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Contingent fees for attorneys: an economic analysis

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When there is asymmetric information, contingent fees can allow clients to signal the qualities of their cases and attorneys to signal the quality of their advice. Thus, a well-informed client who has a high-quality case will be willing to pay a relatively high fixed fee and a relatively low contingency percentage, while a client with a low-quality case will prefer a low fixed fee and a high contingency percentage. In contrast, a well-informed high-quality attorney will signal her ability by working for a relatively high contingency percentage.

1. Introduction

■ Contingent fee arrangements between clients and attorneys are widely used in the United States, and have been considered in other common and civil law countries as well.[1] The primary policy argument for contingent fees has been that they increase access to the judicial system. Arguments against contingent fees have focused on their potential for permitting excessive recovery by some attorneys. Several states have recently considered limits on contingent fees, generating debates that have brought these divergent views into sharp focus.[2]

In this article we assume that there is asymmetric information between attorneys and clients, and then we show what types of fee arrangements arise in equilibrium in response to this asymmetry. The asymmetric information is of two types. First, at the time the fee arrangement is made, the client might be better informed than his attorney about the facts of the case and the prospects for recovery. If the attorney is willing to take a large contingency instead of an upfront payment, a client with a low probability of winning at trial might wish to overstate his case to the attorney. Second, lawyers might be better informed about their own abilities than prospective clients. If an attorney is being paid an hourly fee, she may want to overrepresent her ability to the client. Asymmetric information creates an

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[1] Contingent fees have been prohibited in England. In Canada they have been permitted in all provinces other than Ontario. See Kritzer (1984) for further discussion.

[2] A recent example was the ballot initiative Proposition 106 in California, which provided for a variable cap that declines from 25% to 10% (for the amount to which awards are greater than $100,000). This proposition failed to pass in 1988. See, generally, McChrystal (1987).

agency relationship of a form that has been extensively treated in other contexts, but not in the attorney-client situation.

Instead of focusing on asymmetric information, much of the economic analysis of lawyers' fee arrangements has emphasized the moral hazard problem that may result if an attorney has no stake in the award.[3] Both contingent and fixed fees create direct conflicts between clients' and attorneys' interests; in both cases the marginal benefit of additional attorney effort is different for attorneys and clients. Lawyers may have an incentive to expend too much or too little effort in pursuing such cases.[4]

The literature on moral hazard and fee arrangements has been extensive. Schwartz and Mitchell (1970) describe two models: an hourly-fee model, in which lawyers and clients are equally well informed about the effect of the lawyer's effort on the expected damage award, and a contingent-fee model, in which the client is unaware of the effect of the lawyer's effort on expected damages. By comparing the results of these two models, the authors suggest that a lawyer will spend less time if she receives a contingent fee than if she receives an hourly fee. Clermont and Currivan (1978) reanalyze the points made by Schwartz and Mitchell, but they go a step further by proposing a solution to the agency problem: an hourly fee plus a percentage of the difference between the damage award and the hourly fee if and only if the client wins the case.

Halpern and Turnbull (1983) also discuss moral hazard, while focusing on the differences between the American rule (in which each party covers its own litigation costs) and the British rule (in which the loser pays for the costs of both parties). The authors point to the limitations of the Clermont and Currivan proposal, which collapses to an hourly fee arrangement if effort is observable. They suggest that if the client is risk averse and the lawyer risk neutral, the contract that optimally assigns risk will be one in which the lawyer pays a fixed fee to the client in exchange for the court award.[5] They conclude, therefore, that a contingent fee arrangement with a contingency percentage less than 100% is never (privately) optimal if information is symmetric. They suggest, however, that a contingency percentage less than 100% might be optimal when the client cannot accurately monitor the lawyer's effort.

Danzon (1983) also shows that contingent fees can improve on hourly fees when clients are risk averse. She notes that a 100% contingency percentage will dominate any lower contingency percentage when clients are risk averse, but she argues that such arrangements violate common law doctrines that restrict the attorney's ability to obtain a financial interest in a case.[6]

In summary, the moral hazard literature concludes that, depending on details of the case, either an hourly or a contingent fee arrangement can be best for the client and the attorney. Other incentive effects are also considered, albeit less intensively, in the literature. For example, Danzon (1983) explains why contingent fees can lead to more suits being brought than hourly fees. Miceli and Segerson (1991) raise the possibility that contingent fees will lead to a smaller number of suits if the increased incentive for plaintiffs to sue leads to substantial increased precaution by potential injurers.[7]

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[3] A recent exception is Dana and Spier (1991).

[4] For an interesting empirical comparison between contingent-fee and hourly-fee lawyers, see Kritzer et al. (1984).

[5] The same point is made in Shavell (1979). Such a proposal was made in the medical malpractice context by Reder (1978).

[6] She also points to the possibility of client moral hazard. Note also that the ABA Model Rules of Professional Responsibility outlaw the outright sale of legal claims and, more generally, state that the attorney must charge reasonable fees and avoid financial conflicts of interest.

[7] Other fee-arrangement articles include Smith and Cox (1985), who present empirical evidence concerning the pricing practices of firms, and Gravelle and Waterson (1991), who look at the effect of fee arrangements on the settlement-trial decision.

This article broadens the discussion of attorneys' fee arrangements in two ways. First, instead of restricting attention *a priori* to the types of fee arrangements observed in the market for lawyers, we assume that lawyers and clients are unrestricted in the contracts they can make and then try to show what types of fee arrangements arise in equilibrium. Second, our focus is on asymmetric information between attorneys and clients, although we treat the moral hazard issue as well.

In Section 2 we study an adverse-selection model in which the quality of each case is unknown to the lawyer when a fee arrangement is made. We show that in equilibrium, clients with high-quality cases signal that their cases are high quality by their willingness to bear part of the risk. The lawyers' contingency percentage is less than 100%. In Section 3 we show that this result persists even when attorneys are subject to moral hazard. Section 4 presents a different adverse-selection model: lawyers vary in ability, and their abilities are unobservable to clients. High-quality attorneys signal their quality by their willingness to take a small fixed fee and large contingency percentage. Section 5 discusses the welfare implications of contingent fees. Section 6 concludes.

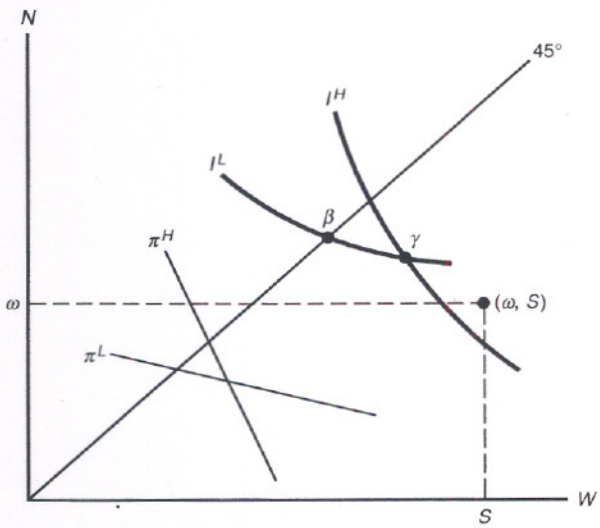
2. Lawsuits of unobservable quality

■ Each potential case is assumed to have an unobservable quality θ, which reflects the likelihood that a case will be won at trial. For simplicity, we will consider two kinds of cases, "high" quality, H, and "low" quality, L, so that $\theta \in \{L, H\}$. We also assume that the probability of winning a low-quality case, $p(L)$, is lower than the probability of winning a high-quality case, $p(H)$. In this section the probability of winning depends only on the quality of the case. In the next section we introduce moral hazard by allowing the probability of winning to depend also on the attorney's effort. Finally, again for simplicity, all cases are assumed to go to trial and to receive identical damage awards.

In Figure 1, ω represents the client's wealth after an injury but before suit is brought. The vertical axis, labeled N (for "not win"), measures the client's wealth after an injury has occurred and the case is lost. The horizontal axis, labeled W (for "win"), measures the client's wealth after the injury has occurred and the case is won. S represents the client's wealth if he retains all of the proceeds of a case that is won; $S - \omega$ thus represents the damage award.

FIGURE 1

ISOPROFIT LINES AND INDIFFERENCE CURVES WITH AN INCENTIVE-COMPATIBLE MENU



Every possible contract between the client and the attorney can be represented by a point (N, W). Since N is the client's wealth if he loses the case, the distance $\omega - N$ represents a "fixed fee," F, that the client pays the attorney for her services. If the point (N, W) lies below ω on the N-axis, then F is positive. But the fee can be negative (the attorney pays the client) if the attorney advances expenses and filing fees to the client with the understanding that they will not be repaid unless the case is won. Since W is the client's wealth if he wins the case, the distance $S - W$ represents the attorney's payment if she wins. We can think of this amount as the fixed fee, $F = \omega - N$, plus a "contingent fee," $\alpha(S - \omega)$, where α is the contingency percentage. Thus, every point (N, W) corresponds to a contract (F, α) according to the following formulas:

$$F = \omega - N$$
$$\alpha = 1 - (W - N)/(S - \omega). \tag{1}$$

The client's expected utility is given by

$$U^{\theta}(N, W) = (1 - p(\theta))u(N) + p(\theta)u(W) \qquad \text{for} \qquad \theta = L, H. \tag{2}$$

The client's indifference curve reflects the quality of the case, which determines the probability of winning $p(\theta)$. Figure 1 shows indifference curves for cases of both qualities, labeled I^L and I^H. The slope of the indifference curve for a client with a type-θ case is the marginal rate of substitution between W and N, namely $[-p(\theta)/(1 - p(\theta))][u'(W)/u'(N)]$. Since high-quality cases have a higher probability of winning than low-quality cases, the indifference curve for a client with a high-quality case has a steeper slope than the indifference curve for a client with a low-quality case. For both indifference curves, points to the northeast of the indifference curve represent greater expected utility.

We assume in this section that all attorneys have the same ability, and, since each attorney handles many cases, we assume that attorneys are risk neutral with respect to each. An attorney's profit from taking a case of type θ is

$$F + p(\theta)\alpha(S - \omega) = (1 - p(\theta))(\omega - N) + p(\theta)(S - W). \tag{3}$$

Isoprofit lines have slopes $-p(\theta)/(1 - p(\theta))$ for $\theta = L, H$. The isoprofit line for a high-quality case, labeled π^H in Figure 1, is steeper than for a low-quality case, labeled π^L. Points toward the origin from each isoprofit line (southwest) represent greater expected profit. Profit decreases moving up along the 45° line. A point on the 45° line represents full insurance or a contingent fee fraction of $\alpha = 1$. Full insurance is efficient, since the client is risk averse, and is the most profitable contract on an indifference curve.

In equilibrium, each attorney will offer a menu of contracts, and each client who seeks that attorney's services will select a contract from the menu. We will discuss symmetric equilibria where all attorneys offer the same menu. Since there are only two case types, attorneys need at most two contracts in the menus they offer; we will refer to a menu as a pair (β, γ), where $\beta = (F^{\beta}, \alpha^{\beta})$ and $\gamma = (F^{\gamma}, \alpha^{\gamma})$. It can be represented generally in (N, W) space according to the transformation (1). In particular, if $\alpha = 1$, the contract is represented by a point on the 45° line, with $N = W$. A contract below the 45° line has $\alpha < 1$, and a contract above it has $\alpha > 1$. The menu (β, γ) is *incentive compatible* if clients with low-quality cases prefer β and clients with high-quality cases prefer γ. Incentive compatibility also includes the special case in which a client is indifferent between the two contracts. Figure 1 shows an incentive-compatible menu.

To analyze the contracts that arise in equilibrium we adopt the equilibrium concept of Miyazaki (1977), which generalizes an equilibrium concept of Wilson (1977). Our discussion relies heavily on an exposition of these ideas by Judd (1987).[8]

[8] Judd shows that the equilibrium contracts that arise in the Wilson/Miyazaki framework are the same as those that arise in the bargaining context of Myerson (1983).

An equilibrium is a menu of contracts offered by each attorney with certain properties. The key problem in defining equilibrium concerns the following issue: To know whether an attorney can increase her profit by offering a different menu, she must have a belief about what other attorneys will do if she changes her menu of contracts. In the Nash equilibrium of Rothschild and Stiglitz (1976), each attorney assumes that other attorneys' menus of contracts will remain fixed if she changes her own menu, even if she attracts all the profitable clients.[9] In Nash equilibrium, each type of case provides zero profit; there is no "cross-subsidization" in an attorney's profit between clients with high-quality and low-quality cases. If clients with high-quality cases provided positive profit while clients with low-quality cases provided negative profit, then an attorney would change her menu of contracts to skim off the clients with high-quality cases. A Nash equilibrium may be inefficient in the sense that there may exist a menu of contracts that provides zero profit on average (with cross subsidies) and makes both types of client better off. In addition, a Nash equilibrium in pure strategies may not exist.

The reactive equilibrium concept of Wilson (1977) and Miyazaki (1977) makes a different assumption about how other attorneys respond when one attorney changes the menu of contracts she offers. Instead of believing that other attorneys will maintain their previous offers, each attorney believes that if she tries to skim off the clients with the profitable cases, the other attorneys will end up with negative profit and will react by withdrawing their offers entirely. Thus an attempt to skim off the profitable clients might be foiled because the deviating attorney might attract all the clients, not just the profitable ones, when other attorneys withdraw.[10] The exit of unprofitable attorneys makes it less attractive to try to skim off the profitable clients, and as a consequence the reactive equilibrium permits cross-subsidization between types: Although attorneys make zero profit on average, clients with high-quality cases might provide positive profit while clients with low-quality cases might provide negative profit. A reactive equilibrium is efficient in that there is no incentive-compatible zero-profit menu of contracts that would make all clients better off.

Judd (1987) formalizes the definition as follows: An incentive-compatible menu of contracts (β, γ) is an *M-reactive equilibrium* if and only if the total profit of the attorneys is nonnegative and there is no other menu (β', γ') that makes a positive profit in competition with (β, γ) and continues to make a nonnegative profit if (β, γ) becomes unprofitable and is withdrawn.

This equilibrium has four properties: we are interested in the fourth, separated out as Proposition 1.[11]

(1) The equilibrium menu (β, γ) earns zero expected profit when the qualities of cases are distributed as in the population.
(2) Low-quality cases provide nonpositive profit and high-quality cases provide nonnegative profit. (Clients with high-quality cases may be worse off and clients with low-quality cases may be better off than they respectively would be if qualities of cases were observable before contracting.)
(3) The equilibrium menu maximizes the utility of clients with high-quality cases subject to the menu being incentive compatible and providing zero profit on average.

We give the fourth property as

Proposition 1. In an M-reactive equilibrium, $1 = \alpha^{\beta} \geq \alpha^{\gamma}$. (Clients with low-quality cases are fully insured; clients with high-quality cases typically share some risk with the attorney.)

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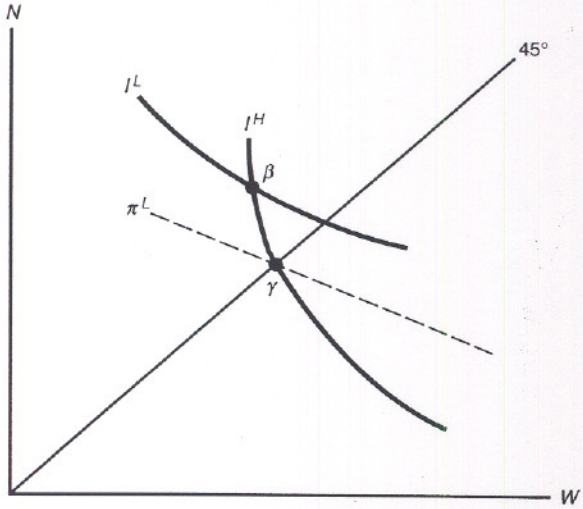
[9] In an earlier version of this article we derived our basic propositions within the Rothschild and Stiglitz framework.

[10] If an attorney is capacity constrained, she cannot serve all the clients, but since she cannot distinguish those with high-quality cases from those with low-quality cases, she will serve these two types in numbers representative of the population frequencies.

[11] These properties are shown by Judd (1987), building on Wilson (1977) and Miyazaki (1977).

FIGURE 2

IT CANNOT OCCUR THAT $u^L > u^H$ AND $\alpha^\gamma = 1$



Proof. If the indifference curve I^L crosses the 45° line at a lower point than I^H crosses, as in Figure 1, then $u^L < u^H$, and vice versa if I^H crosses below I^L. If $u^L < u^H$ and (β, γ) is an equilibrium menu, then $\alpha^\beta = 1$. An incentive-compatible menu (β', γ) could not be an equilibrium if $\alpha^{\beta'} \neq 1$. Since profit increases along an indifference curve as we move toward the 45° line, the menu (β', γ) could profitably be replaced by the menu (β, γ), where β corresponds to the intersection of the indifference curve with the 45° line (i.e., it satisfies $U^L(\omega - F^{\beta'}, \omega - F^{\beta'} + (1 - \alpha^{\beta'})(S - \omega)) = U^L(\omega - F^\beta, \omega - F^\beta + (1 - \alpha^\beta)(S - \omega))$ and $\alpha^\beta = 1$). Thus, if $u^L < u^H$ the argument is complete, since, as seen in Figure 1, incentive compatibility requires that $\alpha^\gamma \leq \alpha^\beta$.[12]

A similar argument shows that if $u^H < u^L$, then $\alpha^\beta > \alpha^\gamma = 1$. We show that $u^H < u^L$ cannot happen. Figure 2 shows the situation with $u^H < u^L$ and $\alpha^\gamma = 1$. In the incentive-compatible menu (β, γ), β lies above the isoprofit line π^L that goes through γ, and therefore the contract β provides a smaller profit than γ would provide if γ were taken by a client with a low-quality case. Since the contract γ is more profitable for a high-quality case than for a low-quality case, and since the menu (β, γ) makes zero profit on average, it follows that β provides negative profit when taken by clients with low-quality cases and γ provides positive profit when taken by clients with high-quality cases. Therefore, (β, γ) cannot be an equilibrium because it could profitably be replaced by (γ, γ), which would provide positive profit if it were taken by clients with high-quality cases or by both types of cases, as would happen if other attorneys' contracts were withdrawn. Thus $u^H \geq u^L$ and $1 = \alpha^\beta \geq \alpha^\gamma$, which completes the argument for Proposition 1. *Q.E.D.*

Proposition 1 implies that when clients are better informed than attorneys, clients with low-quality cases are fully insured by attorneys, and clients with high-quality cases signal the quality of their case by sharing some risk with the attorney.

3. Lawsuits of unobservable quality with attorney moral hazard

■ In the previous section we showed that a client may signal that he has a high-quality case by his willingness to share risk with the attorney in accepting a contingency percentage less than one. One problem with such an arrangement is it gives the attorney an inadequate

[12] (β, γ) is incentive compatible since the low-quality client is indifferent between β and γ, and the high-quality client prefers γ.

incentive to exert effort.[13] In this section we show that when attorneys must be given an incentive to exert effort, the same basic conclusions remain: In equilibrium, attorneys will use contingent fees to sort out the qualities of cases, but now there will be a loss due to the fact that attorneys' efforts may be suboptimal. We thus resolve a conundrum that follows from the observation that contingent fees (relative to fixed fees or hourly fees) reduce attorneys' moral hazard. If the only problem were attorneys' moral hazard, we would expect attorneys to buy cases in equilibrium and receive the entire proceeds of their effort—a contingency percentage of one—but this is not what we observe in practice.[14]

To focus on moral hazard, assume that both the client and the attorney are risk neutral. Let $V(e, \theta)$ represent the expected value of the award (probability of winning times the award) and $c(e)$ represent the attorney's cost of unobservable effort e. The client's expected utility is

$$U^{\theta}(F, \alpha, e) = -F + (1 - \alpha)V(e, \theta) \qquad \theta = L, H \tag{4}$$

and the attorney's expected profit is

$$E_{\theta}[F + \alpha V(e(\alpha, \theta), \theta) - c(e(\alpha, \theta))], \tag{5}$$

where the expectation is on the mix of clients the attorney attracts. In equilibrium, the probabilities of high and low are the same as in the population.

The client's and the attorney's joint profit is $V(e, \theta) - c(e)$. We assume that $V(0, \theta) = 0$, that $V_e(e, \theta) > 0$ (where subscripts denote partial derivatives), that $V_{e\theta}(e, \theta) > 0$, and that $V(e, H) > V(e, L)$ for $e > 0$. If the attorney receives a contingent payment of α, she will choose an effort level $e(\alpha, \theta)$ that maximizes $\alpha V(e, \theta) - c(e)$. Clearly, $e(\alpha, \theta) = 0$ for $\alpha \leq 0$, and the level of effort that maximizes the client's and attorney's joint profit is by definition $e(1, \theta)$. Since $\alpha V - c$ is concave at the optimum, it follows that $e(\alpha, \theta)$ increases with α. It also follows from $V_{e\theta} > 0$ that $e(\alpha, H) > e(\alpha, L)$ for all $\alpha > 0$. We also assume that $\partial^2 e(\alpha, \theta)/\partial\alpha\partial\theta > 0$; that is, an increase in α induces greater marginal effort if the case is high quality than if it is low quality. As before, we label the equilibrium indifference curves I^L and I^H. The indifference curve I^H has a steeper (negative) slope than I^L at $\alpha = 1$, and under our assumptions, the slope remains steeper for $\alpha > 1$, as in Figure 3.

Figure 3 shows indifference curves I^{θ}, $\theta = L, H$, defined by $U^{\theta}(F, \alpha, e(\alpha, \theta)) = u^{\theta}$, where the u^{θ} are constants. The height of an indifference curve at $\alpha = 1$ represents (minus) the utility level achieved along the indifference curve, since $U^{\theta}(F, 1, e(1, \theta)) = -F$. Since the client's utility is held constant along the indifference curve, the attorney's profit increases as α gets closer to $\alpha = 1$, where the attorney provides the level of effort that maximizes the client's and attorney's joint profit.

The effort levels $e(\alpha, L)$ and $e(\alpha, H)$ that underlie the indifference curves in Figure 3 assume that the attorney knows which type of case she has. For a menu (β, γ) to be incentive compatible, an attorney must believe that low-quality clients will take the contract β and high-quality clients will take the contract γ, and clients must find it in their interest to conform to these expectations. Since the attorney's effort depends both on the contingency fraction α and on the type of case she thinks she has, the client influences the attorney's effort by the contract he takes. It follows that in general the incentive-compatible menu will not have a contract at the intersection of the indifference curves.[15]

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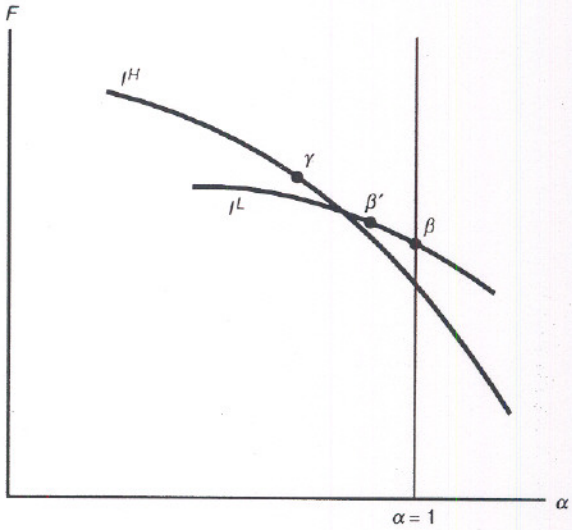
[13] This is also true of a system in which attorneys are paid an hourly fee. We do not compare hourly fees and contingent fees here because the comparison has been made in a number of earlier articles (see, for example, Clermont and Currivan (1978) and Danzon (1983)).

[14] The situation would be different if we introduced client moral hazard, since clients without a financial interest in the outcome may be less willing to participate actively during discovery or trial.

[15] Suppose, for example, that the contract γ intended for clients with high-quality cases is at the intersection of the indifference curves I^H and I^L. A client with a low-quality case could achieve more utility than u^L by taking the contract γ. This is because $u^L = U^L(F^{\gamma}, \alpha^{\gamma}, e(\alpha^{\gamma}, L)) < U^L(F^{\gamma}, \alpha^{\gamma}, e(\alpha^{\gamma}, H))$.

FIGURE 3

ONE OF THE CONTRACTS MUST HAVE A CONTINGENCY RATE OF ONE



Defining equilibrium as in the previous section, we can now see that even though the adverse-selection problem is complicated by moral hazard, the equilibrium menu (β, γ) has the same four properties described above. As before, since we are interested mainly in the nature of contingent fees, we will consider only the following property:

Proposition 2. If the incentive-compatible menu (β, γ) is an M-reactive equilibrium, $1 = \alpha^\beta \geq \alpha^\gamma$. Low-quality cases provide nonpositive profit, and high-quality cases provide nonnegative profit.

Proof. First, the type of client that receives the lowest utility in equilibrium is fully insured: if $u^L \leq u^H$, then $\alpha^\beta = 1$, and if $u^H \leq u^L$, then $\alpha^\gamma = 1$. This is because the profitability of the contract increases along each indifference curve in the direction of $\alpha = 1$. Suppose $u^L \leq u^H$ as in Figure 3, and (β', γ) is incentive compatible with $\alpha^{\beta'} \neq 1$. Define β such that $U^L(F^{\beta'}, \alpha^{\beta'}, e(\alpha^{\beta'}, L)) = U^L(F^\beta, \alpha^\beta, e(\alpha^\beta, L))$ and $\alpha^\beta = 1$. Then (β, γ) is also incentive compatible and more profitable than (β', γ). A symmetric argument applies if $u^H \leq u^L$.

However, we now show that $u^L \leq u^H$. If $u^L > u^H$ as in Figure 4, the indifference curve for high-quality cases, I^H, lies above the indifference curve for low-quality cases for $\alpha \in [0, 1]$; $U^H(F', \alpha, e(\alpha, H)) < U^L(F, \alpha, e(\alpha, L))$ implies $F' > F$ for $\alpha \in [0, 1]$. Thus, if $u^L > u^H$, $\alpha^\gamma = 1$ and $\alpha^\beta > 1$. Now consider the contract β' with the properties that $U^L(F^{\beta'}, \alpha^{\beta'}, e(\alpha^{\beta'}, L)) = U^L(F^\beta, \alpha^\beta, e(\alpha^\beta, L))$ and $\alpha^{\beta'} = 1$. When taken by clients with low-quality cases, the contract γ is more profitable than β', which is more profitable than β. And when taken by clients with high-quality cases, γ is more profitable than any of the above. Thus, if (β, γ) provides zero profit on average, γ provides positive profit and β provides negative profit. Therefore, the menu (γ, γ) can profitably replace (β, γ), whether it attracts only high-quality clients or attracts all the clients, as when other attorneys go out of business. We conclude that $u^L \leq u^H$ and $\alpha^\beta = 1$.

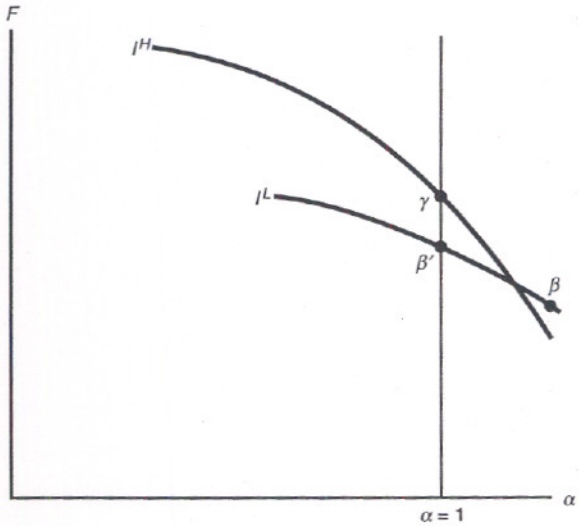
With $\alpha^\beta = 1$, under our hypotheses there is no incentive-compatible menu with $\alpha^\gamma > 1$. For $\alpha > 1$, the indifference curve I^H is steeper than I^L, and therefore lies below it for $\alpha \geq 1$, as in Figure 3. For $\alpha^\gamma \geq 1$, we would have

$$u^H = U^H(F^\gamma, \alpha^\gamma, e(\alpha^\gamma, H)) \leq U^L(F^\gamma, \alpha^\gamma, e(\alpha^\gamma, H)) \leq U^L(F^\gamma, \alpha^\gamma, e(\alpha^\gamma, L)) \leq u^L,$$

where the last inequality follows from incentive compatibility. But we have shown that $u^H < u^L$ is impossible. *Q.E.D.*

FIGURE 4

WE CANNOT HAVE $u^L > u^H$ AND $\alpha^\gamma = 1$



4. Attorneys of unobservable quality

■ Attorneys are likely to differ along several dimensions. Some attorneys may be more experienced and therefore better able to estimate the probability that a client will win a case at trial and the damages that will be paid, and/or the settlement that will be reached. Other attorneys may be better at preparing a case, negotiating a settlement, or arguing a case at trial. In this section, we presume that the probability of winning depends on the ability of the attorney. We show that if attorneys vary in quality, contingent fees may help clients sort out attorneys' relative expertise.

Our previous equilibrium concept no longer seems appropriate. With the previous concept, the uninformed party (there, the attorney: here, the client) makes zero profit, and the informed party (there, the client; here, the attorney) makes a profit that is determined by the distribution of types. To use the same approach here, we would have to assume that clients "enter" the litigation market until they make zero profit. This is inappropriate, since the number of cases is exogenous. Further, attorneys should earn their reservation profit established in the competitive market. The equilibrium concept we use here, which involves search by the client, reflects both of these considerations.

To simplify, we assume that all cases are of the same type, and that an attorney's quality, $\phi \in \{L, H\}$, is unobservable to the client. The probability $p(\phi)$ of winning the case depends on the attorney's quality, with $p(L) < p(H)$. As before, a contract is (F, α). We assume that the attorney's reservation payoff depends on her type, and we use π^ϕ to represent the reservation payoff of an attorney of type ϕ.

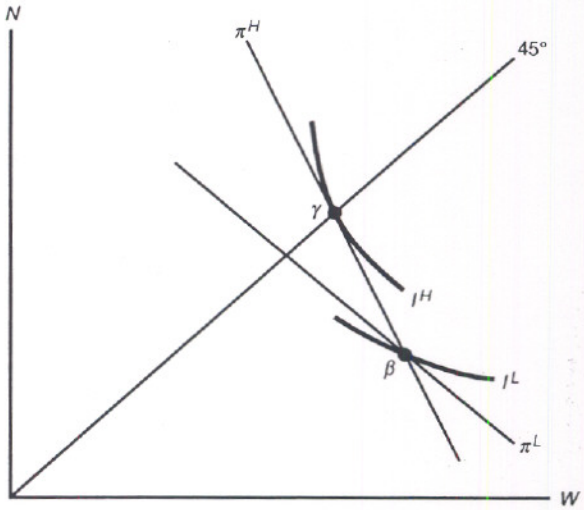
We can graph the client's indifference curve and the attorney's isoprofit line in (N, W) space, where each point corresponds to a possible contract (F, α). The indifference curves and isoprofit lines are shown in Figure 5. It is also convenient to define the client's utility as a function of the contract and the attorney's type:

$$U((F, \alpha), \phi) = p(\phi)u(\omega - F + (1 - \alpha)(S - \omega)) + (1 - p(\phi))u(\omega - F).$$

Each client is assumed to visit a random attorney's office and offer a menu of contracts. Since offers are binding, the client hires the attorney if she takes any contract from the offered menu. The attorney will reveal her quality by which contract in the menu she

FIGURE 5

THERE CANNOT BE A POOLING CONTRACT OFF THE 45° LINE
ONE CONTRACT WILL PROVIDE FULL INSURANCE



accepts, if any. Otherwise the client visits another attorney at random. We will discuss symmetric equilibria where all clients offer the same menu.

We assume that an attorney of type ϕ accepts the offer if there is a contract in the menu that offers a profit at least as great as the attorney's reservation profit. If the attorney declines the client's offer, the client must search again. For example, the client might offer a contract that only a high-quality attorney would take. If the first attorney chosen is low quality and declines the offer, the client continues to search until he finds a high-quality attorney.

We refer to the menu of contracts offered as the pair (β, γ), where β is the contract accepted in equilibrium by the low-quality attorney and γ is the contract accepted by the high-quality attorney. As before, we say that the menu (β, γ) is incentive compatible if low-quality attorneys prefer β and high-quality attorneys prefer γ. A menu of contracts is a *search equilibrium* if and only if the menu is incentive compatible and clients cannot increase their expected utility by choosing another menu and searching until it is accepted.

The types of equilibria that arise in this framework depend on the cost of the clients' search. We begin by characterizing the equilibrium that arises when search is costless, and then move on to the more interesting case of costly search.

Proposition 3. If the search cost is zero, there is, in general, an equilibrium in which only one type of attorney serves clients, and the contingent fee fraction is $\alpha = 1$.

Proof. We will construct an equilibrium. Draw the isoprofit lines for the two types of attorneys, assuming that each type earns its reservation payoff (see Figure 5). The type of attorney who takes the case in equilibrium will be the one whose isoprofit line crosses the 45° line furthest to the northeast. The point at which it crosses, γ in Figure 5, represents the equilibrium contract between the client and the type of attorney whose quality is represented by that line. With zero search costs, the client will offer the menu (γ, γ). The low-quality attorney makes less profit than her reservation payoff if she takes the contract, and will therefore decline. There is no other contract that gives the client more expected utility while giving the high-quality attorney at least as much payoff as her reservation payoff. In the special circumstance that both isoprofit lines cross the 45° line at the same point, the client

will achieve the same expected payoff from both types of attorney in equilibrium, and both will take the offered contract. *Q.E.D.*

Proposition 4. If a client offers a menu of contracts that both types of attorney would accept, the client's preferred menu does not, in general, pool types.

Proof. Suppose first that the client offers a single contract (a menu (β, β)) that does not involve full insurance. Suppose the pooling contract lies below the 45° line, as in Figure 5. Then the client would improve his expected utility by offering (β, γ) instead. High-quality attorneys would take γ, while low-quality attorneys would take β. A similar argument shows that a pooling contract cannot lie above the 45° line.

Thus, a pooling contract must lie on the 45° line. The isoprofit lines that represent the attorneys' reservation profits will typically cross the 45° line at different points, and the best pooled offer on the 45° line that attracts both types of attorney is at the intersection that lies the furthest southwest, e.g., β in Figure 6. But then the client can replace the menu (β, β) with a menu such as (β', β') which lies on the same isoprofit line π^L and gives the client more utility when taken by a high-quality attorney but less when taken by a low-quality attorney. However, since the client's indifference curve I^L is tangent to π^L, the ratio $[U(\beta', L) - U(\beta, L)]/[U(\beta', H) - U(\beta, H)]$ can be made as small as we like for β close to β'. There is a menu (β', β') close to (β, β) that provides the client higher expected utility than (β, β). But we have already shown that such a menu cannot be the client's best offer. *Q.E.D.*

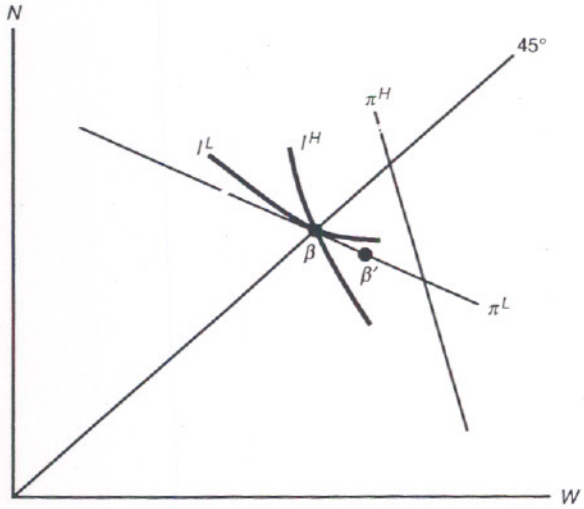
Proposition 5. There is a large enough search cost so that the client would make an offer acceptable to both types of attorney. Clients will be fully insured ($\alpha = 1$) by at least one type of attorney; and $\alpha^\gamma \geq \alpha^\beta$.

Proof. We describe the best menu that a client can offer, conditional on ensuring that both types of attorneys accept. We then observe that for large enough search cost, C, this offer gives greater expected utility than searching for the best attorney. According to Proposition 4, the menu will typically be separating.

Incentive compatibility requires that such a menu of contracts lie on the upper envelope of isoprofit lines, e.g., (β, γ) in Figure 5, where β is the contract intended for low-quality attorneys, γ is the contract intended for high-quality attorneys, and π^L, π^H represent the attorneys' reservation profits. If γ did not lie at the intersection of π^H with the 45° line, the

FIGURE 6

A POOLING CONTRACT WILL NOT BE ON THE 45° LINE



client could increase his expected utility by replacing it with a contract that did. A similar argument applies if the isoprofit lines for π^L and π^H intersect above the 45° line; then the clients are fully insured by low-quality attorneys.

In the case shown in Figure 5, the client's utility $U(\gamma, H)$ is higher than $U(\beta, L)$; he prefers to get a high-quality attorney. (This would be reversed if π^H crossed the 45° line below π^L.) Letting q be the fraction of the attorneys who are high quality, a client's expected search cost until he finds a high-quality attorney is C/q. If

$$U(\gamma, H) - C/q < [(1-q)U(\beta, L) + qU(\gamma, H)],$$

that is, if C is sufficiently high, the client will offer the pooling contract rather than search. *Q.E.D.*

The intuition behind Proposition 5 is that high-quality attorneys signal their high quality by their willingness to take a high contingency fee and a low fixed fee.

5. The effect of contingent fees on deterrence

■ We have shown that contingency percentages greater than zero can arise in a market with asymmetric information between attorneys and clients. We now ask whether contingent fees enhance social welfare. There are two potential efficiency gains associated with contingent fees: (i) they may share risk more efficiently by shifting risk from the risk-averse plaintiff to the risk-neutral attorney; and (ii) they may provide greater deterrence. The following proposition says that contingent fees will generally increase the expected utility from bringing a suit. In general, we expect this to lead to an increased number of suits filed and, other things equal, to increased deterrence. After proving Proposition 6, we discuss the welfare implications of increasing the number of suits.

Proposition 6. The expected utility to bringing suits will be at least as great when contingent fees are allowed as when not. Consequently, the number of suits will be as least as great.

Proof. For each of the two situations described above—clients have cases of unobservable quality, and attorneys have unobservable abilities—we show what happens when contingent fees are disallowed and compare the outcomes to the equilibria described above.

Suppose first that cases vary in quality and clients are better informed than attorneys, as in Section 2. If contracts can have only a fixed fee F, the fixed fee must equal the opportunity cost of the attorneys. If $p(L)$ is sufficiently high, all cases will be brought, whether or not contingent fees are allowed. However, clients will receive less expected utility with fixed fees, since clients are risk averse and bear all the risk. In addition, because risk is inefficiently allocated when contingent fees are disallowed, $p(L)$ could be sufficiently low so that low-quality cases will not be filed without contingent fees.

Now suppose attorneys vary in quality, that (uninformed) clients offer contracts as in Section 4, and that the search costs C are sufficiently low that clients offering fixed fees will find it in their interest to search. If only a fixed fee were allowed, the equilibrium offer would be $F = \pi^L < \pi^H$. With contingent fees, the client could offer a full-insurance contract where π^L meets the 45° line and would thus be better off whether low-quality or high-quality attorneys took that contract. Thus if $p(L)$ were sufficiently low, clients who cannot offer contingent fees might not bring suit, whereas they would bring suit if contingent fees were allowed.

Finally, suppose that attorneys vary in quality, as in Section 4, and that the search costs C are sufficiently high so that the client finds it uneconomic to search more than once when he can offer only fixed fees. The fixed fee offered will be the smallest fee that both attorneys would accept. The client will bear all the risk. However, with contingent fees, the client can offer a menu that gives each type of attorney the same expected profit, but typically one of the contracts will insure the client. (At worst, the client can offer the same menu of

fixed fees.) Hence, the client will bear less risk, and therefore may be better off (and will be no worse off) under a contingent fee system than under a fixed fee system. As before, the higher expected utility may increase the number of suits filed. *Q.E.D.*

In general, if we disallow contingent fees, expected damage awards paid by defendants will decrease because the expected number of suits will fall. As a rule, we would expect deterrence to increase with the number of successful suits brought. However, it is unclear whether increased deterrence leads to increased social welfare (defined to be minimum sum of the costs of precaution, the harms caused by injuries, and the costs of litigation). Deterrence can be "too great," even if courts award compensatory damages, since defendants, facing substantial litigation costs, might find it in their interest to take excessive care so as to reduce their expected payments and litigation costs (see Polinsky and Rubinfeld (1988)).

6. Conclusion

■ Contingency fees occur in equilibrium because there is asymmetric information between attorneys and clients, as well as because attorneys are subject to moral hazard. We would expect to see relatively low contingency percentages for clients with high-quality cases and for cases brought by low-quality attorneys. Since high-quality cases are more likely to be won than low-quality cases, and since a high-quality attorney is more likely to win any given case than a low-quality attorney, we might be able empirically to sort out which of these asymmetries of information is most important by finding the correlation between success and the contingency percentage. If we discovered that the probability of success increased with the contingency percentage, we might conclude that the unobservability of attorneys' qualities drives the contingency arrangement. (But we could not distinguish that hypothesis from the hypothesis that higher contingency percentages make attorneys work harder.) On the other hand, if we observed that contingency percentages were negatively correlated with success, we might conclude that their primary function is in sorting out the qualities of cases. Our conclusions suggest that attempts to cap contingent fees could lead to a reduction in the number of low-quality cases filed as well as the number of cases taken by high-quality attorneys. This is likely to reduce the overall level of deterrence.

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