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On plaintiff preferences regarding methods of compensating lawyers

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Abstract

This paper analyzes a litigation contest in which the plaintiff's lawyer and the defendant choose effort. The plaintiff selects the relative importance of a contract component related to the judgment (similar to contingent fees) and a component related to the lawyer's efforts (similar to conditional fees) to ensure lawyer participation and guide the lawyer's decision-making. For our setup, we find that the plaintiff considers the component related to the lawyer's effort to be the relatively more desirable instrument in the light of its effort-inducing and cost characteristics. However, high levels of the lawyer's outside utility may limit the role of this component.

Keywords: Litigation; Agency; Contest; Compensation

JEL-Code: K41

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1 Introduction

In court, litigants are represented by legal council. The compensation contracts between litigants and their lawyers increasingly foresee payments that depend (at least to some extent) on whether or not the lawyer wins the case at trial. In the United States, it is very common for plaintiffs to compensate their lawyers with *contingent fees* where the lawyer receives a percentage of any judgment (or settlement) but receives nothing if the case is lost. In fact, in the US, plaintiffs retain their lawyer on a contingency basis in roughly 90% of all tort and 50% of all contractual disputes (Emons 2008). In the United Kingdom and Australia, for example, it is common that plaintiffs compensate their lawyers using *conditional fees* where the lawyer gets a payment that is related to his costs if the case is won and nothing if the case is lost. In other words, under conditional fees, lawyer's remuneration is a function of inputs (e.g., Hyde 2006). These two empirically very important "no win, no fee" arrangements thus differ regarding the benchmark relative to which lawyer compensation is set in the winning state of the world: contingent fees are a function of the level of the judgment, whereas conditional fees are a function of the lawyer's costs.[1]

In a simple model, this paper explores the compensation contract choice of a plaintiff who is involved in a civil dispute and delegates the case handling to legal council.[2] We allow for contract components related to the judgment (similar to contingent fees) and the lawyer's efforts (similar to conditional fees) and seek to understand what mix the plaintiff prefers. Conceptually, we follow Baik and Kim (2007) who consider the scenario in which the plaintiff optimizes with respect to the level of the contingent-fee percentage. In our setup, the plaintiff has the option of substituting the level of the contingent-fee percentage for a greater outcome-contingent payment solely related to the lawyer's input and vice versa. Implementing a pure contingent-fee contract, for example, is also an option available to the plaintiff.

[1] For example, regulation in the UK is such that the lawyer can claim his cost and a success fee of up to 100 percent of his costs incurred on the case (see `sra.org.uk/consumers/using-solicitor/costs-legal-aid.page` (accessed February 14, 2018).

[2] For example, Kritzer (1998) reports that the majority of individual clients leave their lawyer in charge of almost every major decision.

We consider a litigation contest in which the plaintiff's lawyer chooses contest effort, whereas the defendant can directly control his lawyer's effort at a positive monitoring cost (as in Baik and Kim 2007). The plaintiff's compensation contract may turn out to be more similar to either contingent fees or conditional fees in the sense that lawyer compensation may either primarily build on a relationship to the level of the judgment or to the level of lawyer's costs. The plaintiff's contract design bears on the lawyer's marginal effort incentives and the marginal expected private cost of the plaintiff (resulting from the transfer from the plaintiff to the lawyer).[3]

For our setup, we find that the plaintiff prefers to have lawyer compensation depend on the level of costs rather than the level of the judgment (i.e., to emphasize conditional fee contract elements relative to contingent fee ones). This payment best addresses the task of motivating lawyer effort at given private cost. However, the lawyer's participation constraint may introduce a cap regarding the dependence on lawyer's costs. In fact, when the lawyer's outside utility is set equal to zero, the conditional-fee component is set at the highest level possible within our setup, while the contingent-fee component only complements the conditional fee to ensure that relevant constraints are fulfilled. In contrast, a high level of the lawyer's outside utility can effect that the lawyer's compensation does not depend very much on the level of lawyer's costs. As a result, we find an interesting interaction between the lawyer's outside utility and the extent to which the lawyer's compensation depends on either the level of costs or the level of the judgment. Importantly, there is very strong evidence that the US legal market is far from competitive, such that lawyers on average expect to earn positive rents (e.g., Hadfield 2000, Pagliero 2011). This reality in combination with the results from our simple model may thus contribute to an explanation of why most attorney compensation contracts that are of the "no win, no fee" type in the US are mainly contingent-fee contracts.

The plan for the paper is as follows. After briefly discussing the related literature in the

[3] A conditional fee contract relies on the verifiability of the actual level of costs (e.g., Hyde 2006). We are interested in the motivational effects of a conditional fee component and for that reason abstract from the fact that our setup principally allows for a first-best contract in which the plaintiff simply commands the privately optimal effort level.

next section, we will present the model in Section 3 and its analysis in Section 4. Section 5 concludes.

2 Related literature

We assume that litigation can be conceptualized as a contest, as it has been done by Baik and Kim (2007), Baumann and Friehe (2012), Farmer and Pecorino (1999), Friehe (2011), Hirshleifer and Osborne (2001), Katz (1988), Luppi and Parisi (2012), Parisi (2002), and Wärneryd (2000), among others. For instance, Farmer and Pecorino (1999) compare the performance of the American and the British legal cost allocation rules, whereas Parisi (2002) compares the adversarial system of adjudication with the inquisitorial one. Hirshleifer and Osborne (2001) introduce a *litigation success function* that we will use in our analysis below.

Moreover, our paper is related to papers analyzing contingent fees and the small strand of literature dealing with conditional fees. Indeed, the previous literature has mostly addressed contingent fees, ignoring the possibility of conditional fees.

Contingent fees can be interpreted as a mechanism to finance cases when the plaintiff is liquidity constrained and capital markets are imperfect, thereby granting access to justice to a wider set of wronged individuals. Contingent fees also allow to share risk between the lawyer and the client (e.g., Posner 1986). The fact that "no win, no fee" arrangements can provide incentives in circumstances potentially characterized by moral hazard has been noted early on (e.g., Danzon 1983, Schwartz and Mitchell 1970). Considering asymmetric information about characteristics instead of behavior, Dana and Spier (1993) discuss the relevant scenario in which the lawyer is better informed about the merits of the case, showing that contingent fees perform very well in these circumstances. In contrast, Emons (2000) considers a credence-good setup in which the lawyer selects how much work to put into the case, identifying circumstances in which paying the attorney by the hour outperforms using contingent fees. Further implications of having contingent fees have also been investigated. For example, having lawyer compensation based on a contingency fee instead of hourly fees influences settlement incentives (e.g., Polinsky and Rubinfeld 2002, 2003).

There is some, albeit very little literature dealing with conditional fees (Emons 2006, 2007, Emons and Garoupa 2006, Gravelle and Waterson 1993, Hyde 2006). For example, Emons and Garoupa (2006) highlight that contingent fees provide better incentives when there is uncertainty ex ante about the level of the judgment because the lawyer's payment is proportional to the judgment. Most closely related to our endeavor is Hyde (2006) which focuses on endogenous litigation expenditures under either contingent or conditional fees, where the respective proportion of either the level of the judgment or the lawyer's costs results from a supposed zero profit condition for lawyers and is thus not chosen strategically by the litigant. In contrast, our study seeks to explore whether plaintiffs prefer to be in a world with contingent fees or in a world in which conditional fees apply, where the implications for lawyers' effort choices are key influences. Other key assumptions, for example, the one with respect to the information available and that the defendant is not delegating the case are the same. The present paper is also related to Baumann and Friehe (2012) which explores litigation expenditure incentives of different levels of contingent fee percentages when there may or may not be a transfer of legal costs.

3 The model

We build on the literature about litigation contests (Katz 1988 and subsequent contributions) in which effort by the parties determines whether or not the plaintiff will ultimately receive a given amount of money or not. Specifically, we assume that an incident such as a tort or a contract breach implies that the plaintiff suffers a loss of V. Both plaintiff and defendant hire a lawyer to litigate their case. All parties are risk neutral. The plaintiff's lawyer and the defendant's lawyer can invest effort x and y, respectively, into the litigation in order to increase the likelihood of winning the case. Effort is a one-dimensional index of inputs such as attorney hours, pages of documentation, etc.

Litigation Success Function Following Hirshleifer and Osborne (2001), we assume that the probability that the plaintiff wins in court can be represented by

$$P(x, y; m) = \frac{mx}{mx + (1-m)y}, \tag{1}$$

where $m \in (0, 1)$ is a parameter representing the plaintiff's merits of the case. The plaintiff's (defendant's) case has no merits when $m \to 0\,(m \to 1)$. The plaintiff's lawyer has marginal effort costs of one. The defendant directly controls his lawyer's effort decision which signifies that the defendant's marginal effort costs are $h \geq 1$, allowing for monitoring costs incurred by the defendant, for example (as in Baik and Kim 2007). We imagine the defendant to be a corporate player, for example, with relatively better knowledge of the law.

Compensation Contract The plaintiff can offer a simple contract to the lawyer that consists of only two components. In the event that the plaintiff's lawyer wins the case, the plaintiff transfers $\alpha V \geq 0$ as a fixed payment that is proportional to the level of the judgment and $\beta x \geq 0$ as a payment proportional to the lawyer's costs x. The plaintiff will choose α and β in view of the lawyer's participation and incentive constraint (specified below). We thus consider a restricted contract set. However, it mirrors the empirically relevant conditional and contingent fee and the simple way in which these compensation contracts are usually implemented in practice (e.g., as linear functions of the judgment/costs without any flat payment), and thus seems acceptable for our research interest. For example, Emons and Garoupa (2006) and Emons (2007) similarly restrict their analysis to such components.

Participation Constraint The lawyer is assumed to have an outside utility of u, implying a participation constraint

$$\pi^L = (\alpha V + \beta x)P - x \geq u, \tag{2}$$

where the level of u may be interpreted as a proxy of the competitive pressure on the legal market. In the extreme case of perfect competition, the outside utility would be equal to zero. In the probably more realistic case of imperfect competition (e.g., Hadfield 2000), the outside utility would be positive. Using (1), the lawyer's participation constraint can also be stated as

$$\alpha \geq \frac{u + x(1-\beta)}{V} + \frac{(1-m)(u+x)y}{mxV}. \tag{3}$$

When all else is held equal, a lawyer is more eager to accept a contract when the plaintiff's case has better merits. Participation naturally also depends on the anticipated effort levels by the lawyer and the defendant.

Timing In Stage 1, the plaintiff determines the contract terms α and β, and the lawyer accepts or rejects the contract offer. In Stage 2, the plaintiff's lawyer and the defendant's lawyer simultaneously invest x and y into the litigation.[4] Ultimately, Nature determines who wins the trial case and according payoffs are implemented.

4 The analysis

Our analysis considers $V = 1$ to ease on notation. We will first analyze the equilibrium of the subgame starting when the contract has been proposed by the plaintiff and accepted by the plaintiff's lawyer. In view of these results, we turn to the plaintiff's choice of the contract.

4.1 Second stage: Litigation contest effort

The defendant chooses the level of effort to be exerted by her lawyer, seeking to

$$\max_{y} \pi^D = -P - hy. \tag{4}$$

Her first-order condition[5]

$$\pi_y^D = -\frac{\partial P}{\partial y} - h = 0 \tag{5}$$

leads to a best response function that can be stated as

$$y^{BR}(x; m, h) = \sqrt{\frac{m}{(1-m)} \frac{x}{h}} - \frac{m}{1-m} x. \tag{6}$$

[4]We abstract from the possibility that the plaintiff chooses a compensation contract that deters the defendant from spending positive effort.

[5]The defendant's second-order condition holds.

This is the best response function that also results in the standard setup by Hirshleifer and Osborne (2001). A higher marginal cost h intuitively discourages defendant's efforts. The effect of a marginal change in the merits of the case depends on the level of effort by the plaintiff's lawyer since

$$\frac{\partial y^{BR}(x;m,h)}{\partial m} = \frac{x}{(1-m)^2}\left[\frac{1}{2}\sqrt{\frac{1-m}{m}\frac{1}{hx}} - 1\right].$$

which will be positive (negative) at small (high) levels of x.

The plaintiff's lawyer chooses effort to

$$\max_x \pi^L = P(\alpha + \beta x) - x. \tag{7}$$

The first-order condition for an interior solution results as

$$\frac{\partial \pi^L}{\partial x} = \alpha\frac{\partial P}{\partial x} + \beta\left[\frac{\partial P}{\partial x}x + P\right] - 1 = 0. \tag{8}$$

The statement in (8) shows that the conditional-fee component is associated with two marginal effects of effort, first an increase in the plaintiff's probability of winning and thus the lawyer's probability of getting paid, and second the increase in the amount the client must pay upon winning at trial. In contrast, only the first effect occurs for the contingent-fee component. The marginal benefit associated with β may also question the existence of an interior optimum. The level of P is clearly increasing in the level of x, such that marginal benefits of effort are not necessarily decreasing with the level of effort exerted by the plaintiff's lawyer. In fact, while the second-order condition for the defendant clearly holds, we must pay attention to the lawyer's second-order condition given by

$$\pi^L_{xx} = -\frac{2(1-m)my(\alpha m - (1-m)\beta y)}{(mx + (1-m)y)^3} < 0. \tag{9}$$

The second-order condition of the lawyer thus holds if

$$\alpha > \frac{1-m}{m}y\beta, \tag{10}$$

a condition that is implied by the lawyer's participation constraint when $\beta < 1$ but not otherwise. Condition (10) introduces a lower limit on the level of the contingent-fee component

α as a function of the defendant's efforts in Stage 2, where this limit is applicable whenever the conditional fee β ought to be used (i.e., $\beta > 0$).[6] Intuitively, the part of the lawyer's first-order condition that is weighted by β is increasing with x such that the second-order condition necessitates that the part weighted with α is of sufficient importance.

Lemma 1 *When the conditional-fee component β is to be used in attorney compensation, the lawyer's second-order condition requires that a contingent-fee component α of sufficient magnitude is also used, where this magnitude follows from* (10)*.*

The first-order condition of the plaintiff's lawyer can also be written as

$$x^2 + 2\frac{1-m}{m}xy - \frac{1-m}{m}y\frac{\left[\alpha - \frac{1-m}{m}y\right]}{(1-\beta)} = 0, \tag{11}$$

which indicates that $\beta \neq 1$ is required for an interior solution. The condition can be solved for the lawyer's best response function. The statement in (11) yields two roots of which only one is compatible with a positive lawyer effort level, namely

$$x^{BR}(y) = \sqrt{\frac{(1-m)}{m}y\frac{\alpha - \frac{1-m}{m}y\beta}{1-\beta}} - \frac{1-m}{m}y. \tag{12}$$

In principle, this condition is compatible with both $\beta < 1$ and $\beta > 1$. However, the second-order condition only holds when (10) applies. For a positive radicand, we thus deduce that $\beta < 1$ must hold. Note also that the left-hand side of condition (11) would be strictly positive when $\beta > 1$ and $\alpha > \frac{1-m}{m}y$. This implies that the lawyer would like to continue increasing effort (which – when seen from the principal's standpoint – cannot be part of an equilibrium of the game).

Lemma 2 *Combinations (α, β) that are both consistent with the lawyer's second-order condition and yield a positive, real-valued level of lawyer effort as a best response to positive defendant effort are such that both $\alpha > y\beta(1-m)/m$ and $\beta < 1$ apply.*

The upper bound on the level of β bars the possibility that the plaintiff chooses a pure conditional fee arrangement in our setup. To that extent, our framework can only explain which

[6] The equilibrium level of y is itself a function of (α, β), as will be explained in detail below.

simple contract the plaintiff prefers in a space that includes a pure contingent fee arrangement and mixtures of contingent and conditional fees. It is clear that, when $\beta < 1$ applies, the other compensatory component α must take a positive value.

An exchange rate between the contingent and conditional fee component The lawyer's best response to any level of y is increasing in both the contingent-fee component and the conditional-fee term. (The implications of these variations for equilibrium effort will be described below.) For a given level of effort y by the defendant, the level of α may be substituted for by the level of β without changing the value of x^{BR} as long as the rate of exchange

$$\frac{d\alpha}{d\beta} = -\frac{\alpha - \frac{1-m}{m}y}{1-\beta} < 0 \tag{13}$$

is obeyed.[7] When there is no impact on the level of x^{BR} for a given level of y, then there will be no impact on the effort levels that result in the equilibrium of the subgame in Stage 2 (as the defendant's best-response function y^{BR} is not directly affected by the variation). In other words, a specific lawyer effort as response to a given level of defendant effort can be induced with different combinations of (α, β). Note that the lawyer's best-response function gives the same level of lawyer effort when the rate of exchange between contract terms in (13) is obeyed *only* for the considered level of defendant effort whereas the levels of x that are privately optimal for the lawyer when the defendant chooses other levels of y change. In fact, when the rate of exchange is adjusted to some y_1 and applied to (α, β), then the levels of x^{BR} will be higher (lower) when $y <$ $(>)$ y_1 (an illustration of this is presented below).

[7]This rate follows from combining

$$\begin{aligned}\frac{\partial x^{BR}}{\partial \alpha} =& \frac{1}{2}\left(\frac{(1-m)}{m}y\frac{\alpha - \frac{1-m}{m}y\beta}{1-\beta}\right)^{-1/2}\frac{(1-m)}{m}y\frac{1}{1-\beta}\\ \frac{\partial x^{BR}}{\partial \beta} =& \frac{1}{2}\left(\frac{(1-m)}{m}y\frac{\alpha - \frac{1-m}{m}y\beta}{1-\beta}\right)^{-1/2}\frac{(1-m)}{m}y\frac{\alpha - \frac{1-m}{m}y}{(1-\beta)^2}.\end{aligned}$$

The lawyer's perceived contest stakes In comparison to the standard setup (Hirshleifer and Osborne 2001), we have for the lawyer's best response function $x^{BR}(y)$ that

$$\bar{v} = \frac{\alpha - \frac{1-m}{m} y\beta}{1-\beta} \tag{14}$$

replaces the value of the exogenously fixed payment of the judgment.[8] Using contingent fees would be represented by $0 < \alpha < 1$ and β equal to zero (leading to stakes given by α). For the lawyer, the perceived stakes of the contest, $\bar{v}$, depend directly on the level of defendant effort y when $\beta > 0$. The level of y thus influences the shape of the lawyer's best response function in the (y, x) space for fixed merits of the case m relative to the best response function from the standard setup when $\beta > 0$.[9] For a fixed level of y, there is a direct effect of the contract components that can be described by

$$\frac{\partial \bar{v}}{\partial \alpha} = \frac{1}{1-\beta} > 0, \quad \frac{\partial \bar{v}}{\partial \beta} = \frac{\alpha - \frac{1-m}{m} y}{(1-\beta)^2},$$

where $\partial \bar{v}/\partial \beta > 0$ when the lawyer's participation condition is fulfilled and $\beta < 1$ (i.e., in the scenario relevant for our analysis). The merits of the case influence the lawyer's best response function in two ways. First, there is the effect that is also present in the standard setup by Hirshleifer and Osborne (2001), represented by the fraction $(1-m)/m$ as the first term in the square root and as a multiplier for the second term in x^{BR}. The additional effect stems from $\bar{v}$, where

$$\frac{\partial \bar{v}}{\partial m} = \frac{\beta y}{m^2(1-\beta)} > 0 \tag{15}$$

when $\beta > 0$. In words, the lawyer perceives – for (α, β) held fixed – higher contest stakes when the merits of the plaintiff's case are better. As a result, an interaction between merits of the case and the contract terms may be expected.

Comparative statics for the stage 2 subgame In the equilibrium of the subgame with a given contract (α, β), both conditions (5) and (8) must be fulfilled at the same time.[10] This will

[8]Specifically, the best-response function in the standard setup would be $x^{BR} = \sqrt{\frac{1-m}{m} yV} - \frac{1-m}{m} y$.

[9]Relative to a hypothetical scenario in which the litigant perceives a $\bar{v} = \frac{\alpha - \beta \frac{1-m}{m} \hat{y}}{1-\beta}$ as fixed contest stakes, the best response function in our setup would be higher (lower) for $y < (>)\, \bar{y}$.

[10]Like Baik and Kim (2007), for example, we assume that the compensation contract of the plaintiff is observable for the opponent.

be true when the effort choices are best responses to each other such that we focus on (6) and (12) being true at the same time. The compensation terms (α, β) influences the equilibrium via $\bar{v}$. We now analyze how equilibrium effort levels change with α and β. We evaluate the system $x - x^{BR} = 0$ and $y - y^{BR} = 0$ to find that

$$\begin{pmatrix} 1 & -\partial x^{BR}/\partial y \\ -\partial y^{BR}/\partial x & 1 \end{pmatrix} \begin{pmatrix} dx \\ dy \end{pmatrix} = \begin{pmatrix} \partial x^{BR}/\partial j \\ 0 \end{pmatrix} dj \tag{16}$$

with $j = \alpha, \beta$ and $H = 1 - \partial x^{BR}/\partial y \times \partial y^{BR}/\partial x$ denoting the determinant of the 2×2 matrix on the left-hand side. For stability, we impose $H > 0$ such that

$$\partial y^{BR}/\partial x \left[\frac{1}{\partial y^{BR}/\partial x} - \partial x^{BR}/\partial y \right] > 0 \tag{17}$$

with the implication that, for example, when x^{BR} decreases in y and y^{BR} decreases in x, then y^{BR} should have a greater absolute slope than x^{BR} in the (y, x) space. We obtain that

$$\frac{dx^*}{dj} = \frac{\partial x^{BR}/\partial j}{H} > 0 \tag{18}$$

$$\frac{dy^*}{dj} = \frac{\frac{\partial x^{BR}}{\partial j}\frac{\partial y^{BR}}{\partial x}}{H}, \tag{19}$$

and summarize in:

Lemma 3 *(i) A marginal increase in the level of α and β increase the lawyer's equilibrium effort. (ii) A marginal increase in the level of α and β increase (decrease) the defendant's equilibrium effort when $\pi^D_{xy} = \frac{(1-m)m((1-m)y-mx)}{(mx+(1-m)y)^3} < (>)\, 0$ (i.e., when $(1-m)y < (>)\, mx$).*

Both higher conditional and contingent fee components increase the lawyer's equilibrium effort. With respect to part (ii) of Lemma 3, we thus obtain that the plaintiff's instruments increase the equilibrium effort by the defendant when the plaintiff's lawyer is the favorite in the litigation contest (using the terminology introduced by Dixit 1987), that is, has a probability of winning greater than one half.

The plaintiff can implement effort equilibria (x^*, y^*) of very different kinds. The best-response function y^{BR} is independent of the compensation contract. This obviously constrains the set of possible equilibria, in addition to requirements following from the lawyer's participation constraint. The position and shape of x^{BR} hinges upon the levels of (α, β). For example, the plaintiff can principally induce that the lawyer acts as the underdog or the favorite in the litigation contests. In Figure 1, we consider the example in which $m = 1/2$, $h = 3/2$, and $(\alpha, \beta) = \{(1/4; 1/2); (1/2; 1/4); (1/2; 1/2)\}$. When $(\alpha, \beta) = (1/2, 1/2)$ applies, for instance, the lawyer is the favorite in the contest and effects a probability of winning the trial greater than one half.

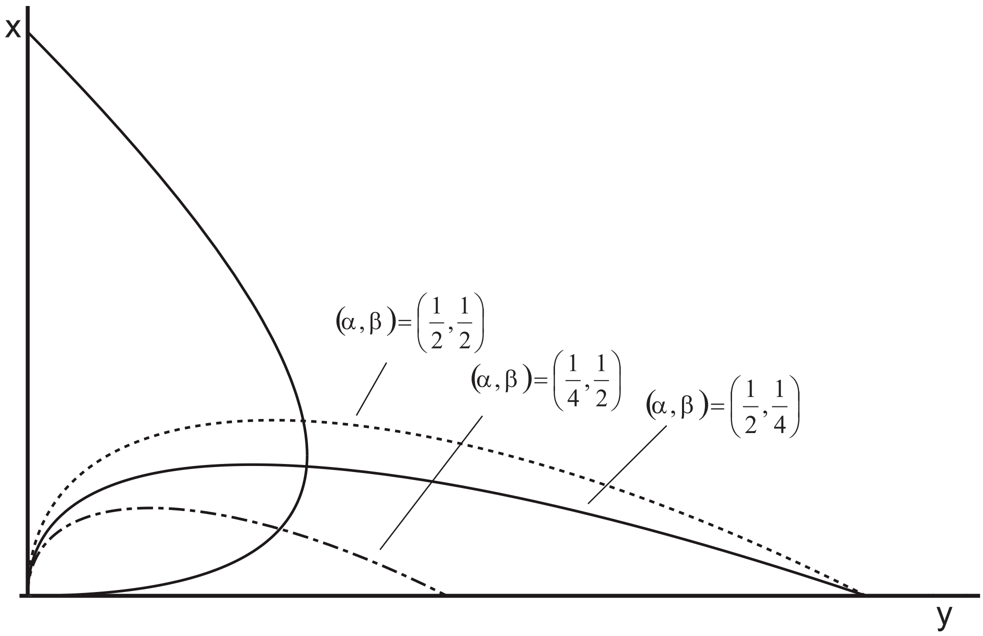

Figure 1: Possible shapes of best-response functions for the lawyer for different combinations (α, β)

Moreover, as alluded to in the context of equation (13), any possible intersection of the two reaction curves can be induced via different combinations of (α, β). Figure 2 highlights that the two contracts $(\alpha, \beta) = (1/4; 1/2)$ and $(\alpha, \beta) = (.2301; 3/5)$ induce the same equilibrium effort combination.

4.2 First stage: Choosing contract terms

In the first stage, the plaintiff chooses which compensation contract to offer to her lawyer. We can imagine the plaintiff's choice as a two-stage procedure. First, the plaintiff selects how to implement any possible equilibrium combination of effort levels (x^*, y^*) that result in Stage 2 using the instruments α and β (as in Figure 2). As argued in the context of (13) above, there

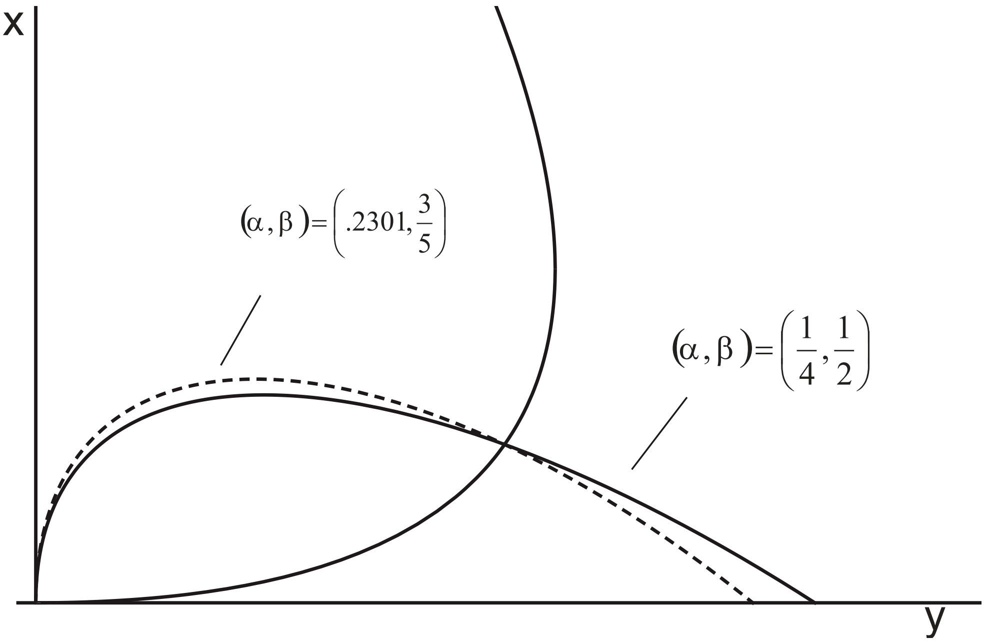

Figure 2: Two different combinations of (α, β) inducing one possible combination of about $(x^*, y^*) = (0.079, 0.15)$

is a specific rate of exchange that depends on the level of defendant effort which maintains the lawyer's level of effort. How the plaintiff solves this step of the optimization is key for our research interest. Second, the plaintiff chooses which equilibrium combination of efforts to implement.[11]

For the first step, that is, the choice of α and β for any fixed level of (x^*, y^*), we return to (13). The combinations of α and β that follow therefrom principally induce any specific (x^*, y^*). In addition, we have to consider the lawyer's participation constraint (inequality 3) in order to arrive at the relevant set of alternatives from which the plaintiff can choose in order to maximize private expected payoffs. For this maximization, it is important how the plaintiff's payoffs change when the contingent-fee component is substituted for the conditional-fee component according to (13) (i.e, for any fixed level of (x^*, y^*)). For a given combination of litigation effort levels, the plaintiff trades off β against α according to $d\pi = 0 = d\alpha(-P^*)+d\beta(-P^*x^*)$ such that $d\alpha/d\beta = -x$ is the rate of exchange that leaves the plaintiff's payoffs unaffected. Accordingly,

[11]We do not consider the scenario in which the plaintiff deters defensive effort on the part of the defendant as paying the judgment right away yields weakly lower costs. This would occur when $-P^* - hy^* < -1$ such that $hy^* > (1 - P^*)$.

the plaintiff would be (weakly) better off from lowering the contingent-fee component and increasing the conditional-fee component when

$$\alpha \geq (1-\beta)x + \frac{1-m}{m}y, \tag{20}$$

which follows from rearranging

$$-x \geq -\frac{\alpha - \frac{1-m}{m}y}{1-\beta} \tag{21}$$

and implies that the exchange rate in (13) – the right-hand side of (21) – is absolutely higher than that needed to keep the principal indifferent – the left-hand side of (21). Interestingly, the statement in (20) is the lawyer's participation constraint for the scenario $u = 0$ and thus must always be ensured. In other words, when the outside utility of the lawyer is zero, then the plaintiff prefers to put as much weight as possible on the conditional-fee component of the compensation contract.

When $u > 0$, the participation constraint introduces a stricter lower bound on the level of α as compared to the one detailed in (20). The level of α required to fulfill the lawyer's participation constraint decreases by $-x^*$ when β is raised such that the participation constraint is characterized by the rate of exchange that also maintains the level of plaintiff payoffs.

For illustration, let us return to the example from the end of Section 4.1 with $m = 1/2$ and $h = 3/2$ (see Figure 3). The plaintiff may induce an equilibrium in effort levels of about $(x^*, y^*) = (0.079, 0.15)$. There exist different contracts (α, β) that achieve this. The level of the lawyer's best-response function when $y = 0.15$ can be specified as

$$x^{BR} = 0.387298\sqrt{\frac{\alpha - 0.15\beta}{1-\beta}} - 0.15$$

and signifies that the level of the contingent-fee component α may be selected from

$$\alpha(\beta) = 0.35 - 0.2\beta \tag{22}$$

to obtain the $x^* = 0.079$. The function (22) is represented in Figure 3. Combinations (α, β) on this line induce the equilibrium effort levels $(x^*, y^*) = (0.079, 0.15)$.

Next, we take account of the lawyer's outside utility. The lawyer's participation constraint is

$$\alpha \geq u + 0.079(1-\beta) + 0.15(1 + 12.6582u) \tag{23}$$

and accordingly lies below (22) for all $\beta < 1$ in the case of $u = 0$. The Figure 3 includes a participation constraint with $u = 0$ and one with $u = 1/40$.[12] The participation constraint that results when $u = 1/40$ has an intersection with (22) at a combination (α, β) where the associated β is about 0.4. In that sense, a higher level of u will induce for the given effort combination (x^*, y^*) a higher (lower) level of α (β) up to the extreme scenario in which β is about zero.

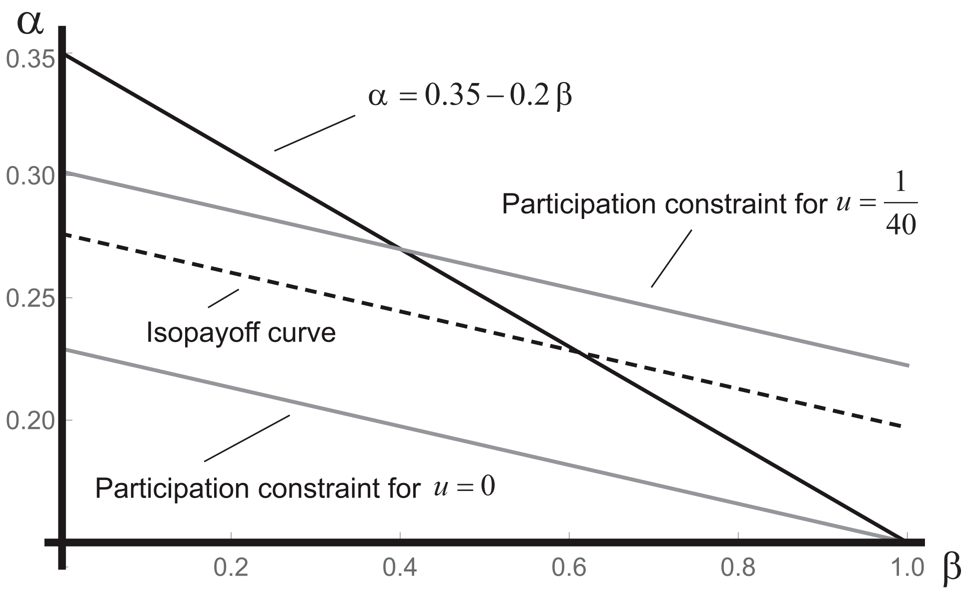

Figure 3: Search for the optimal combination of (α, β) for a possible equilibrium effort combination (x^*, y^*)

Moreover, the figure includes one isopayoff curve for the plaintiff (which is parallel to the participation constraint as the slope is $-x^*$) using $\pi^P = 0.25$. The better direction for the plaintiff is Southwest. As a result, the plaintiff will choose the combination (α, β) on the relevant participation constraint where it intersects (22).

[12]When the lawyer has an outside utility greater than 0.35, then this specific effort combination cannot be induced.

The results obtained in this example apply more generally and are summarized in:

Proposition 1 *(i) Assume that $u = 0$ applies. The plaintiff implements any given feasible equilibrium (x^*, y^*) with the highest admissible level of β and the level of α that follows from the lawyer's participation constraint* (3) *for this level of β. (ii) Assume $u > 0$. The plaintiff will use a level of β less than the highest admissible level and combine it with a higher α that follows from the lawyer's participation constraint* (3).

For our setup, we thus find that the plaintiff prefers to have lawyer compensation closely tied to lawyer's costs. In terms of transfers, plaintiff and lawyer evaluate the contingent-fee and the conditional-fee component exactly the same (the rate of exchange that keeps payoffs constant is $-x^*$). However, the conditional-fee component has a relatively greater influence on the lawyer's litigation effort incentives. Nevertheless, the plaintiff may have to implement a considerable contingent-fee component in order to fulfill the lawyer's participation constraint.

The analysis of Stage 2 delivers achievable equilibrium effort combinations and Step 1 of the optimization in Stage 1 associates each equilibrium effort combination with a contract that is privately optimal for the plaintiff. Step 2 of the optimization in Stage 1 concerns the selection of one of these compensation contracts (implying one of these achievable equilibrium effort combinations). When $u = 0$, then the optimal level of β is the highest possible. The choice problem would thus reduce to a decision about the level of α. When $u > 0$, then the optimal level of β is the highest possible that is compatible with the lawyer's participation constraint (which uses x^* and y^*). We do not elaborate further on Step 2 of the optimization in Stage 1 as we were interested in the relative prominence of the contingent-fee and the conditional-fee component, which was the result of Step 1 of the optimization in Stage 1 described above.

5 Discussion and conclusion

Lawyer compensation increasingly depends on the outcome of the litigation. Famously, in the United States, many lawyers are compensated on a contingency-fee basis that specifies a share of the judgment/settlement amount when the case is won and no payment when the case is lost.

In other jurisdictions such as the UK, compensation on a conditional-fee basis is becoming more and more popular. Lawyer compensation in this case depends on lawyer's costs. We have considered the preferences of a plaintiff who has to delegate the effort choice to a lawyer but can design a simple contract in order to steer the lawyer's decision-making and ensure the lawyer's participation. Our finding is that the plaintiff prefers to compensate the lawyer relying very much on a contract component related to the lawyer's costs (i.e., a conditional-fee-like component). This plaintiff preference may not come to the fore in equilibrium as strongly when lawyers have a positive outside utility.

Our analysis is very stylized and abstracts from many real-world complications. Nevertheless, it is interesting from a policy standpoint that plaintiffs are particularly interested in conditional fees due to their specific effort-inducing characteristics. The particular role of the lawyer's outside utility in the extent to which the conditional fee features in the contract offered in equilibrium is also of interest. When lawyers have a lot of market power, the conditional-fee component will often be negligible relative to the contingent-fee component despite the highlighted preference of plaintiffs.

With regard to further policy implications, note that allowing plaintiffs to freely design their compensation contracts increases the plaintiff's expected payoffs and thus may be considered as increasing access to justice. However, since the conditional-fee component represents a relatively cheaper mean of inducing lawyer effort, it may generate more rent-seeking activities from plaintiffs. More research on such questions is called for to understand whether regulation of compensation contracts is needed. Furthermore, it would be interesting to consider the implications from a pretrial negotiation stage.

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