Economics 101
Spring 2004
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Practice Problems and Discussion Questions 8

1. Adverse Selection: Consider the market for auto insurance. Suppose that drivers vary in their riskiness. Specifically, the expected damages per year varies across drivers uniformly between \$0 and \$1000.[1] Suppose further that each driver is risk averse and will buy insurance if it's price is no more than \$100 greater than his or her expected damages.

   If the insurance companies could tell the drivers apart, they would charge each a price based on expected damages. However, they can't. So suppose instead that they charge the same price to all drivers, and that this price is equal to the average expected damages of those who actually buy the insurance.

   a. According to our assumptions above, what price would insurance companies set if they thought (incorrectly) that all drivers in this market will buy insurance. If they set this price, what fraction of drivers will actually buy insurance. In what sense are firms practicing *statistical discrimination* in this market?

   b. Note that in equilibrium the price will have to satisfy: $P = \frac{1}{2}(1000 + (P - 100))$. Explain this equation, and then solve it for the equilibrium price. What fraction of drivers buy insurance in equilibrium? Explain why this number is so small.

   c. Suppose that you are a low risk driver. Can you think of a *costly to fake* signal that you could send to the insurance companies to indicate that you are a low risk driver?

2. Adverse Selection: Why might a bank set interest rates on bank loans below the market clearing rate in order to avoid problems of *adverse selection*? If all banks did this, would some low risk borrowers who would like to borrow at the going market rate be denied credit?

3. Moral Hazard: In what way might the Savings and Loan (S&L) crisis of the late 1980s, the rising cost of health care in the U.S. in the 1990s, and the recent Enron scandal each be rooted in *moral hazard* problems.

4. Advertising (on television, newspapers, etc.) is a 150 billion dollar (per year) industry in the U.S. From an efficiency point of view, do you think that there is too little, too much, or just enough advertising in our economy?

5. Please read Eric Schlosser's book *Fast Food Nation* and write a short (limit 2 pages) critical review of it. You should comment on the general theme of the book and choose a few (no less than three) specific issues that Schlosser raises in the book and that relate to this course to critically evaluate in greater detail. Your review is due in class on Tuesday (May 4).

[1] I.e., the least risky driver incurs no damages each year, while the most risky driver averages \$1000 of damages per year, and the others are evenly spaced between \$0 and \$1000.