14.24
Prof. Snyder
Fall 2000

Problem Set 5: Legal Process

Assigned: Nov. 21
Answers: Dec. 1
Midterm: Dec. 5

Question 1. By spending more time t on a plaintiff's case, a lawyer can increase the probability of winning. Let $c(t) = t^2/2$ be the opportunity cost of the lawyer's time, $p(t) = t$ be the probability of winning, and D be the damage award if plaintiff wins the case.

(a) Compute t^J, the expenditure of time that maximizes the joint welfare of the lawyer and plaintiff.

(b) Suppose the lawyer is compensated with a contingency fee of γ percent of the trial award. Compute t^*, the equilibrium expenditure of time on the case.

Question 2. A plaintiff and defendant bargain over whether or not to settle in a situation of complete certainty. Nash bargaining characterizes the equilibrium of the settlement process. The trial will result in a damage payment D from defendant to plaintiff.

(a) Suppose $c_P = 20$, $c_D = 10$ and $D = 100$. Solve for the equilibrium surpluses and settlement offer.

(b) Suppose $c_P = 0$, $c_D = 20$ and $D = .001$. Solve for the equilibrium. What does this case say about nuisance suits?

Question 3. A plaintiff has private information about its level of harm A from an accident. The defendant's prior belief is that

$$A = \begin{cases} 200 & \text{with probability } 1/2 \\ 100 & \text{with probability } 1/2 \end{cases}$$

Suppose that, whatever the value of A, the trial award will exactly equal it (i.e., there is no uncertainty about who will win or the award conditional on the true value of A). Suppose the court costs are $c_P = c_D = 20$.

(a) Compute the equilibrium if the defendant makes a take-it-or-leave-it settlement offer to the plaintiff before any information exchange. Compute the probability of settlement and expected social welfare.

(b) Show that the high-harm type of plaintiff would wish to reveal information about A voluntarily before the defendant makes a settlement offer. Hint: for the high-harm type, compare the equilibrium from above to the Nash bargaining solution under full information.

Question 4. Figure 10.3 is the same as the numerical example discussed in class with the exception that trial costs are now \$ 40 rather than \$ 20. Work backwards from the end of the game to determine the plaintiff's net value from filing EVF. As intermediate steps, compute EVA, EVT, etc.

Figure 10.3: Should Plaintiff Sue? Modified Example