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Legal Fees: A Comparison of the American and English Rules

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This note is intended to explore some of the issues raised by Avery Katz's provocative paper. The question posed in his paper is whether the English rule or the American rule generates more legal fees. Katz uses game-theoretic motivation for the elasticity measures that are central to his analysis. However, the analysis proceeds in terms of elasticity models so the implications of the underlying game theory remain rather obscure. The approach taken here is to analyze a game-theoretic model directly to discover where the basic principles of the theory lead. The basic approach is similar to other papers and the contribution here is to work out the details of an easy-to-follow example.[1]

The answer given by game theory to the question of which generates more legal costs is sensitive to the exact formulation of the two rules and also to what I will call the "legal production function." The strategy of this note is to present formal statements of the rules in section 1. In section 2, the legal production function is outlined. Section 3 contains the results and section 4 contains some general remarks.

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1. See Reinganum and Wilde; and Braeutigam et al.

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1. THE RULES

The notation to be used is as follows:

x = hours of legal services employed by the plaintiff. The lower case x represents a variable to be determined by the plaintiff and the upper case X is the specific quantity that would be chosen at equilibrium.

y = hours of legal services employed by the defendant. The lower case y represents a variable to be determined by the defendant and the upper case Y is the specific quantity that would be chosen by the defendant at equilibrium.

C = hourly legal fees so Cx and Cy are the total legal fees of the plaintiff and the defendant, respectively.

$P(x,y)$ = the probability that plaintiff wins the case.

$1 - P(x,y)$ = the probability that defendant wins the case.

A = the award if plaintiff wins the case.

In addition to the assumptions implicit in the notation, we will assume that all parties choose so as to maximize expected monetary payoff. This assumption eliminates risk-averse behavior.

Three rules are considered: the American rule, the pure English rule, and a mixed rule. The distinction between the rules is captured by the objective functions as seen from the point of view of the plaintiff. As will become clear, the mixed rule contains the other two as special cases.

The American rule is distinguished by the fact that each party to litigation pays the entirety of his/her own legal fees. Formally, the decision problem of the plaintiff is to maximize expected profits by a proper choice of x, the number of hours of legal services employed. Expected profits depend upon the choice of strategies (x,y) and are defined as:

$$\Pi_A(x,y) = P(x,y)(A - Cx) + (1 - P(x,y))(-Cx).$$

In words, the plaintiff must decide how aggressively the case will be pursued. In doing so, the plaintiff is motivated to employ legal services to the point that maximizes the expected net benefit of litigation (the product of the probability of winning and the award net of fees) minus the expected cost of litigation (the product of the probability of losing and the fees of own legal services).

By contrast the English rule induces the expected profit function:

$$\Pi_E(x,y) = P(x,y)A + (1 - P(x,y))(-Cx - Cy).$$

The problem is to find the value of x which maximizes this function. In words, the expected value of the award is compared to the expected cost of all legal fees to both parties. The prominent feature of the rule is that the plaintiff pays no legal fees if the plaintiff wins but must pay all legal fees of both parties if the plaintiff loses. The defendant faces a similar problem.

A third rule holds that the winner pays a portion, β, of his own legal fees. The loser pays his own fees plus the amount of the legal fees of the winner that are not paid by the winner. That is, the loser pays the proportion $(1 - \beta)$ of the legal fees of the winner. The objective function from the plaintiff point of view becomes

$$\Pi_M(x,y) = P(x,y)(A - \beta Cx) + (1 - P(x,y))(-Cx - (1 - \beta)Cy).$$

Some important features of these formulations should be noted. First, the participants obey the expected utility hypothesis and are risk neutral. Second, the amount of the award is independent of the amount of legal talent employed. Third, the possibility of nonpayment of the award or of the legal fees due to financial limitations of the loser is not considered. These points will be considered again later.

2. LEGAL TECHNOLOGY

A very explicit legal technology will be used in the analysis. This technology is embodied in the probability function that expresses the probability that the plaintiff will win the case, that is, $P(x,y)$. In a sense this probability reflects the nature of the court system and the productivity of the lawyers in that system. In the economics jargon, it is a production function for lawyers.

We will assume the explicit functional form:

$$P(x,y) = \alpha\left[\frac{x}{x + y}\right] + \frac{1 - \alpha}{2} \quad 0 \leq \alpha \leq 1$$

This function has several interesting properties.

1. The function is symmetric between the litigants. That is, the court is unbiased toward one or the other and litigants have equally talented lawyers.
2. The probability of winning goes up if one side increases lawyer use and the other side does not (assuming $\alpha > 0$).
3. The marginal productivity of a lawyer[2]

$$\frac{\partial P(x,y)}{\partial x} = \frac{\alpha y}{(x + y)^2}$$

2. Strnad suggests that a better production function might be one in which the marginal productivity of x goes *up* with y, rather than down as it does in this function.

goes down as the total amount of legal effort $(x + y)$ goes up. That is, the more time devoted to the case by either or both sides, the less sensitive is the likelihood of winning of one side to a small increase in lawyer time.

4. The parameter α measures the sensitivity of the system to the effort of the lawyers. The fraction $\frac{1 - \alpha}{2}$ is the part of the probability that cannot be influenced by lawyers. The parameter α is a measure of the power that lawyers have to determine the outcome of the case. If $\alpha=0$, the system is completely insensitive to what lawyers do and the probability of winning is 1/2 regardless of legal efforts. If $\alpha=1$, then with enough expenditure relative to the other side a litigant can make the probability of a win as high as is desired. If $\alpha=1$, the probability of winning is completely determined by the effort of the lawyers.

5. The formulation does not reflect the "merits" of a case independent of the efforts of the lawyers. Of course such considerations are of interest and can be incorporated. For the analysis at hand, it is best to consider only "equally meritorious" cases in the sense that without legal representation of either party (or only minimal amounts), the probability of winning is 1/2.

3. RESULTS

The following results are the symmetric Nash equilibrium of the noncooperative game.

3.1. American Rule

The amounts spent on legal services as predicted by the symmetric Nash equilibrium of the model when applied to the American rule are

$$CX = CY = \frac{1}{4}\alpha A.$$

In words, the legal fees of the plaintiff equal those of the defendant and each equals 1/4 αA. So, if $\alpha=1$, then each lawyer would be paid 1/ 4 of the amount A, and in total, 1/2 of the award amount would be used up in legal fees. A demonstration of the result will be reserved for the mixed-rule case.

Models of this form might hold some suggestions about the structure of the American system. For example, Katz notices that on average legal fees of plaintiffs in the United States are about 25 percent of the recovery. When this statistic is applied to the equilibrium formula above, one can deduce that $\alpha=1$. That is, the Nash equilibrium model in this simplified form and special assumptions taken together with the data suggests that the legal production function in the United States is completely lawyer-dominated.

3.2. English Rule

The amounts predicted by the symmetric Nash equilibrium are captured by the formula

$$CX = CY = \frac{1}{2}\frac{\alpha}{1-\alpha}A.$$

In order to develop some intuition about this result, consider some numerical assumptions. Assume $\alpha = 1/2$. That is, one-half of the uncertainty is out of the control of lawyers but the other half is determined by the hours that lawyers devote to the case. In this case, where the productivity of the lawyer is 1/2, the total award is used up in legal fees at the equilibrium. If the lawyers are a little more productive, say $\alpha = 2/3$, then $CX = A$ and in equilibrium each lawyer is paid the entire award amount. As α grows larger toward 1, the amounts of hours demanded by the plaintiff and the defendant grow without bound.

The case where $\alpha = 1$ is interesting as a continuation of the example above which argued that $\alpha = 1$ might actually be descriptive of the legal productivity in the United States. In the technical jargon, the game under the English rule has no solution if $\alpha = 1$. The litigants each have an incentive to hire more lawyer time beyond that of their opponent because by spending enough they can force the opponent to pay both legal fees. The demand for lawyers is infinite. Thus if the facts about the legal productivity in the United States are as conjectured in the example, the implementation of the pure English rule in the United States could result in a virtual explosion of legal fees.

3.3. Mixed Rule

The symmetric Nash equilibrium under the mixed rule is given by the formula[3]

$$CX = CY = \frac{1}{2}\left[\frac{\alpha}{\alpha\beta + \beta - \alpha + 1}\right]A.$$

3. Because of symmetry only the strategy of the plaintiff needs to be considered in the demonstration. The problem is to find the maximum of

$$\Pi(x,y) = P(A - \beta Cx) + (1 - P)(-Cx - (1 - \beta)Cy)$$

This rule becomes the American rule as β approaches 0 and it becomes the English rule as β approaches 1.

The model can be used to develop an interesting hypothesis about the legal production function in England. If the legal fees are hourly (as opposed to contingent) and are known as a percent of recovery, and if β is known as part of the procedures, then the magniture of α can be deduced from the formula. Thus from two pieces of data, conjectures about the productivity of lawyers in England can be developed. Of course the reliability of such conjectures are dependent upon all of the special assumptions about the legal technology, the legal production function, and so forth.

The mixed rule permits the derivation of a measure of the potential difference in resources absorbed in legal fees under the two rules. Let

X_M = hours legal services used by plaintiff in equilibrium under the mixed rule at a cost of CX_M

X_A = hours legal services used by plaintiff in equilibrium under the American rule at a cost of CX_A

The difference in cost in legal fees to plaintiff of the mixed rule and the American rule is the quantity CX_M - CX_A. Substituting from the formulas above we obtain:

$$CX_M - CX_A = \frac{\alpha A}{2(\alpha\beta + \beta - \alpha + 1)} - \frac{\alpha A}{4}$$

$$= \frac{\alpha A}{2}\left[\frac{1}{\alpha\beta + \beta - \alpha + 1} - \frac{1}{2}\right]$$

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for any given level of y. The first-order condition is

$$\frac{\partial\Pi(x,y)}{\partial x} = \frac{\partial P}{\partial x}(A - \beta Cx) + P(-\beta C) + (-\frac{\partial P}{\partial x})(-Cx - (1 - \beta)Cy) + (1 - P)(-C) = 0.$$

Because we seek a symmetric Nash equilibrium we have $X = Y, \frac{\partial P}{\partial x} = \frac{\alpha}{4x}, P = \frac{1}{2}$ at the equilibrium. Substituting into the first-order condition we get

$$\frac{\alpha A}{4x} - \frac{\alpha\beta C}{4} - \frac{\beta C}{2} - \frac{\alpha C}{4}(-2 + \beta)\frac{C}{2} = 0$$

which simplifies to

$$Cx = \frac{\alpha A}{2(\alpha\beta + \beta - \alpha + 1)}$$

as claimed.

Analysis of this formula can demonstrate that if $\beta<1$, the mixed rule always generates more legal fees than does the American rule. Furthermore, if $\alpha=1$, then the difference $CX_M - CX_A$ becomes infinite as β approaches 1. That is, the extra expenses of the mixed rule over the American rule become infinitely large as the mixed rule approaches the pure English rule case. Of course these conclusions are completely dependent upon the "legal technology" and other features of the specific functions chosen for the analysis.

4. CLOSING REMARKS

The analysis above points to an inherent instability of the English rule. This instability can be reduced if the court departs from the pure English rule and fails to award all of the winner's legal fees. Thus the rule becomes mixed and as discussed above the motivation to hire lawyers is reduced accordingly. If the court intervenes to reduce the influence of lawyers and thereby moves away from a lawyer-dominated system (reducing α), the instability is also reduced. The ability of lawyers to affect the amount of the award can produce an instability similar to the award of all lawyer fees, which will also be dampened if the power of the lawyers is dampened.

Given that a suit is inititated, the closer the system approximates the pure English rule, the greater will be the expenditure on legal fees. As one might expect, this has implications for the conditions under which the plaintiff will initiate a case.

The *perfect equilibrium* is a useful tool with which to analyze the incentives to initiate a case. The concept presupposes that the individuals look to the expected equilibrium outcome of the conflict before deciding to engage in it. They do not look to the immediate benefits of hiring a lawyer, and instead look to the final equilibrium result of a path before initiating travel over that path.

Since the game is symmetric the probability of winning is 1/2 in equilibrium. Let X be the equilibrium number of legal hours employed by plaintiff. For any degree of mixed rule $\beta > 0$ (with $\beta=0$ no equilibrium exists) the expected profits of the plaintiff are positive if and only if

$$CX < \frac{1}{2}A.$$

For the legal technology under assumption the inequality is satisfied if and only if

$$\alpha < \frac{\beta + 1}{2 - \beta}.$$

That is, the perfect equilibrium model predicts that plaintiff will initiate the case if and only if

$$\alpha < \frac{\beta + 1}{2 - \beta}.$$

So, according to this model, the likelihood of a suit goes up (because legal costs go to zero as α goes to zero) as lawyers are *less* productive. The limit of no productivity ($\alpha=0$) means that a suit occurs whenever A is positive. For a given legal technology (fixed α), the incentive for litigation goes up as β goes up. That is, the American rule tends to induce litigation because of the lower legal fees at equilibrium. In the pure English system, individuals with a complaint do not take action because the awards will simply go to the lawyers if they do. Potential litigants face a possible infinite loss for an expected gain of $\frac{1}{2}A$. That is, under the pure English rule, no avenue for remedy is open to individuals.

The model yields some insight about the principles that govern the systems. The pure English system is inherently unstable. Of course, bankruptcy and the financial limitation on both sides dampen the process. The financial limitation of litigants has the effect of lowering the expected recovery and of increasing the likelihood that a litigant must pay his/her own legal fees, even if an award is won. If the litigants do not have bounded exposure, the legal fees literally go to infinity independent of the award, once litigation is initiated. In order to prevent such big legal fees, the courts can intervene to implement $\beta > 0$ and thereby move toward the American system by forcing a successful plaintiff to bear a portion of the legal fees. The court can also change legal procedures in ways that make lawyers less productive, that is, reduce α. Both actions will have a dampening effect on the litigation costs under the English rule and given the inherent instability of the English rule, one might expect such procedures and rules to evolve to dampen the explosive nature of the process.

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