divided into 4 categories (A, B, C, and D) differing in quality. Each category consists of an equal number of cars. In order to determine the category of a given car it is necessary to possess and use it for a certain time period. Assume 1 year is sufficient in this respect. There are 2 groups of potential buyers ( 1 and 2 ). Group 1 is 3 times larger than group 2 . Nobody wants to possess more than 1 car. The value of the discussed cars for the two groups of buyers is given in the table below.

|  | Group 1 | Group 2 |
| :--- | :---: | :---: |
| Category A | 21 | 18 |
| Category B | 18 | 17 |
| Category C | 15 | 16 |
| Category D | 11 | 12 |

Assume that each car is used up after 10 years and that its depreciation is linear. The price of a new car amounts to 16 . Who is going to buy a new car? Analyze the situation following the lapse of a year. Assume there are no other cars available, no other buyers exist, and after a year it is only possible to sell the car in one market. (Hint: knowing which consumers have bought a new car, determine which of them will be willing to sell the car they bought and who may be willing to buy a 1 -year-old used car).

## Problem \#1

A good-quality used motorcycle gives the buyer a utility of 2400 , whereas a bad-quality one -1200 . The seller is ready to get rid of a good-quality motorcycle for 2000 and a bad-quality one - for 1000. The potential supply of good and bad motorcycles is 50 each. A quality check of a motorcycle costs 80 .
a) Does the possibility to check the motorcycles prior to their purchase allow for increasing the welfare lost due to adverse selection? Provide the reasoning for your answer.
b) Determine the level of the external cost caused by the supply of bad-quality motorcycles.
c) In what way can this external cost be internalized?

## Problem \#2

Will an insurer offering a large workplace more beneficial conditions of health insurance for the employees encounter a loss?

