ECON4240 - Spring semester 2013

Problem 1.

State and prove the Revelation Principle in the context of a single agent Principal-Agent problem.

Problem 2.

Consider the setup in the Akerlof "lemons" model. There are two groups of traders: B and S.

Group B has the following utility function:

$U_B = M + \sum_{i=1}^{n} 2x_i$

Similarly, $U_S = M + \sum_{i=1}^{n} x_i$ applies to group S.

Assume that group S has N cars with quality x where x is either 0 with probability ½ or 2 with probability ½. Group B has 0 cars to begin with.

Normalize the price of M to 1.

Now calculate the equilibrium price and corresponding quantity of cars traded. How is this different from the full information first-best outcome?

Problem 3.

Consider a risk-neutral principal and a risk-neutral agent in an asymmetric information setup. Suppose the agent has to perform a task (say exert effort) which is not observable by anyone other than the agent. Is moral hazard an issue here, in the sense of deviation from the first-best? Illustrate by constructing a set of optimal transfers.