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Why Plaintiffs' Attorneys Use Contingent and Defense Attorneys Fixed Fee Contracts*

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Abstract

Victims want to collect damages from injurers. Cases differ with respect to the judgment. Attorneys observe the expected judgment, clients do not. Victims need an attorney to sue; defense attorneys reduce the probability that the plaintiff prevails. Plaintiffs' attorneys offer contingent fees providing incentives to proceed with strong and drop weak cases. By contrast, defense attorneys work for fixed fees under which they accept all cases. Since the defense commits to fight all cases, few victims sue in the first place. We thus provide an explanation for the fact that in the US virtually all plaintiffs use contingency while defendants tend to rely exclusively on fixed fees.

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1 Introduction

The remuneration of attorneys in American tort and contract litigation follows an interesting pattern: 92% - 98% of individual plaintiffs and 85% - 88% of organization plaintiffs retain their lawyer on a contingency basis. By contrast, 92% - 93% of individual defendants and 95% - 100% of organization defendants pay their attorneys an hourly rate, the rest paid a retainer.[1] While there are quite a few explanations as to why plaintiffs use contingent fees, fairly little has been written as to why defendants tend to rely exclusively on hourly fees. To quote Dana and Spier (1993) p. 363: "... virtually all defense attorneys are paid by the hour. This fact is somewhat puzzling, since many of the commonly accepted explanations for contingent fees apply equally well to both the plaintiff and the defendant." In this paper we want to explain the stylized pattern for the individual segment of the market.

We consider victims who wish to collect damages from injurers. Cases differ with respect to the expected judgement that the plaintiff receives and the defendant pays should the plaintiff prevail in court. To sue a plaintiff needs an attorney. The probability that the plaintiff prevails depends on whether or not the defendant has legal support: a defense attorney lowers the probability that the plaintiff prevails.

If an attorney becomes active, he incurs a fixed cost which represents the overheads of the law firm. In addition, attorneys incur a marginal cost for each client they represent: an attorney has to put a certain amount of time into a case. A fixed fee and an hourly rate thus boil down to be the same thing in our set-up. Attorneys compete for clients by offering contracts. Equilibria are cost-efficient: only one plaintiffs' attorney and only one defense attorney is active. Prices are such that the active attorneys make zero-profits. The equilibria are reminiscent of the sustainable outcomes in the sense of Baumol, Panzar, and Willig (1982) where prices equal average costs.

We consider two scenarios. In the first one, clients and attorneys observe the expected judgement. Here we derive a *high litigation equilibrium*. A defendant facing an expensive judgement hires an attorney. By contrast,

[1] See, e.g., Kakalik and Pace (1986), p. 96-97 or Kritzer (1990), p. 58. Under a contingent fee the plaintiffs' attorney gets a share of the judgement if his client wins and nothing if his client loses. A common practice is to use a sliding scale: the attorney gets one-third if the case is settled without trial, 40% if the plaintiff wins at trial, and 50% if a judgement for the plaintiff is affirmed on appeal. A retainer is a fee paid up-front for a pre-determined amount of time or work.

should a plaintiff with a weak case sue, the defendant does not want to retain an attorney: the reduction in the defendant's cost is not worth the expense for the attorney. Therefore, plaintiffs with weak cases face a higher probability to prevail than plaintiffs with strong cases. This, in turn, makes suing attractive for victims with weak cases. Defendants retain the attorney for the strong cases and opt for no legal support for the weak cases. Both attorneys work on a contingency basis that allows them to break even.

Next we consider an asymmetric information scenario. Following Dana and Spier (1993) we look at the case where clients do not observe the expected judgement. Only the attorneys as legal experts observe the merits of a case. Under this informational assumption all victims consult the plaintiffs' attorney who decides whether to pursue or to drop the case. Likewise, all defendants consult the defense attorney who decides whether or not to fight a case. This informational assumption seems appropriate for the individual segment of the market.[2]

It turns out that a *low litigation equilibrium* can now be supported by credible threats of the defense to fight all cases. The defense attorney offers a fixed fee contract. To recover his fixed cost, the fixed fee is above marginal cost which means that the attorney earns a quasi-rent with each case. Therefore, the defense attorney happily accepts all cases he can get hold of, independently of the merits. The plaintiffs' attorney anticipates that the defense fights all cases and, therefore, proceeds only with strong cases. As was shown by Dana and Spier (1993), a contingent fee aligns the interest of victims and their attorney: the attorney pursues only those cases with sufficiently high merit.[3]

Our simple set-up is thus able to explain the pattern observed in the US where virtually all individual plaintiffs use contingency while individual defendants tend to rely exclusively on hourly fees. Being not informed about the merits of her case, the defendant has to rely on her attorney's recommendation whether to fight or not. Under fixed fees the defense attorney recommends to fight all cases. Anticipating that the defense will fight all

[2]Organization clients typically use corporate in-house counsel to hire outside attorneys; see, e.g., Heinz et al. (2005) or Lipson et al. (2012). The assumption of not being able to observe the expected judgement seems far-fetched for in-house lawyers.

[3]Dana and Spier (1993) only look at the relationship between plaintiffs and their attorneys. They discuss informally the relationship between defendants and their attorneys. They do not, however, analyze the game played by victims, plaintiffs' attorneys, defendants, and defense attorneys.

cases, the plaintiffs' attorney will proceed only with the strong cases in the first place. This implements a low litigation outcome which is, after all, in the interest of defendants.[4]

1.1 Literature Review

The literature explaining contingent fee arrangements is fairly extensive. Contingent fees can finance cases when the plaintiff is liquidity constrained and capital markets are imperfect. Furthermore, they allow the attorney and his client to share the risk generated by a case; see, e.g., Posner (1986), p. 534-540. Another explanation is related to the use of contingent legal fees in class-action litigation; see Lynk (1990) and Klement and Neeman (2004).

All other explanations for contingent fees are based on asymmetric information between the attorney and his client. Contingent fees can be used to address a moral hazard problem: If the client cannot observe the attorney's effort, tying the attorney's fees to the trial's outcome provides better incentives to exert effort than hourly fees which tend to induce shirking; see, e.g., Danzon (1983), Gravelle and Waterson (1993), Polinsky and Rubinfeld (2003), and Emons and Garoupa (2006).

In Rubinfeld and Scotchmer (1993) the attorney knows his ability and the plaintiff knows the merits of her case. A client with a high-quality case wishes to pay a high fixed fee and a low contingency percentage, while a client with a low-quality case prefers a low fixed fee and a high contingency percentage. By contrast, a high-quality attorney signals his ability by working for a high contingency percentage.

The virtues of hourly or fixed fees have been addressed in two papers. Emons (2000) looks at the role of the attorney as an expert. The attorney recommends how much effort to put into a case; the client observes the attorney's effort but cannot tell whether it is necessary or not. If the attorney gets a fixed fee and has enough clients, he is indifferent as to his recommenda-

[4]This reasoning is similar to the literature on commitment devices by patentees to combat entry through litigation against infringement or competing inventions; see, e.g., Buzzacchi and Scellato (2008) or Llobet and Suarez (2012). Our results are also related to the literature on negative-expected-value suits; see, e.g., Bebchuk and Klement (2012) for a survey. In a negative-expected-value suit the plaintiff's expected litigation costs exceed the expected judgement. Nevertheless, if the plaintiff manages to commit to take the case to court despite its negative-expected-value, he may extract a positive settlement amount from the defendant.

tion and acts in his client's interest. Therefore, fixed fees perform generally better than contingent fees which tend to distort the attorney's incentives. Garoupa and Gomez (2007) consider an attorney working in a partnership. The attorney provides unobservable effort. Contingent fees align the attorney's interests with those of the client, but not necessarily with those of the partnership. Hourly fees may be a solution to the common agency problem.

The stylized fee pattern has been addressed in three papers. Emons (2006) compares conditional and contingent fees in a framework where attorneys are uninformed about the clients' cases.[5] If there is asymmetric information about the risk of cases when the plaintiff hires her attorney, attorneys offer contingent fees; conditional fees would attract only high risk clients and yield losses. If there is asymmetric information about the expected level of adjudication when the defendant retains her attorney, attorneys offer conditional fees; contingent fees would only attract weak cases resulting in losses for the attorney.

Zamir and Ritov (2010) explain the stylized pattern using the prospect theory. Under a fixed fee the plaintiff faces a mixed gamble with chances to make a gain and chances to make a loss; under a contingent fee the plaintiff faces a non-negative gamble. By contrast, the defendant faces purely negative gambles under both fee arrangements. According to the prospect theory players are risk averse when facing the choice between a mixed gamble and a non-negative gamble, and risk loving when facing the choice between two purely negative gambles. Therefore, the plaintiff prefers a contingent fee to avoid the risk, while the defendant opts for the fixed fee to bear all the risk.

In Xu and Fong (2015) the attorneys have private information not only about the outcome if the client accepts the contract, but also about the outcome if the client rejects the contract. To signal the value of their service, plaintiffs' attorneys may use a high contingent fee to send the message that the potential gain for the plaintiff is large and the attorney is willing to share the gain. The defense attorney may use a flat fee to signal that the stakes are very high. Such a contract sends the message that the potential loss of the defendant is large and the defense attorney is unwilling to share the loss by making his compensation contingent on the result of the litigation.

We proceed as follows. In the next section we describe the model. In subsection 2.1 we look at the scenario where victims and injurers do observe

[5]Under conditional fees the lawyer gets an upscale premium if the case is won and nothing if the case is lost. The upscale premium is unrelated to the adjudicated amount.

the expected judgment and in subsection 2.2 we analyze the scenario where they don't. Section 3 concludes. In the Appendix we derive conditions such that our equilibrium contracts are renegotiation proof.

2 The Model

A victim of an accident wants to sue the injurer to be paid damages $j \geq 0$. Damages are random; let $J := E(j)$ denote the expected judgment given the plaintiff prevails: J is thus the amount the victim expects to get and the injurer expects to pay in case the victim wins. We consider a continuum of such pairs of victims and injurers and index them by J. For the ease of exposition we take J to be uniform on $[0, 1]$. Low J cases are weak and high J cases are strong from the viewpoint of the victim; for the injurer low J cases are cheap and high J cases are expensive. Once a victim has filed suit, we call her plaintiff and the corresponding injurer defendant.

The probability p that a plaintiff prevails depends on whether or not the parties to the conflict retain attorneys. Specifically, let

$$p = \begin{cases} 0, & \text{if the plaintiff has no attorney;} \\ \nu, & \text{if both, plaintiff and defendant, have an attorney;} \\ 2\nu, & \text{if only the plaintiff has an attorney,} \end{cases}$$

where $0 < \nu \leq 1/2$. To file suit the plaintiff needs an attorney. Moreover, the plaintiffs' and the defense attorney are equally competent. Given the defendant has legal support, hiring an attorney increases the plaintiff's expected payoff by νJ; likewise, retaining an attorney reduces the defendant's expected cost by νJ.[6]

Let us now turn to the attorneys. We consider two separate sets of attorneys, one for plaintiffs and one for defendants. Attorneys in both groups engage in Bertrand type competition by offering contracts. Since under Bertrand two is enough for competition, let there be two plaintiffs' and two defense attorneys.

[6]We see no reason why the plaintiffs' attorney should be more (less) productive than the defense attorney. If this were the case, wouldn't all law school graduates choose to become plaintiffs' (defense) attorneys? Note that contest functions yield our probability of success function p with $\nu = 1/2$, except for the case where both parties have no legal representation: our plaintiff cannot sue so that $p = 0$, while contest functions often assume that $p = 1/2$; see, e.g., Baik and Kim (2007).

Besides being equally able, plaintiffs' and defense attorneys have the same cost function. To become active, i.e., to represent clients, an attorney incurs a fixed cost $F > 0$. If an attorney represents a client, he incurs an additional marginal cost $c > 0$ per case.

An attorney should pursue a case if the expected benefit from doing so covers marginal cost c. Consider first the plaintiff and her attorney. If $J < c/2\nu$, it is never worth suing; even when the defendant does not fight, the gain from suing $2\nu J - c < 0$. If $J \in [c/2\nu, c/\nu)$, it pays for the plaintiff to sue if the defendant does not fight because the gain $2\nu J - c > 0$; if, however, the defendant fights, the gain $\nu J - c < 0$. If $J \in [c/\nu, 1]$, it pays for the plaintiff to sue independently of whether or not the defendant fights.

The defendant and her attorney 'gain' $(-2\nu J)$ if they do not fight and $(-\nu J - c)$ if they fight. Fighting is, therefore, profitable for the defense if $J \geq c/\nu$. Accordingly, for $J \in [c/\nu, 1]$ the plaintiff should sue and the defendant should fight.[7] Let $c/\nu < 1$, meaning that hiring attorneys makes economic sense for the upper end of the market.

Furthermore, fixed cost may not be too large to make it worthwhile for an attorney to become active. More precisely, the attorney must be able to recover fixed costs when he efficiently serves the upper end of the market. Formally, the plaintiffs' and the defense attorney can be sustained if $(1 - c/\nu)[\nu E(J|J \geq c/\nu) - c] \geq F$ which holds if

$$\frac{(\nu - c)^2}{2\nu} \geq F. \tag{1}$$

We consider the situation where plaintiffs' attorney 1 and defense attorney 1 are active; they have incurred the fixed cost so that for them F is sunk.[8] The two incumbents face the threat of entry by plaintiffs' attorney 2 and defense attorney 2. The entrants haven't incurred the fixed cost yet; they can avoid F by staying out of the market.

Both attorneys in both groups offer contracts that we will specify below. The behavior of demand is the same for plaintiffs' and defense attorneys. The

[7] The assumption of equal productivity implies that the marginal case is c/ν for both groups of attorneys, which simplifies the exposition. Proposition 2 also holds when the defense attorney is more productive or slightly less productive than the plaintiffs' attorney; fighting all cases $J \geq c/\nu$ is then ex ante in the interest of defendants. Only when the defense attorney is sufficiently less productive than the plaintiffs' attorney so that fighting all cases $J \geq c/\nu$ doesn't pay ex ante for defendants, Proposition 2 does not hold.

[8] We do not model the incumbents' entry decision. In equilibrium they earn, however, a quasi-rent that equals their sunk cost.

more 'attractive' of the two contracts attracts the entire demand. If both contracts are equally 'attractive', the incumbent gets the entire demand. This assignment rule ensures the existence of pure strategy equilibria. In equilibrium both the incumbent and the entrant in each group offer the same contract. This contract maximizes the clients' surplus given the behavior of the other parties to the conflict, subject to the constraint that the entrants don't make losses if they are active. The incumbent gets the entire demand. He receives a price covering his marginal cost c plus a mark-up that allows him to recoup the sunk cost F.[9] The entrant has no demand. He doesn't become active, i.e., he incurs no fixed cost and, therefore, also makes zero-profits. He disciplines the incumbent not to raise prices; see, e.g., Vives (1999), p. 119.[10]

We consider two scenarios. In the first scenario J is observed by the victim, the injurer, and the attorneys; J is, however, not verifiable. In the second scenario J is observed only by the attorneys. Since J is not verifiable, in both scenarios contracts cannot be conditioned on J; they can only be conditional on the actual judgement j.

2.1 Victims and Injurers observe J

We consider the following game. Each attorney offers a contract.[11] We confine our attention to linear contracts. Plaintiffs' attorneys offer contracts $A + \alpha j$ and defense attorneys offer contracts $B + \beta j$ where $\alpha, \beta \in [-1, 1]$. For $\alpha, \beta = 0$ the attorneys work on a fixed fee basis. Under fixed fees plaintiffs and defendants bear the entire judgment risk. If $\alpha, \beta > 0$, attorneys offer contingent fees. If the plaintiff wins, the plaintiffs' attorney gets αj on

[9] In the introduction we claim that the incumbents make zero-profits. This is not entirely correct because F is a sunk cost for the incumbents. Long-run zero-profits seems to be more appropriate.

[10] Dana and Spier (1993) define an equilibrium contract axiomatically as follows: an attorney cannot increase his profits by offering an alternative contract, an attorney cannot increase the payoff of his clients holding his own payoff fixed, and a new attorney cannot profitably enter the market. Like in our set-up the equilibrium contract is the one that maximizes the clients' payoff subject to a zero-profit constraint for the attorney.

[11] By restricting attorneys to offer just one contract we rule out the screening of clients by a menu of contracts as in Rubinfeld and Scotchmer (1993). Attorneys have to break even in expectation over all clients they represent. This restriction allows us to compare this scenario with the scenario where clients do not observe J and screening with a menu of contracts is not possible.

top of A and the defense attorney gets βj on top of B.[12] Compared to the fixed fee, under a contingent fee the plaintiff's attorney bears some of the plaintiff's judgement risk. By contrast, a contingent fee increases the defendant's judgement risk compared to a fixed fee; if she loses, she has to pay j to the plaintiff and $B + \beta j$ to her attorney. If $\alpha, \beta < 0$, attorneys offer reverse contingent fees. Under such a reverse contingent fee the plaintiff pays more to her attorney if she loses than if she wins, thus increasing the plaintiff's judgment risk. By contrast, in return for getting a "high" B, the defense attorney bears some of the defendant's judgement risk.[13]

The contract offers are common knowledge: the plaintiff and her attorney are aware of the contract between the defendant and her attorney should the defendant seek legal support; the defense knows which contract governs the relationship between the plaintiff and her attorney.[14]

Then victims learn J. A victim decides whether or not to hire an attorney. If she wishes legal support, she accepts the attorney's contract. Then the attorney learns J and decides whether or not he accepts the case.[15] If he accepts the case, client and attorney are bound by the contract. If the incumbent accepts cases, he incurs the marginal cost c per case. If the entrant accepts cases, he incurs the fixed cost F plus the marginal cost c per case.

[12]Using our notation the common 1/3 contingent fee for plaintiffs' attorneys is given by $A = 0$ and $\alpha = 1/3$.

[13]A reverse contingent fee is a percentage of the difference between the amount a third party originally demands from a lawyer's client and the amount that client must ultimately pay the third party, whether by settlement or judgment. The American Bar Association Model Rules of Professional Conduct permit reverse contingency fees if the fee is reasonable, the amount the client may save can be reasonably determined, and the client who agrees to the reverse contingency fee is fully informed; see us.practicallaw.com/7-511-2268. We include the amount that is originally demanded in B.

[14]For a similar approach in a settlement context see, e.g., Bebchuk and Guzman (1996) or Baik and Kim (2007). In our setup the contracts offered by the attorneys are of the take-it-or-leave-it type. If a client seeks legal support, she is bound by the contract. As long as the parties do not want to renegotiate the original contract, the assumption that the contracts are common knowledge is consistent within our framework. As we will show in the Appendix, there is no scope for renegotiation in our set-up if the contract specifies an opting-out clause for clients.

[15]It is thus the attorney who makes the final decision to litigate. If clients know J, we let only those clients whom the attorney will accept anyway seek legal support; the decisions to consult an attorney and to litigate coincide. If clients do not observe J, in equilibrium all clients will seek legal assistance and the lawyer decides which cases to pursue.

Next defendants observe the suit and the value of J. They decide whether or not to retain an attorney. If they seek legal support, the defense attorney learns J and accepts or rejects the cases. If the incumbent accepts cases, he incurs the marginal cost c per case. If the entrant accepts cases, he incurs the fixed cost F plus the variable cost c per case. The case then goes to trial and the plaintiff wins with probability p.

Attorneys maximize expected profits. Victims have expected payoff $pJ - A - \alpha pJ$ if they sue and 0 if they don't; they maximize their expected payoff. Defendants have expected costs $\nu J + B + \beta\nu J$ with and $2\nu J$ without attorney; they minimize their expected costs.

For this sequential game of complete information we look for subgame perfect equilibria which we find by backwards induction. Before actually deriving an equilibrium, we first show a preliminary result that highlights the defendants' commitment problem.

Lemma 1: *There does not exist an equilibrium such that defendants with $J < c/\nu$ fight.*

Proof: For the defense attorney to accept a case the expected revenue must cover his marginal cost, i.e., $B + \beta\nu J \geq c$. A defendant retains the attorney if her expected cost of doing so is less or equal to her expected cost without attorney, i.e., if $2\nu J \geq \nu J + B + \beta\nu J$. This, together with the condition for the attorney to accept a case, yields that only defendants with $J \geq c/\nu$ might fight while defendants with $J \in [0, c/\nu)$ will certainly not do so. ■

The Lemma tells us that injurers with low J will not fight: the return from doing so does not cover the cost. Therefore, for low J cases, $p = 2\nu$ which, in turn, makes suing attractive for victims. We should thus expect a high level of litigation. In Proposition 1 we characterize such a high litigation equilibrium.

Proposition 1: *Plaintiffs' attorneys offer the contract $A + \alpha j$ with $\alpha = 2\nu F/(.5c^2 + (\nu - c)^2)$ and $A = (1 - \alpha)c$. Defense attorneys offer the contract $B + \beta j$ with $\beta = 2\nu F/(\nu - c)^2$ and $B = (1 - \beta)c$. Victims with $J \geq c/2\nu$ wish to hire the plaintiffs' incumbent, who accepts all applications. Defendants with $J \in [c/2\nu, c/\nu)$ do not hire an attorney; defendants with $J \in [c/\nu, 1]$ wish to retain the defense incumbent who accepts these cases. Both incumbents earn a quasi-rent that covers their sunk cost F.*

Proof: We solve the game by backwards induction. A defendant wants to retain an attorney if her expected cost of doing so is less or equal to her expected cost without attorney, i.e., if $2\nu J \geq \nu J + B + \beta\nu J$ or $\nu J - B - \beta\nu J \geq 0$. Hence, defendants with $J \in [c/\nu, 1]$ wish to fight while defendants with $J \in [0, c/\nu)$ do not. Accordingly, for the latter group of defendants $p = 2\nu$. For those defendants who want to fight, the defense incumbent earns c with the marginal case c/ν and a quasi-rent with the inframarginal cases that, moreover, covers his sunk cost. Therefore, he accepts all cases $J \in [c/\nu, 1]$.

Victims $J \in [0, c/\nu)$ face $p = 2\nu$ while $p = \nu$ for victims $J \in [c/\nu, 1]$. All victims with $J \geq c/2\nu$ wish to sue. The plaintiffs' incumbent earns c with the marginal plaintiff $c/2\nu$ of the segment with $p = 2\nu$ as well as with the marginal plaintiff c/ν of the segment with $p = \nu$. For the inframarginal customers in both segments, he earns a quasi-rent. For the cases $[c/2\nu, c/\nu)$, the average expected judgement is $3c/4\nu$, for the cases $[c/\nu, 1]$ it is $1/2 + c/2\nu$. Therefore, with the cases $[c/2\nu, 1]$, the incumbent earns a quasi-rent

$$\frac{c}{2\nu}[A + \alpha 2\nu \frac{3c}{4\nu} - c] + (1 - \frac{c}{\nu})[A + \alpha\nu(\frac{1}{2} + \frac{c}{2\nu}) - c] = F.$$

The quasi-rent thus covers incumbent's sunk cost.

The defense entrant offers the same contract as the incumbent. The entrant will also accept all cases $J \in [c/\nu, 1]$ because the quasi-rent covers his fixed cost F. Therefore, if the incumbent offers less favorable terms for clients, the entire demand switches to the entrant.

The defense entrant makes zero-profits in equilibrium. A less attractive offer for customers by the entrant also generates no demand and thus zero-profits. The entrant cannot make a more attractive offer without making losses. To efficiently recover the fixed cost, the entrant has to attract all cases $J \in [c/\nu, 1]$ generating revenue of at at least c. Since clients know J, he cannot charge more than νJ per customer. For the marginal customer c/ν this constraint yields $B = (1 - \beta)c$, which together with the zero-profit condition gives us the equilibrium value of β. By the same argument the incumbent cannot deviate to a profitable contract.

The same arguments as in the preceding paragraphs show that plaintiffs' incumbent indeed accepts all cases, the quasi-rent covers his sunk cost, and neither incumbent nor entrant deviate to another contract. ■

In this high litigation equilibrium plaintiffs' attorneys offer a contingent fee contract. The plaintiffs' attorney earns c with the marginal plaintiff $c/2\nu$

of the segment with $p = 2\nu$ as well as with the marginal plaintiff c/ν of the segment with $p = \nu$. For the inframarginal customers in both segments, he earns a quasi-rent that covers his fixed cost. Defense attorneys also offer a contingent fee contract. The defense attorney earns c with the marginal defendant c/ν and a quasi-rent for the inframarginal defendants.[16]

Now suppose contrary to Lemma 1 that injurers can commit to fight all cases independently of J. Then all victims face $p = \nu$. This deters victims with $J < c/\nu$ from suing in the first place, leading to a lower level of litigation. Obviously, injurers prefer such a low litigation outcome. In the high litigation equilibrium victims with $J \in [c/2\nu, c/\nu)$ sue and win with probability $p = 2\nu$; in the low litigation outcome these victims do not sue at all. Injurers would thus like to be able to commit to fight all cases. It turns out that if defendants do not observe J and defense attorneys offer fixed fee contracts, defendants commit to fighting all cases.

2.2 Victims and Injurers do not observe J

Let us now consider our second scenario where victims and injurers do not observe J. If the case goes to trial and the plaintiff wins, they observe the actual judgement j. We assume, however, that they do not use this information to make inferences about J. Attorneys observe J, i.e., only the attorney knows whether it makes sense to proceed with or to drop a case. This is the set-up considered by Dana and Spier (1993).

The game is now as follows. Attorneys offer contracts. Victims apply for legal assistance if they expect a non-negative payoff from doing so. The plaintiffs' attorney screens all cases and decides which cases to proceed with and which cases to drop. Plaintiffs accept the attorney's recommendation. Defendants seek legal assistance if they expect a reduction of their costs from doing so. The defense attorney screens all cases and decides which clients

[16] A contingent fee for the defense under which the defendant pays more if she loses than if she wins may seem strange. However, given linearity this contract is the unique equilibrium one: Competition forces the attorney to spread F on clients $[c/\nu, 1]$. Since defendants know J, the attorney cannot charge more than c from defendant c/ν. This together with the break-even constraint yields the equilibrium contingent fee. Once we allow for non-linear contracts, we easily find contracts where the defendant does not pay more if she loses than if she wins. For example, the contract where the defendant pays D if she wins and $E + \beta j$ if she loses with $D = B + \nu\beta$ and $E = B - (1 - \nu)\beta$ satisfies $D \geq E + \beta j$ for all $j \in [c/\nu, 1]$.

he wants to take. Defendants accept the attorney's recommendation. Since victims and defendants do not observe the actual value, they form beliefs about J. Agents either all apply for legal assistance or nobody does. For this game of incomplete information we use perfect Bayesian rather than subgame perfection as equilibrium concept. This means, in particular, that a defendant upon being sued forms beliefs about her type. These beliefs are consistent with the equilibrium play. Given these beliefs, the defendant plays in a sequentially rational fashion.

First note that the strategies described in Proposition 1 are also equilibria in this scenario with the following modifications. All victims and all defendants try to retain an attorney.[17] Plaintiffs and their attorney believe that defendants with $J \in [0, c/\nu)$ will not fight while the rest will fight. Therefore, the plaintiffs' attorney accepts all cases with $J \in [c/2\nu, 1]$. The defense incumbent drops the cases $J \in [c/2\nu, c/\nu)$ and accepts the cases $[c/\nu, 1]$.

By contrast with informed injurers and victims, the present scenario allows, however, for sequentially rational equilibria where all defendants fight; Lemma 1 thus does not hold. A defendant does not observe J. Therefore, her decision to seek legal advice is independent of the expected judgement: the defense attorney decides whether to pursue or drop the case. In the most interesting of these equilibria, the defense attorney offers a fixed fee contract. To cover the fixed cost, the fixed fee exceeds the marginal cost. This, in turn, implies that the incumbent happily accepts any defendant independently of J: he leads the defendant "blindly into litigation regardless of the case's merit," Dana and Spier (1993), p. 350.

Proposition 2: *Plaintiffs' attorneys offer the contract $A + \alpha j$ with $\alpha = 2\nu F/(\nu - c)^2$ and $A = (1 - \alpha)c$. Defense attorneys offer the contract $B + \beta j$ with $\beta = 0$ and $B = \nu F/(\nu - c) + c$. All victims wish to hire the plaintiffs' incumbent, who accepts all applications with $J \geq c/\nu$. All defendants wish to retain the defense incumbent who accepts all cases. Both incumbents earn a quasi-rent that covers their sunk cost F.*

Proof: First consider the defense incumbent. Since the fixed fee $B > c$, he earns a quasi-rent with each case. Hence, he accepts all cases $J \in [0, 1]$. If

[17] Being ignorant about J, one needs to show that victims and defendants expect to do better with than without an attorney which is, however, straightforward with contingent fees.

he has at least $(1 - c/\nu)$ clients, he covers his sunk cost which is the case when the defendants $J \in [c/\nu, 1]$ seek his support.

If sued, a defendant's beliefs is $E(J|J \geq c/\nu) = .5(c/\nu + 1)$. She anticipates that if she consults the defense attorney, he will always recommend to fight. She consults the attorney if $2\nu E(J|J \geq c/\nu) \geq \nu E(J|J \geq c/\nu) + \nu F/(\nu - c) + c$ which holds because of assumption (1).

For the plaintiffs' incumbent the revenue from the cases $J \in [0, c/\nu)$ does not cover the marginal cost c given all defendants fight. Hence, he drops these cases. The marginal case c/ν generates revenue equal to marginal cost, for the cases $J > c/\nu$ the attorney earns a quasi-rent. Thus, plaintiffs' incumbent accepts all cases $J \in [c/\nu, 1]$. The quasi-rent covers his sunk cost F.

Victims expect positive surplus from hiring the attorney. Therefore, they seek legal assistance.

A deviation by the plaintiffs' attorney to another contract is not profitable because all defendants fight given their belief $E(J|J \geq c/\nu)$. The plaintiffs' entrant cannot make a more attractive offer without making losses. Likewise, the defense incumbent and entrant cannot make a more attractive offer that doesn't yield losses. ■

In this low litigation equilibrium contracts are such that defendants and their attorney commit to fight all cases. This discourages low claim victims from suing. The defense attorney does not screen cases in the interest of his clients. The screening is actually done by the plaintiffs' attorney who only brings cases which, in turn, should be fought by defendants.

Several remarks are in order. First, this result only holds because defendants are ignorant about J. Consider, e.g., defendant c/ν. She saves c by fighting, thus fighting is efficient for her. Yet she pays $B > c$ to the attorney. She would rather not fight at that price were she to knew the quality of her case. The attorney leads her into litigation that is ex post not in her interest. Yet, committing to fight any case is ex ante in the interest of injurers.[18] If, by contrast, the defense attorney offers the contingent fee schedule of Proposition 1, he only leads a defendant into litigation that is ex post in her interest. But this is not what injurers want ex ante.

[18]This argument is reminiscent of a consumer who regrets having bought insurance once she knows that the loss did not materialize. Nevertheless, buying insurance makes sense from an ex ante point of view.

Next note that the low litigation equilibrium is supported by the defendants' "conservative" beliefs. Suppose the plaintiffs' attorney deviates to his high litigation contract given in Proposition 1. With "conservative" beliefs a defendant who observes this deviation thinks that the attorney made a mistake. When the attorney decides about whom to sue, he will not make another mistake and, therefore, accept only cases with $J \geq c/\nu$.

Suppose, however, the defendant uses forward induction type of reasoning. Upon observing the high litigation contract, she thinks that the plaintiffs' attorney wants to play the high litigation equilibrium and thus that she is of type $E(J|J \geq c/2\nu) = .5(c/2\nu + 1)$. With these beliefs she wants to fight if $\nu E(J|J \geq c/2\nu) \geq \nu F/(\nu - c) + c$ or if

$$\frac{(\nu - 3c/2)(\nu - c)}{2\nu} \geq F \tag{2}$$

which is stronger than condition (1). Therefore, with forward induction type of beliefs we need (2) to hold for Proposition 2 to be true.

Next, not only the fixed fee, but also contingent fee and reverse contingent fee contracts allow injurers to commit to fight. Consider first the reverse contingent fee contract with $\beta = -2\nu F/(\nu - c)^2$ and $B = c - \nu\beta$. Under this contract the defense attorney is paid the less the higher the judgement; low J cases are attractive and high J cases unattractive for the attorney. He takes over some of the defendant's judgement risk for which he is compensated by a high B. Under this contract the defense attorney earns c with the marginal case $J = 1$; he earns a quasi-rent for all cases $J < 1$. The defense attorney is thus willing to accept all cases. With $(1 - c/\nu)$ clients the defense attorney breaks even.

Furthermore, any contingent fee contract with $0 \leq \beta \leq 2\nu F/(\nu - c)$ and $B = \nu F/(\nu - c) - \beta(\nu + c)/2 + c$ also does the trick. Under all these contracts the defense attorney earns c or more for $J \geq c/2\nu$. The defense attorney happily accepts all cases $J \geq c/2\nu$ (or even more cases if $\beta < 2\nu F/(\nu - c)$). The plaintiffs' attorney, therefore, expects $p = \nu$ for $J \geq c/2\nu$ and accepts only clients with $J \geq c/\nu$. With $(1 - c/\nu)$ clients the defense attorney, in turn, breaks even. We have formulated the Proposition for $\beta = 0$ for two reasons. First, the fixed fee contract transmits in the perhaps most transparent way the following message: when asked for his assistance (and he will be asked because defendants are ignorant about J), the defense attorney will fight every case, even when it is potentially inefficient to do so; however, at equilibrium, it is not inefficient to fight all case that are brought. Second,

as we will discuss in detail below, the fact that under reverse contingent fees the defendants who need the attorney most are the marginal clients who are accepted may lead to their exclusion.

The contingent fee contract of the plaintiffs' attorneys is, by contrast, uniquely determined given that $p = \nu$. This follows from Proposition 1 of Dana and Spier (1993). They allow for a general class of contracts and show that the optimal contract is indeed linear. Therefore, focusing on linear contracts is not restrictive for plaintiffs' attorneys.

Welfare statements are somewhat tricky because the conflict is purely redistributive: the amount the plaintiff wins equals the amount the defendant loses. Therefore, in the efficient allocation no victim sues and society saves the time and effort of attorneys who can do other, productive things. Viewed from this perspective the low litigation equilibrium is more efficient than the high litigation equilibrium because fewer victims sue. Due to our assignment rule, in all of our equilibria there is no duplication of fixed costs, i.e., we have cost-efficiency: only one plaintiffs' and one defense lawyer is active. Moreover, in all of our equilibria the attorneys' contributions for their clients equals at least marginal costs.

Consider the extension of our set-up where the attorneys can put unobservable effort into the case: by working hard the plaintiffs' attorney increases p while the defense attorney's effort lowers p. Besides our expertise problem we now have an additional moral hazard problem. The contracts given in Proposition 2 give rise to the following incentives. The plaintiffs' attorney has an incentive to provide effort under contingent fees: both, the plaintiff and her attorney want to win the case. By contrast, the defense attorney who is paid a fixed fee has no incentive to provide costly effort.

Suppose instead of the fixed fee we use a contingent fee that commits the defense to fight all cases; see our discussion above. This actually compounds the defense attorney's moral hazard problem. If $\beta > 0$, the defendant and her attorney have diametrically opposed interests: losing the case is good for the attorney (he collects the contingency) and bad for the defendant.[19] Furthermore, a contingent fee exacerbates the defendant's judgement risk.

Finally, consider the reverse contingent fee where $\beta < 0$. Now the incentives of the defendant and her attorney are aligned: both want a low probability that they lose the case and the attorney has an incentive to put in effort. The reverse contingent fee shares the judgment risk between the

[19] In fact, the lawyer has an incentive to sabotage his own client's case.

defendant and her attorney and, moreover, aligns their interests concerning effort.

Reverse contingent fees have, however, an essential drawback: the defendant and her attorney rank the cases in exactly the opposite way. For the defendant legal support is the more important, the higher is J. By contrast, under reverse contingent fees cases are the more profitable for the attorney, the lower is J. To see why this opposite ranking can be problematic, suppose, e.g., that the attorney's marginal cost is stochastic with mean $\bar{c}$; let $\bar{c}$ be equal to the deterministic cost in our model. The attorney learns the realization of his marginal cost only after he has offered his contract but before he accepts clients.[20]

The uncertainty about marginal cost has no effect on our results on fixed fees. If $c > \bar{c}$, the defense attorney takes all cases (unless c is above the fixed fee, which we rule out for the sake of the argument). The defense attorney makes, however, a loss. If $c < \bar{c}$, the attorney takes all cases and makes a profit. If the distribution of c is symmetric, the attorney makes expected zero-profits. For the defendant nothing changes compared to our set-up: he pays the fixed fee and has legal support for sure.

Under reverse contingent the outcome is quite different from the one in the deterministic set-up. If $c < \bar{c}$, the defense attorney takes all cases and makes a profit. Nevertheless, if $c > \bar{c}$, the defense attorney drops the high J cases because revenue does not cover marginal cost, thereby reducing his loss. This selection by the attorney has negative consequences for defendants: with positive probability they have no legal support when they need the attorney most. This, in turn, lowers their expected utility from hiring the attorney in the first place, making reverse contingent fees less attractive than the fixed fee. To sum up: Under reverse contingent fees the high J cases are the least profitable ones for the attorney and, therefore, the most likely ones to be dropped if marginal cost turns out to be high.[21]

To summarize this discussion: The fixed fee $B = \nu F/(\nu - c)$ and the reverse contingent fee $\beta = -2\nu F/(\nu - c)^2$ and $B = c - \nu\beta$ both implement

[20] Alternatively, if there are capacity constraints the attorney may have less capacity than anticipated because, say, a lot of attractive alternative cases have materialized.

[21] Note that under contingent fees the plaintiff and her attorney rank cases in the same way: High J cases are more profitable for the client as well as the attorney than low J cases. If $c < \bar{c}$, the attorney takes more cases than in our set-up; if $c > \bar{c}$, he takes fewer cases. This efficient flexible selection by the attorney is also in the interest of the plaintiff. This constitutes yet another virtue of contingent fees.

the low litigation outcome by committing the defense to fight any case. The reverse contingent fee shares the judgement risk between the defendant and her attorney and provides incentives for the attorney to provide effort; however, reverse contingent fees embody the risk that the defendant is left out in the rain when she needs legal support most.[22] The fixed fee does not share the judgment risk and provides no incentives to take an effort; yet, defendants have legal support for sure. The fact that defendants hardly ever use reverse contingent fees seems to indicate that the role of assuring legal support is more important than the role of risk sharing and the role of providing incentives to choose high effort.

In our model the amount of time the attorney works on the case is exogenously given so that an hourly and a fixed fee boil down to be the same thing. Suppose, by contrast, the attorney decides how much time to put into the case; the client observes the hours, yet has no idea how much time is necessary. In such a set-up, if the attorney is paid by the hour, he has an incentive to "overlawyer" cases.[23] It is clear that with our fixed fee exceeding marginal costs such an incentive to "run the meter" exists which is ex post not in the client's interest. This incentive to run the meter may, however, counteract the missing incentive to provide unobservable effort. Moreover, as is the case in our model, committing to an ex post behavior may be ex ante beneficial for the defendants. "Churning" by the defense attorney may deter victims to sue in the first place.[24]

3 Concluding Remarks

The purpose of this paper is to explain the fact that plaintiffs retain their attorneys under contingent fees while defense attorneys work for fixed fees. Our clients do not observe the expected judgement. It is thus the attorneys who have to decide which cases to pursue and which cases to drop. Under

[22] A similar outcome is well known in health economics. Less healthy patients need more treatment than healthy patients. Under capitation-based settings physicians receive a fixed fee per patient. This form of remuneration induces physicians to enroll only relatively healthy patients and to exclude the less healthy ones; see, e.g., McGuire (2000).

[23] "...most lawyers will prefer to leave no stone unturned, provided, of course, they can charge by the stone." Rhode (1985), p. 635.

[24] This seemed to be the case in the tobacco litigation of the 1970's. A few smokers sued the tobacco companies sequentially; the majority of smokers didn't sue. Those who sued faced tobacco companies fighting by all legal means, just to deter future litigation.

a fixed fee exceeding marginal costs, a defense attorney happily accepts all cases he can get hold of. Using fixed fees the defense thus commits to fight all cases. This, in turn, induces plaintiffs' attorneys to drop the weak and pursue only the strong cases. This results in a low level of litigation which is in the interest of injurers.

Our approach provides an explanation of the stylized facts for the individual segment of the market. For the organizational segment where in-house counsel typically deals with outside attorneys, our set-up seems less suited: the assumption that in-house lawyers are less informed than outside attorneys seems somewhat far-fetched. For the corporate segment perhaps an approach that is not based on asymmetric information between clients and outside attorneys can provide useful insights.[25]

Kritzer (2007), p. 3 and 9 argues that tort claimants are the archetypical one-shot players while tort defendants and their insurers are the archetypical repeat players. The defense may "play for rules" or "play for reputation." To support such a result formally, one has to invoke infinitely repeated games to create an incentive to build up the reputation of being tough. We consider a one-shot game for individual defendants that yields a similar idea: By using fixed fees the defense commits to being tough and potentially fight all cases by all legal means.

Appendix

In this Appendix we analyze whether the equilibrium contracts are renegotiation proof. The outcome of a renegotiation is not observed by the other side to the conflict. To ensure renegotiation proofness, we assume an *opting-out clause*: the client can opt out of the contract should the attorney propose to renegotiate.

Consider first the scenario where plaintiffs and defendants know J. A high J victim could, for example, propose the plaintiffs' attorney a fixed fee $c + \eta$ with $\eta > 0$ and small. For J high enough, the plaintiff pays less than under the contingent fee contract. The attorney will accept this offer because he earns η rather than nothing if he turns the offer down. We have ruled out this possibility by our assumption that by seeking legal support, the plaintiff has

[25] See Garoupa and Gomez (2007) for a discussion of corporate clients as opposed to individual clients.

accepted the contract proposed by the attorney.[26] The attorney will never accept terms worse than those specified in the original contract. Likewise, any attempts by the attorney to increase his quasi-rent will be blocked by the client. The equilibrium contracts, being efficient, cannot be renegotiated.

Next consider the scenario where the plaintiff and the defendant do not observe J. What happens if the defense attorney, once informed and in charge, proposes to renegotiate the fixed fee contract? Consider the defendants $J \in [c/\nu, B/\nu)$ for whom fighting is ex post not in their interest given they pay B. The defense attorney could offer not to fight for a payment of η. Such an offer is attractive for the attorney if $\eta > B - c$, the profit he makes per client under the equilibrium contract. Will the defendants accept this offer? Consider the marginal defendant c/ν. If she accepts, her costs are $2c + \eta$; if she rejects, her costs are $c + B$. She will accept the offer if $\eta \leq B - c$; for the infra-marginal clients the inequality is strict. Therefore, any offer that is profitable for the attorney will be turned down by the clients: the jointly efficient equilibrium contract cannot be renegotiated

Nevertheless, the possibility to renegotiate may create a problem if the plaintiff and her attorney renegotiate to the high litigation contract of Proposition 1 so that the attorney accepts all cases $J \in [c/2\nu, 1]$. Defendants do not observe this deviation; they stick to their belief $E(J|J \geq c/\nu) = .5(c/\nu + 1)$ thus have no incentive to renegotiate. The defense attorney observes cases $J \in [c/2\nu, c/\nu)$ and infers the deviation. Yet, given $B > c$, he accepts all cases in this out-of-equilibrium information set. Now defendants $J \in [c/2\nu, c/\nu]$ are locked into a contract that is jointly inefficient: the reduction in judgement does not cover marginal cost of fighting. There is thus scope for renegotiation. The defense attorney could offer, say, defendant $c/2\nu$ not to fight for a payment of $\eta > B - c$. If η is sufficiently close to $B - c$, this offer is attractive to both, the defense attorney and defendant $c/2\nu$. Nevertheless, will the defendant accept this offer? She does not know her type after all. The defense attorney earns $B - c$ per defendant independently of her type. He has thus an incentive to renegotiate with all defendants who have accepted the equilibrium contract. Since he tries to renegotiate with all his clients, renegotiation generates no new information. All defendants stick to their belief $E(J|J \geq c/\nu) = .5(c/\nu + 1)$ under which they want to fight the case. They will turn the defense attorney's offer down; the equilibrium contract

[26] See Dana and Spier (1993) for a more elaborate discussion of this point.

cannot be renegotiated with a fixed price offer.[27]

Finally, suppose the defense attorney offers defendants to drop the case for a contingent payment of $c/\nu - \gamma j$ with $\gamma = 1/2\nu - \nu F/2c(\nu - c)$. This contract is more attractive for the attorney than the fixed price contract for $J < c/\nu$ and vice versa for $J > c/\nu$. Being offered this contract, defendants can thus infer that they are of type $J \in [c/2\nu, c/\nu)$. It is straightforward to show that defendants do better accepting this offer and not fight rather than pay B and fight. Nevertheless, the opting-out clause allows them not to fight without having to pay the attorney for that privilege. Anticipating this, the defense attorney will not renegotiate in the first place.

Finally, consider the possibility that the plaintiffs' attorney deviates to his high litigation contract given in Proposition 1. Consider first the case where defendants have "conservative" beliefs: should the plaintiffs' attorney deviate to an out-of-equilibrium contract, defendants think this is a mistake. The attorney will not make another mistake when screening cases and accept only clients with $J \geq c/\nu$. Under this assumption our preceding analysis applies.

This reasoning does, however, not apply when defendants have forward induction type of beliefs. Upon observing the high litigation contract, defendants infer that the attorney wants to play the high litigation equilibrium, meaning they believe to be of type $J \geq c/2\nu$. If (2) is satisfied, defendants want to fight. Nevertheless, since it is inefficient to fight cases $J \in [c/2\nu, c/\nu)$, defendants want to renegotiate with a screening offer $c/\nu - \gamma j$ with $\gamma = 1/2\nu - \nu F/2c(\nu - c)$. If the defense renegotiates and fights only cases $J \geq c/\nu$, the low litigation equilibrium does not exist.

We now sketch a modification of our framework that yields renegotiation proofness under forward induction beliefs. Suppose, as in Dana and Spier (1993) that attorneys incur a cost $k > 0$ to assess a case. Attorneys can first screen cases and then –being informed– litigate at a cost c. Alternatively, they can blindly litigate without assessing cases beforehand. So far we looked at the case $k = 0$ so that attorneys screen all cases.

[27] If the defense attorney offers $\eta = B - c$, the argument is more intricate. With this offer the attorney is indifferent as to pursue or to drop a case. Assume that he makes this offer only to the defendants $J \in [c/2\nu, c/\nu)$ for whom fighting is inefficient. Being offered to drop the case for the price η indeed conveys the information that the case is weak and defendants accept the offer. Nevertheless, they also learn that the attorney tricked them in the first place by knowingly locking them into an inefficient contract. They could try to sue the attorney for unethical behavior and the like. It, therefore, seems unreasonable that the attorney makes an offer to renegotiate which creates nothing but trouble.

To ensure that an attorney recovers all costs when he screens all clients and accepts cases $J \geq c/\nu$ let

$$(\nu - c)^2/2\nu \geq F + k. \tag{3}$$

Suppose the defense always fights. The joint expected payoff (ignoring F) of the plaintiff and her attorney when they do not screen and sue all injurers is $.5\nu - c$. If the attorney screens all cases and litigates appropriately, their joint expected payoff is $(1 - c/\nu)[\nu E(J|J \geq c/\nu) - c] - k$. Screening is better than blind litigation if

$$k \leq c^2/2\nu. \tag{4}$$

Let (2), (3), and (4) hold. Then the low litigation equilibrium as given in Proposition 2 with $\alpha = 2\nu(F + k)/(\nu - c)^2$ exists. The defense does not screen. They rely on the screening done by the plaintiffs' attorney.

Now let the plaintiffs' attorney deviate to the high litigation contract. Defendants believe to be of type $J \geq c/2\nu$. If the defense sticks to the fixed fee contract, their joint expected cost is $\nu E(J|J \geq c/2\nu) + c$. If the defense attorney screens and fights appropriately, the joint expected cost (ignoring F) is $(1-\pi)2\nu E(J|J \in [c/2\nu, c/\nu)) + \pi\nu E(J|J \geq c/\nu) + c + k$ with $\pi = \text{Prob}(J \geq c/\nu | J \geq c/2\nu) = (1 - c/\nu)/(1 - c/2\nu)$. If

$$k \geq c^2/(8\nu - 4c), \tag{5}$$

the defense prefers not screen. Not screening is efficient and an efficient contract cannot be renegotiated. Let (2), (3), (4), and (5) hold, i.e., the screening cost k is of intermediate value. Then the low litigation equilibrium exists and is renegotiation proof under forward induction beliefs.

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