1997

Contingent Fees, Principal-Agent Problems, and the Settlement of Litigation

Bruce L. Hay

Follow this and additional works at: http://open.mitchellhamline.edu/wmlr

Recommended Citation
Available at: http://open.mitchellhamline.edu/wmlr/vol23/iss1/7
CONTINGENT FEES, PRINCIPAL-AGENT PROBLEMS, AND THE SETTLEMENT OF LITIGATION

Bruce L. Hay

I. INTRODUCTION .......................................... 44
II. OVERVIEW .............................................. 46
   A. The Settlement Problem ........................... 46
      1. Dividing the Pie ............................ 47
      2. The Size of the Pie ........................... 48
   B. Summary Conclusions .............................. 49
      1. The Rough Equivalence of Trial and Settlement 49
      2. Departures May Be in Either Direction ....... 50
III. ANALYTICAL FRAMEWORK ............................. 52
IV. THE POSSIBILITY OF SETTLEMENT MAY OR MAY NOT REDUCE THE OPTIMAL FEE ........................................ 54
   A. When Does Settlement Make a Difference? ........... 54
      1. The Rough Equivalence of Trial and Settlement 54
      2. When r** May Diverge from r* ............... 56
   B. The Fee's Effect on Settlement ........................ 56
      1. A Simple Model of Settlement .................. 56
      2. The Fee's Effect on Parties' Settlement Positions 58
V. OPTIMAL FEES IN DIFFERENT SETTLEMENT STORIES ... 61
   A. A Benchmark Case .................................. 62
   B. Bargaining Stories ............................... 63
      1. Lawyer Control of Plaintiff's Bargaining Position (θ) 63
      2. The Parties' Relative Bargaining Power (λ) .......... 65
   C. Information Stories ............................... 66
      1. Information Concerning the Fee ................. 66
      2. Information Concerning the Evidence .......... 67
      3. Investing in Information ........................ 68

† Harvard Law School. I thank Christine Jolls, Louis Kaplow, Steve Shavell, and workshop participants at Georgetown, Harvard, and Yale for helpful comments and suggestions. The research was supported by a grant from the John M. Olin Foundation.
I. Introduction

This Article examines the operation of ordinary percentage-type contingent fees in the settlement of litigation. Its object is to identify the properties of the optimal contingent fee, from the client's perspective, in a world in which cases settle. It addresses the following problem: What contingent fee percentage maximizes the plaintiff's welfare, given that his lawyer can choose between going to trial and settling? How does it compare to the fee that would be appropriate if the case were certain to go to trial?

This is a crucial problem in a large number of cases, particularly in personal injury litigation. Most personal injury claims are brought under a fee arrangement that apparently gives the lawyer a simple percentage of the award; and the vast majority of them are settled before trial, often very early in the litigation. What characterizes the right percentage for the client to pay the lawyer in such cases?

In exploring this matter, I build on a previous paper that analyzed the optimal contingent fee in a world in which all cases go to trial.1 There I used a model in which the recovery on a claim was a function of the effort exerted by the plaintiff's lawyer. In that model, the lawyer's percentage fee determines how much effort she puts into litigating the claim.2 The client's problem boils down to one of encouraging the lawyer to exert effort (thereby maximizing the value of the claim), without giving away too much of the recovery to the lawyer (thereby maximizing the client's distributive share of the claim).

Introducing the choice between trial and settlement is a complex refinement of this principal-agent problem. The complexity arises from the fact that there are, in effect, two possible routes to recovery with very different strategic configurations. The client needs to worry, first, about which route the lawyer chooses (settlement or trial), and second, about how vigorously the lawyer pursues the claim along the chosen route. Finding the fee that gives the lawyer the right incentives, without paying

2. Throughout this paper I refer to the client as he and the lawyer as she.
CONTINGENT FEES
AND SETTLEMENT

her more than necessary, is accordingly harder than it was in the earlier model, where it was assumed all cases go to trial.

I confine my attention to simple linear, or unitary, contingent fees, which give the lawyer a specified fraction of the recovery—e.g., thirty-three percent. As others have pointed out, this is not necessarily the best type of fee arrangement for the client; for example, in some settings it may, in theory, be preferable for the client to employ a more complex arrangement in which the lawyer's percentage depends on whether the case settles or goes to trial. But the pervasiveness of the simple linear fee amply justifies investigating what the right percentage is, without asking what better fee structures could be substituted for it. That is my purpose here.

The Article is organized as follows. Part II gives an overview of the problem and summarizes the main conclusions of the paper. Part III introduces a model of the “optimization” problem facing the client, who wants to identify the fee that maximizes his net recovery from his claim. Part IV discusses the conditions in which the optimal fee in a world of settlement differs from the optimal fee in a trial-only world; my object is to test the widespread belief that a fee should be lower if cases settle than if they do not. Part V applies the argument of the earlier Parts to some more precisely specified models of litigation and settlement.

3. Two main lines of argument in this regard may be distinguished. First, in some settings, the client would do better, in theory, if the fee arrangement did not simply consist of a percentage-of-the-award payment. This may be true, for example, of an arrangement in which the lawyer both takes a fraction of the recovery and makes a fixed side payment to the client. See Daniel L. Rubinfeld & Suzanne Scotchmer, Contingent Fees for Attorneys: An Economic Analysis, 24 RAND J. ECON. 343 (1993) (describing how the fee contract reflects the attorney’s self evaluation of her ability and the client’s assessment of the case).

Second, even if the fee arrangement consists exclusively of a simple percentage-of-the-award payment, the client may do better if the percentage paid depends on the amount of work done by the lawyer. See Geoffrey P. Miller, Some Agency Problems in Settlement, 16 J. LEGAL STUD. 189, 201 (1987) (describing contracts in which the lawyer’s percentage depends on the stage of litigation at which the suit is resolved).

4. I explore this point at length in a separate article. See Bruce L. Hay, Optimal Contingent Fees in a World of Settlement, 26 J. LEGAL STUD. 259 (1997). That article focuses on the structure of contingent fees; in particular, it examines the benefits of employing a “bifurcated” fee (in which the lawyer gets one percentage if the case settles, and another percentage if the case goes to trial) in lieu of a “unitary” fee (in which the lawyer gets the same percentage regardless of how the case is resolved). In contrast, the present Article assumes that a unitary, or linear, fee is employed, and it investigates the problem of determining what percentage should be employed.
II. Overview

A. The Settlement Problem

Consider the following hypothetical case: an accident victim hires a lawyer to represent him in exchange for twenty-five percent of any recovery she obtains. If the case were to go to trial, let us assume the lawyer would invest a total of 100 hours in the case and produce an expected recovery of $120,000. We will assume this fee maximizes the client's net expected recovery from trial. Instead of going to trial, however, the lawyer settles the case early in the pretrial stages - when the lawyer has invested only ten hours in the case - for a payment of $80,000. Table 1 indicates the payoffs to the lawyer and client from this outcome.

<table>
<thead>
<tr>
<th>Case Disposition</th>
<th>Payment by Defendant</th>
<th>Plaintiff's net recovery</th>
<th>Lawyer's hourly earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trial</td>
<td>$120,000(^a)</td>
<td>$90,000(^a)</td>
<td>$300(^a)</td>
</tr>
<tr>
<td>Settlement</td>
<td>$80,000</td>
<td>$60,000</td>
<td>$2000</td>
</tr>
</tbody>
</table>

\(^a\) Expressed in expected terms.

Viewed from the perspective of the client's welfare, there are two troubling features about the outcome, as compared to what would have happened had the case gone to trial. First, the lawyer earns enormous profits from the settlement. Had the case gone to trial, her effective earnings, in expected terms, would have been $300 per hour; in contrast, the settlement gives her earnings of $2000 per hour. Thus, the client pays an effective hourly rate of seven times what he would have paid if the case had gone to trial.

Second, the amount of the settlement is substantially less than the expected amount the defendant would have paid had the case gone to trial. As a result, the settlement leaves the client in a worse position, at least strictly in monetary terms, than if the

---

5. We can assume that the client consents to the settlement.

6. Our assumption here is that the lawyer would have earned at least her opportunity cost if the case had gone to trial. The opportunity cost of an action is defined as the value of the foregone alternative action. See The Dictionary of Modern Economics 316 (David W. Pearce ed., 1981).
case had gone to trial. The one who benefits from the settlement is the lawyer, who saves virtually all the time and effort she would otherwise have to spend on the case.

Having seen this outcome, let us go back to the selection of a fee. Ex ante, was twenty-five percent the right fee for the client? At the most basic level, identifying the optimal fee requires attention to two matters: the fee's effect on the size of the expected recovery on the claim, and its effect on the division of the proceeds between lawyer and client. My earlier study examined these matters on the assumption that claims definitely went to trial. Allowing for the possibility of settlement complicates the picture in important ways.

1. Dividing the Pie

Consider first the division between lawyer and client of the amount recovered from the defendant. In essence, settlement may enable the lawyer to collect enormous amounts of money from the client in exchange for doing almost no work on a case. As the above example shows, a fee percentage that gives the lawyer a seemingly reasonable rate of return in the event of trial has the effect of giving her an absurdly high rate of return if the case instead settles.

The problem is particularly acute because in most cases, settlement is the rule, not the exception. In many instances, lawyers take cases knowing they will likely obtain a speedy settlement. There is little chance of actually having to invest in a costly trial and risk being paid nothing for the lawyer's efforts. It is therefore not implausible to say, in the above example, that signing on for a twenty-five percent fee may have given the lawyer a virtually risk-free expected rate of return of about 2000 per-

---

7. If the case goes to trial, the client gets a net expected recovery of \((.75)(\$120,000) = \$90,000\). From the settlement, he collects only \((.75)(\$80,000) = \$60,000\). Note that if the client is highly risk-averse or liquidity-constrained, he may be better off with the settlement.

8. If the case goes to trial, the lawyer's net expected recovery is \((.25)(\$120,000) - 100H\), where \(H\) is the opportunity cost of an hour's time and effort. From the settlement, her net recovery is \((.25)(\$80,000) - 10H\). The settlement gives her a higher yield than going to trial, provided that \(H \geq 111\).
Attorney windfalls of this sort have provoked extensive criticism from observers of the legal system. Attorney windfalls of this sort have provoked extensive criticism from observers of the legal system.

How then does this affect the choice of fees? We know by assumption that a twenty-five percent fee would be optimal in our imaginary case, provided that the case were going to trial. Should the client pay that percentage if an early, substantial settlement is virtually assured, and trial only a remote possibility? If not, what percentage should he pay?

2. The Size of the Pie

Now consider the fee’s effect on the expected payment recovered from the defendant. The expected payment is given as follows:

\[
\text{Expected judgment} \times \left( \frac{\text{Expected settlement}}{\text{Probability of trial}} \right) + \left( \frac{\text{Expected settlement}}{\text{Probability of settlement}} \right)
\]

In my earlier study, all the client had to worry about in this regard was the fee’s effect on the expected recovery at trial. Here, he needs to worry about two additional items: the fee’s effect on the expected amount paid in settlement, and its effect on the relative probability of trial and settlement.

These effects can interact in complex ways. They can push in different directions: a fee that increases the expected settlement amount may decrease the probability of settlement, and a fee that decreases the expected settlement amount may increase the probability of settlement. Indeed, in a world of settlement—in sharp contrast to a trial-only world—raising the fee may in some instances shrink the size of the pie.

The client thus has

9. Her hourly return was $2000 in the hypothetical, which translates (if we assume the opportunity cost of her time is $100) into a rate of return of 2000%.

10. It is not hard to find anecdotes recounting cases in which winning an early, substantial settlement was virtually a sure thing, so that a contingent fee percentage in the 30% range gave the plaintiff's lawyer a risk-free effective rate of thousands, or even tens of thousands, of dollars per hour. See, e.g., Lester Brickman et al., Rethinking Contingency Fees 22 (1994).

11. A lesser fee would lead the lawyer to invest less in the case, thus reducing the expected payment by the defendant. The client must balance this effect against the benefit of getting a greater distributive share of the recovery. It is not difficult to show that in many cases a fee of less than 25% is inferior, from the client’s perspective, to some fee above 25%. See Hay, supra note 1, at 506-08.

12. Suppose, for example, that (a) cases settle for less than the expected judgment, and (b) raising the fee increases the likelihood of settlement. In such a setting it is easy to construct an example in which raising the fee has the effect of shrinking the expected recovery from the defendant.
to sort out the magnitude and direction of the different effects of the fee on the expected recovery from the defendant. How does the optimal fee in a world of settlement differ from the optimal fee in a trial-only world?

B. Summary Conclusions

Here, stated in an informal manner, are the central points made by the analysis in this article.

1. The Rough Equivalence of Trial and Settlement

First, assuming (as we do throughout the article) that fees are unitary, the prospect that a case will settle does not, in general, lower the optimal fee percentage for that case. The intuition here is simple: lowering the fee weakens the threat value of trial, and thus lowers the settlement value of the case. As the fee drops, so does the plaintiff’s lawyer’s incentive to invest in the claim should it go to trial. As a result, the defendant has less to lose from going to trial, and thus will pay less to settle the case.

The point can be seen most easily if we assume that all cases simply settle — once the plaintiff has hired a lawyer — for an amount equal to the expected judgment at trial. In this setting, the prospect of settlement does not affect the client’s optimization problem at all; his expected return from using a given fee is the same whether the case settles or goes to trial. He then obviously should use the same fee he would in a trial-only world, since settlements simply mirror that world. This conclusion runs contrary to the common intuition that the fee should be smaller when settlement is likely than when it is not. The basis for this intuition is that settling is cheaper than going to trial; since a high likelihood of settlement means the lawyer’s expected costs are low, the reasoning goes, she should collect a relatively low fee. This view is incorrect. To put the point most starkly: Even if settlement is a sure thing and costs the lawyer nothing, the client may want to give the lawyer as high a fee percentage as he would give if trial were unavoidable. The lawyer will, to be sure, collect enormous rents from such an arrangement, but lowering her fee percentage will simply put the client in a worse position.

13. That is, the percentage paid is invariant with the mode by which the case is resolved.
In fact, this point does not require the assumption that cases actually settle for their expected value at trial. The settlement amount may be less than the expected judgment, or it may be more; it makes no difference. It also makes no difference what the probability of settlement is. What matters is how the settlement amount and probability of settlement vary with the expected judgment. The client should pay the same fee as he would in a trial-only world, so long as the following conditions hold: (i) the settlement amount stands in some linear relation to the expected judgment, and (ii) the probability of settlement is unaffected by the fee.

2. Departures May Be in Either Direction

If we relax either assumption, the result just described does not hold; the client does not necessarily want to use the fee he would in a trial-only world. However, the departure may be in either direction: in some cases he will be better off with a higher fee, and in others a lower fee, than he would want in a trial-only world. We should not, in general, expect the departure to be predominantly in one direction. Let me briefly discuss two of the factors that may push the optimal fee in one or the other direction.

(a) Toughness in Bargaining. Raising the fee means the plaintiff's lawyer has less to lose, or more to gain, from going to trial. As a result, raising the fee makes the plaintiff's lawyer a "tougher" bargainer, willing to insist on a greater settlement amount than she would otherwise.\(^\text{14}\)

This may or may not make it worthwhile to pay the lawyer a higher fee than she would get in the trial-only world. There is no way to rule out either possibility \textit{a priori}. On the one hand,

\(^\text{14}\). Using the numerical example discussed above, assume the expected judgment is $120,000 and the lawyer's expected litigation cost (if the case goes to trial) is $10,000. Then the lawyer's reservation price for settling -- that is, the minimum settlement he will accept -- is given by $120,000 - ($10,000/\(r\)), where \(r\) is the lawyer's fee percentage. Inspection of this figure shows that if \(r\) goes up while the other terms remain constant, the lawyer's reservation price increases.

We would not, in general, expect the other terms (the costs and the expected judgment) in the above expression to remain constant as \(r\) increases. However, it is straightforward to show that the lawyer's reservation price will normally go up with the fee, even if we allow, realistically, the costs and expected judgment to change with the fee -- so long as the lawyer can control her costs. The intuition here is that the lawyer will only increase her cost, the investment, if the marginal return to the claim is sufficiently great to compensate for the added cost. I demonstrate this formally below.
making the lawyer a tougher bargainer generally increases the amount for which the case settles. All else equal, that means the pie gets bigger; if the growth is sufficiently great, it may justify shrinking the client’s fractional share of the pie.

On the other hand, making the lawyer a tougher bargainer may reduce the likelihood of settlement. That may be bad for the client, if he expects to receive a lot in the event of settlement. Increasing the settlement amount (by raising the fee) may not be worth the reduction in the chances of settlement. Indeed, the client may be better off reducing the fee, making the lawyer a less tough bargainer, so as to improve the odds that the case will settle.

(b) Asymmetric Information. The existence of asymmetric information about the plaintiff’s claim also may push the optimal fee up or down relative to the trial-only world. Consider two examples.

First, suppose the defendant cannot observe the plaintiff’s fee arrangement but is symmetrically informed about everything else. Then it may be in the plaintiff’s interest to choose a relatively low fee, hoping to “bluff” the defendant into settling for more than the fee justifies. For if the defendant cannot observe the fee, then the amount he is willing to settle for may, within some range, be independent of the fee: he will pay the same to settle the case, whether the plaintiff is paying a high fee or a low fee. If settlement is sufficiently likely, the client may as well choose the low fee.

A logic of this sort may imply that the optimal fee is below what would be optimal in a trial-only world. Essentially, the intuition is that because the amount of settlement (unlike the expected judgment) is invariant with the fee, the size of the pie is less sensitive to the fee than it is in the trial-only world. So, in this setting, pie-slicing in effect assumes more importance than pie-enlarging.

15. The fee arrangement normally would be protected from discovery. Nonetheless, though the defendant cannot observe the fee arrangement in a particular case, he may be able to draw inferences about it — for example, from the plaintiff’s lawyer’s behavior in the case, or from information about the lawyer’s customary fee arrangements. The plaintiff also might simply disclose the arrangement voluntarily.

16. The size of the pie is given by the expected outcomes of settlement and trial, weighted by their relative probability.

17. The issue is complicated because the defendant, knowing of the plaintiff’s temptation to bluff, will rationally offer less to settle the case. In equilibrium, we would probably expect to find mixed strategies, as we explore below.
Second, suppose the parties are asymmetrically informed about the content of the available evidence in the case, but they are symmetrically informed about everything else. Then it may be in the plaintiff's interest to pay the lawyer a relatively high fee, in order to encourage her to reduce the asymmetry by investing effort in pretrial discovery and other information-gathering procedures. For instance, if the plaintiff has a better-than-average claim but the defendant does not know this, then it may be worthwhile encouraging the lawyer to invest a greater amount of time and energy in assembling and presenting the defendant with the evidence, in an attempt to induce the defendant to offer more in settlement.18

Considerations of this type may imply that the plaintiff should pay more than he would in a trial-only world. The intuition is that the size of the pie in this setting is even more sensitive to the fee than it is in the trial-only world. This is because raising the fee has a twofold effect: not only does it increase the expected judgment, but it increases the fraction, or multiple, of the expected judgment paid in settlement. The upshot is that the settlement amount increases more quickly (as a function of the fee) than does the expected judgment. As a result, it is worth giving up a greater share of the pie, as compared to the trial-only world, in order to enlarge it.

III. ANALYTICAL FRAMEWORK

Our focus is on a hypothetical case in which the plaintiff seeks money damages from the defendant. He hires the lawyer19

18. Referring again to our hypothetical case, suppose the average claim of the sort brought by the plaintiff is worth $80,000 at trial. The plaintiff in our example has a better-than-average claim. But demonstrating this fact to the defendant may require a substantial investment by the plaintiff's lawyer — compiling affidavits, organizing the fruits of discovery, and so forth. Rather than make this investment, the plaintiff's lawyer may find it more profitable simply to settle for the average figure of $80,000. The client faces the problem of inducing the lawyer to invest in raising the settlement value of the case.

As a second example, suppose the defendant is privately informed about the quality of the evidence in the case. If the plaintiff and his attorney make no effort to examine the evidence in his possession, the defendant will be tempted to offer less than the true expected trial value of the claim, much as a poker player is tempted to bluff about the strength of his hand. The plaintiff and his attorney may be able to prevent this bluff — thereby raising the amount they get in settlement — by examining the evidence through formal or informal discovery procedures.

19. Presumably the lawyer is hired after all efforts to make the defendant settle without a lawyer have failed.
under a fixed linear contingent fee. The lawyer then proceeds with the case until it either settles or goes to trial. We will assume there is only one opportunity to settle before trial, although we will not make any assumptions about at which stage of the pretrial process that opportunity arises. We will use the following notation:

\[ p = \text{Probability (judged at the time the fee agreement is entered into) that the case will settle} \quad (1 > p > 0); \]
\[ s = \text{Amount of the expected settlement, conditional on the case settling;} \]
\[ w = \text{Amount of the expected judgment, conditional on its going to trial}. \]

We take the client’s objective, in setting the fee, to be to maximize his expected monetary payoff from the claim. Define the following additional notation:

\[ r = \text{Fraction of the recovery given to the lawyer under the contingent fee arrangement} \quad (0 < r < 1); \]

The client’s objective, therefore, is to choose \( r \) to maximize the value of the expression

\[ (1 - r)[ps + (1 - p)w]. \quad (1) \]

Solving the client’s problem requires identifying the fee’s potential effects on both terms in expression (1) – on the size of the pie (the bracketed expression), as well as the client’s distributive share \((1 - r)\) of it.

---

20. The fee is assumed not to be subject to later renegotiation between lawyer and client.

21. We can instead think of \( s \) and \( w \) as representing “early” and “late” settlements, assuming that when settlement comes late cases settle for roughly their expected value at trial (since parties are well informed by then and have sunk most of their costs). For convenience, we will speak of the choice between settlement and trial, but it should be understood that the model can also be thought of as referring to the choice between an early and late settlement.

22. Each of the following terms is intended to be evaluated at the time the fee arrangement is entered into. We exclude the case where \( p = 0 \), since that puts us back in the trial-only world.

23. Thus, we assume risk-neutrality.
IV. THE POSSIBILITY OF SETTLEMENT MAY OR MAY NOT REDUCE THE OPTIMAL FEE

A. When Does Settlement Make a Difference?

In this section I attempt to establish, in general terms, the conditions in which the optimal fee in a world of settlement differs from the optimal fee in a trial-only world. We will use the following notation throughout the rest of the article:

\[ r* = \text{The optimal contingent fee if a case is certain to go to trial, i.e., if settlement is not possible.} \]

\[ r** = \text{The optimal contingent fee if the case may be resolved by either trial or settlement.} \]

We want to see when \( r** \) in a given case differs from \( r* \).

1. The Rough Equivalence of Trial and Settlement

Let us begin by supposing that the attorney's fee does not affect the probability of settlement, and also does not affect the fraction (or multiple) of the expected judgment paid in settlement. Thus, let

\[ q = \text{Fraction of the expected judgment recovered in settlement.} \]

We assume that \( p \) and \( q \) are both independent of the fee. We then arrive at the following result: the optimal fee for a case that will settle is the same fee that would be optimal if the case were to go to trial. Our first proposition, in other words, is that if \( p \) and \( q \) are independent of the fee, then \( r** = r* \).

This proposition might be thought of as establishing the "irrelevance of settlement" in deriving the optimal percentage fee. It does not matter whether settlement is very likely or very unlikely; it does not matter whether the expected settlement is a lot more than the expected judgment, or a lot less. So long as the fee has no effect on these factors, then the client's problem is no different than it is in a trial-only world. The prospects for settlement do not change the solution.

Demonstrating this proposition is simple. Suppose we want to compare \( r* \) to some other fee percentage \( \tilde{r} \). By definition,

\[ (1 - r*)w* > (1 - \tilde{r})\tilde{w}, \] (2)
where \( w^* \) represents the expected judgment if the lawyer works under \( r^* \), and \( \tilde{w} \) represents the expected judgment if the lawyer works under \( \tilde{r} \). Expression (2) implies that

\[
K \times (1 - r^*) w^* > K \times (1 - \tilde{r}) \tilde{w},
\]

(3)

where \( K \) is any positive constant. Since \( p \) and \( q \) are both assumed to be constants, in the above expression we can let\(^{24}\)

\[
K = pq + (1 - p).
\]

(4)

Plugging (4) into (3) and rearranging terms, we have

\[
(1 - r^*) [pqw^* + (1 - p) w^*] > (1 - \tilde{r}) [pq\tilde{w} + (1 - p) \tilde{w}].
\]

(5)

This establishes the proposition. Since \( r^* \) outperforms any other fee, it follows that \( r^* = r^{**} \).

The intuition here is as follows. In absolute terms, the performance of \( r^* \) – that is, the amount the client gets as a result of using that fee – may differ in a trial-only world and a world in which settlement is possible. But in relative terms, that fee’s performance in comparison to the other fee, \( \tilde{r} \), remains the same in trial or settlement, and this is true regardless of the value of \( p \) and \( q \).

Two important corollaries of this result are worth emphasizing. First, we do not need to know the value of \( p \) and \( q \) in order to derive the optimal fee. For example, the value of \( q \) may be less than one; it may be greater than one; it may vary from case to case in a random and unpredictable way. So too with \( p \). All that matters is whether the values of \( p \) and \( q \) are independent of the fee. So long as that is the case, the client does not need to think about the amount, or indeed, the likelihood, of settlement. He should simply give the lawyer the same fee he would if the case were going to trial.

Second, if we do not know how the fee affects the value of \( p \) and \( q \), then \( r^* \) is presumptively the optimal fee. Thus, if we lack a theory of settlement bargaining that suggests how the fee affects the fraction of the expected judgment recovered in settlement, the client should simply give the lawyer \( r^* \).

\(^{24}\) Since \( 0 \leq p \leq 1 \) and \( q \geq 0 \), the expression to follow is positive, except in the trivial case where \( p = 1 \) and \( q = 0 \).
2. When $r^{**}$ May Diverge from $r^*$

The above result does not hold if the fee affects the probability of settlement or the fraction of the expected judgment recovered in settlement. Instead, we have the following second result: *If the fee affects the value of $p$ or $q$, then $r^{**}$ will not, in general, be the same as $r^*$*. Rather, the value of $r^{**}$ may be greater or smaller than $r^*$, depending on how the fee affects the value of $p$ and $q$.\(^{25}\)

In essence, there are two possible reasons these factors, $p$ and $q$, may combine to render $r^*$ non-optimal. First, moving to a different fee may *improve the quality of the settlement reached* by increasing the fraction of the expected judgment paid in settlement.\(^ {26}\) In particular, suppose that the fee affects the value of $q$. Then, all else being equal, *the client can improve his welfare by moving the fee away from $r^*$ in the direction that increases $q$*. Thus, all else equal, if raising the fee to a point above $r^*$ would increase the value of $q$, then the client wants to choose a fee higher than $r^*$. If, instead, lowering the fee to a point below $r^*$ would increase the value of $q$, then the client wants to choose a fee lower than $r^*$.

Second, moving to a different fee *may change the relative likelihood of trial and settlement, increasing the likelihood of the one in which the client will do better*. If the client expects to get more from settlement than from trial, he will, all else equal, want to move the fee in the direction that increases the likelihood of settlement. If, instead, he expects to get less from settlement than from trial, he will want to move the fee in the other direction.

B. The Fee’s Effect on Settlement

1. A Simple Model of Settlement

The foregoing analysis establishes that the optimal contingent fee will depend on how it affects (1) the likelihood of settlement, and (2) the fraction of the expected judgment the defendant pays in settlement. (If the fee affects neither of these, then the plaintiff should simply pay the lawyer $r^*$, the fee that would be optimal if settlement were impossible.) We want to know, therefore, how the fee affects these two factors. To ex-

\(^{25}\) This result is derived in the Appendix *infra* at page 73.

\(^{26}\) The client cannot improve the quality of the result at trial, since $r^*$ by assumption maximizes $(1 - r)w$. 

http://open.mitchellhamline.edu/wmlr/vol23/iss1/7
amine this issue, we employ a general model of settlement that focuses on the fee's anticipated effect on the parties' bargaining positions. The model is intended to be sufficiently general to encompass a variety of assumptions concerning the details of settlement bargaining, such as the information the parties have and the structure of bargaining.

Assume that settlement negotiations occur some time after the fee arrangement is entered into. Define the following additional notation:

\[ V_P = \text{Plaintiff's expected reservation price for settling (the minimum amount he will accept to settle)}; \]

\[ V_D = \text{Defendant's expected reservation price for settling (the maximum amount he will pay to settle)}. \]

The likelihood of settlement depends in substantial measure on the existence of a positive settlement range — that is, one in which the defendant's reservation price exceeds the plaintiff's. The expected difference between the parties' reservation prices is given by

\[ V_D - V_P. \]  \hspace{1cm} (6)

All else equal, the greater the difference between \( V_D \) and \( V_P \), the greater the likelihood that at the time of bargaining a positive settlement range will exist.

We will not attempt to predict the actual likelihood of settlement, which depends on the joint probability that there is a positive settlement range and that the parties will be able to agree on a division of the settlement surplus. We know, however, that a precondition for settlement is the existence of a positive settlement range. Since the likelihood of satisfying that precondition


\[ \text{28. Even if there is a positive settlement range, the parties may fail to settle if they have incomplete information about each other's reservation price. See Bebchuk, supra note 27.} \]
rises with the difference between $V_D$ and $V_p$, the larger (6) is, the larger $p$ is.

Now consider the amount recovered in settlement. Define the following notation:

$$\lambda = \text{Expected fraction of the settlement surplus captured by the defendant in the event the parties settle} \quad (0 \leq \lambda \leq 1).$$

Using this notation, the expected settlement amount is given by

$$(\lambda) V_p + (1 - \lambda) V_D. \quad (7)$$

2. The Fee's Effect on Parties' Settlement Positions

From expressions (6) and (7), we can see that evaluating the fee's effect on settlement requires us to examine its effect on the parties' settlement positions ($V_p$ and $V_D$).

(a) Plaintiff Side. The main complication in determining the plaintiff's reservation price is the diverging interests of lawyer and client. The client's reservation price for settling is simply the amount of the anticipated judgment; in contrast, the lawyer's reservation price will be lower than that, since she bears all the costs of litigation. Depending on the extent of the lawyer's effective control over settlement, the reservation price of the plaintiff's side may be at or well below the anticipated judgment.

We can capture the different possibilities as follows. For a given fee $r$, let $x$ denote the expected value of the lawyer's anticipated litigation costs. (These are expected values, and their realization may be different at the time settlement bargaining occurs.) Then the lawyer's reservation price is given by $w - (x/r)$; in contrast, the client's reservation price is $w$—or would be, if he

---

29. Note that this expression has several possible interpretations. It may mean that the parties actually divide the surplus, giving the defendant an average fraction $\lambda$. Or it may mean that they always settle at one party's reservation price (depending on who makes the final settlement offer) and that $\lambda$ represents the probability the defendant will be the one to make the final offer. It makes no difference which interpretation we adopt. The only assumption we make concerning $\lambda$ is that its value is independent of the fee.

30. This includes the lawyer's influence over the client's beliefs about what will happen at trial.
knew its value. We can, therefore, represent the expected reservation price on the plaintiff's side as

$$V_p = w - \theta \left( \frac{x}{r} \right),$$

where $\theta$ is an exogenous parameter specifying the relative control of the lawyer and client over the settlement decision. Thus, for a given fee, the equilibrium value of $V_p$ will generally be less than the expected judgment $w$.

How does the value of $V_p$ change with the fee? Suppose the plaintiff is choosing between two arbitrary fees, which we will call high and low. Choosing the high fee makes the lawyer work harder in the event of trial, but only to the extent that the return to the claim is greater than the cost of additional work. The result is that choosing the higher fee raises the net value of the claim at trial, given by $w - x$, and thus also raises the plaintiff side's reservation price. Raising the fee, therefore, generally raises the value of $V_p$.

(b) Defendant Side. The main complication in determining the defendant's reservation price is that he may not have the same information as the plaintiff and the plaintiff's lawyer concerning the strength of the plaintiff's claim. To capture this issue, let us use the term $w_0$ to represent the defendant's estimate

---

31. Suppose the case settles for some amount $s$. The client's expected recovery from trial is $(1 - r)w$, while his recovery from settlement is $(1 - r)s$. Settlement makes him better off than trial only if $s > w$. In contrast, the lawyer's expected recovery from trial is $rw - x$, while her recovery from settlement is $rs$. Thus, settlement makes her better off than trial if $s > (rw - x)/r = w - (x/r)$. This difference in the two actors' settlement positions was first analyzed in Miller, supra note 3, at 199-202.

32. More precisely, the plaintiff's reservation price is given by $\theta (w - x/r) + (1 - \theta)w$ by adding both the attorney's reservation price and the client's reservation price. Rearranging terms in this expression gives expression (8).

33. The interpretation of $\theta$ is analogous to that of $\lambda$. Loosely speaking, $\theta = 1$ indicates the lawyer has complete effective control; $\theta = 0$ indicates the client has complete control, including knowing his lawyer's estimate of the expected judgment; intermediate values of $\theta$ mean control is shared.

34. The magnitude of this effect depends on the lawyer's production function. It depends on the extent to which additional work increases the expected judgment, and it depends on the value of $\theta$. If $\theta$ equals zero, then the reservation price increases dollar-for-dollar with the expected judgment; but that is not true if $\theta$ is greater than zero. Thus, it is hard to generalize about the relation between $V_p$ and the fee, beyond saying that the former rises with the latter in some fashion.
of the expected judgment at trial.\textsuperscript{35} We can then state the defendant's expected reservation price for settling as

\[ V_D = w_b + y, \]  

(9)

where \( y \) represents the expected value of the defendant's anticipated litigation costs.

How does the value of \( V_D \) change with the fee? Assume that the plaintiff is choosing between two arbitrary fees. Choosing the high fee normally will make the plaintiff's lawyer work harder. Assuming the defendant knows of the plaintiff's choice,\textsuperscript{36} either the defendant's expenditures (\( y \)) go up as he tries to resist the claim, or the expected judgment (\( w_b \)) goes up, or both go up.\textsuperscript{37} We can, therefore, conjecture that if the parties have symmetric information, then increasing the fee has the effect of increasing the defendant's reservation price.\textsuperscript{38} The picture is murkier, however, if we drop the assumption of symmetric information; then \( V_D \) may rise or decline as the fee goes up, depending on the assumptions we make about the case.\textsuperscript{39}

\textsuperscript{35} More precisely, \( w_b \) represents the \textit{expected value}, at the time the fee is entered into, of the defendant's estimate of the expected judgment.

\textsuperscript{36} Note the defendant may in fact know something about the plaintiff's fee arrangement, even though he cannot directly observe it. The possibilities include voluntary disclosure of the information by the plaintiff. The lawyer may have an interest in calling attention to the high fee she stands to collect in the event the case goes to trial. The defendant might draw adverse inferences if the plaintiff's lawyer says nothing about the fee.

\textsuperscript{37} In any event, for reasons of revealed preference, the sum cannot decrease. If the defendant could reduce his sum, he would do so whether or not the plaintiff chose the high fee. See generally \textit{4 The New Palgrave: A Dictionary of Economics} 166-71 (John Eatwell et al. eds., 1987). "Competitive rational consumers reveal their preferences through their market behavior. . . . Any bundle of commodities less costly than his chosen bundle must be less appreciated by a rational consumer than his chosen bundle." \textit{Id.} at 170.

\textsuperscript{38} How much it does so depends on factors like the following: how the fee influences the plaintiff's lawyer's choice of effort level; how her effort affects the expected judgment; and how her effort affects the defendant's investment in the litigation. These matters obviously may vary greatly across cases.

\textsuperscript{39} Suppose, to begin with, that the defendant is uncertain about what the plaintiff's lawyer's fee arrangement. Then, all else being equal, the value of \( V_D \) will be the same whether the plaintiff uses a high fee or a low fee. In other words, choosing the high fee will have no effect on raising the defendant's reservation price.

Suppose now that the parties are asymmetrically informed about the evidence that will emerge at trial. Here the effects are ambiguous. Generally speaking, the worse the evidence supporting the plaintiff's claim, the higher the fee should be if the case is going to trial. See Hay, supra note 4, at 263-64 (documenting this proposition). This yields a paradoxical effect: choosing the high fee may signal to the defendant that the
(c) Implications. Two basic points follow from this analysis. First, raising the fee above $r^*$ may either increase or decrease the likelihood of settlement.\footnote{This follows from the fact that $V_D$ may, as we have seen, go up or down.} Second, the fraction of the expected judgment that the plaintiff gets in settlement may be greater or less than one,\footnote{If $\theta$ and $\lambda$ are large, the fraction is likely to be less than one. If $\theta$ and $\lambda$ are small, the fraction is likely to be greater than one.} and this fraction may go up or down as the fee rises.\footnote{This follows from the fact that increasing the fee may raise or lower the value of $V_D$.} Accordingly, there is no way of knowing whether, in general, raising the fee above $r^*$ makes the client better or worse off. Under some circumstances, $r^{**}$ lies below $r^*$, but under others, $r^{**}$ may lie above $r^*$.

Notice that this point holds regardless of the relative costs of settling or going to trial. Nothing in the foregoing analysis has required us to assume that going to trial is more expensive, or cheaper, than settling the case. It may be, therefore, that $r^{**}$ lies above $r^*$ even if settling is a lot cheaper than going to trial. There is simply no way of knowing \textit{a priori}, without specifying in greater detail a model of litigation and settlement.

V. Optimal Fees in Different Settlement Stories

To this point we have provided only a general framework for assessing the relation between the optimal fee in a trial-only world and the optimal fee in a world of settlement. That framework is intended to apply to a wide class of settlement models, differing in their assumptions about information, bargaining, attorney-client control, and the like. In what follows, I try to make the analysis more concrete by seeing what the optimal linear fee looks like in more precisely specified settlement models.

To do this, I explore two basic "stories" of settlement, which emphasize different elements of the settlement process that are only implicit in the foregoing analysis. The first story empha-
sizes the relative influence over bargaining enjoyed by the plaintiff, his lawyer, and the defendant. The second story emphasizes the presence of informational asymmetries between the plaintiff side and the defendant concerning the claim. I use some relatively simple models to get a sense of the direction, and to a lesser extent the magnitude, that these factors have on the selection of the optimal fee, using $r^*$ as a baseline.

A. A Benchmark Case

To set the baseline, we begin by deriving the optimal trial fee for a simulated set of hypothetical cases. Consider the family of cases in which the expected judgment in a case has the following structure:

$$ w = \alpha(1 - e^{-\beta x}), \quad (10) $$

where

\begin{align*}
\alpha &= \text{An exogenous parameter representing the maximum potential amount, in expected terms, at stake in the case ($\alpha > 0$); and}

\beta &= \text{An exogenous parameter affecting the marginal productivity of the lawyer's efforts ($\beta > 0$).}
\end{align*}

The values of $\alpha$ and $\beta$ reflect, in effect, the intrinsic strength of the plaintiff's claim. The greater their value, the greater the expected judgment resulting from a given level of lawyer effort.\(^4\)\(^3\)\(^4\)

Table 2\(^4\)\(^4\) indicates the optimal fee in a trial-only world for cases falling within a plausible range of values for $\alpha$ and $\beta$.\(^4\)\(^5\)

As our sample case for the analysis to follow, I have arbitrarily chosen the case at the center of the table, the case in which the value of $\alpha = 100,000$, the value of $\beta$ is $0.0001$, and $r^* = 32\%$. My reason for choosing this one is that its optimal trial fee is roughly the value – one-third – commonly encountered in the market for legal services. I do not claim that this fee is in fact the optimal trial fee for any cases arising in the real world. My ob-

---

43. Their significance is explored at length in Hay, supra note 1.
44. Table 2 is reproduced from Hay, supra note 1, which offers a justification for focusing on this range of values for $\alpha$ and $\beta$.
45. The optimal fee, derived in the Appendix at page 73, is given by

$$ r^* = \sqrt{\frac{1}{\alpha \beta}} $$
CONTINGENT FEES AND SETTLEMENT

Table 2
Optimal Trial Fees Given Different Values of \( \alpha \) and \( \beta \)

<table>
<thead>
<tr>
<th>( \beta )</th>
<th>( \alpha )</th>
<th>20,000</th>
<th>100,000</th>
<th>500,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>.001</td>
<td>( r^* = 22% )</td>
<td>( r^* = 10% )</td>
<td>( r^* = 4% )</td>
<td></td>
</tr>
<tr>
<td>.0005</td>
<td>32%</td>
<td>14%</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>.0001</td>
<td>71%</td>
<td>32%</td>
<td>14%</td>
<td></td>
</tr>
<tr>
<td>.00005</td>
<td>—</td>
<td>45%</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>.00001</td>
<td>—</td>
<td>—</td>
<td>45%</td>
<td></td>
</tr>
</tbody>
</table>

ject, rather, is to ask the following conditional question: assuming this is the optimal trial fee, what is the optimal fee in a world of settlement?

B. Bargaining Stories

Our first set of settlement stories emphasizes the relative influence over bargaining enjoyed by the plaintiff, his lawyer, and the defendant. These factors are captured by the terms \( \lambda \) and \( \theta \) in expressions (7) and (8). We want to know, in essence, what the optimal fee is for different values of these two terms. To simplify the analysis, we will assume that the parties have symmetric information about the expected judgment at the time settlement bargaining occurs. We will also assume, for simplicity’s sake, that the parties have identical litigation costs. Table 3 gives the optimal fee for different values of \( \lambda \) and \( \theta \), given these assumptions. 46 Let us consider the significance of each parameter in turn.

1. Lawyer Control of Plaintiff’s Bargaining Position (\( \theta \))

The \( \theta \) parameter refers, loosely speaking, to the extent to which the lawyer gets to establish the bottom line, or reservation price, for settling. As we have seen, the lawyer’s reservation price is \( w - x/r \), while the client’s is \( w \). 47 For any settlement offer in between these two amounts, the client would want to refuse it, believing a better result could be achieved at trial, while the lawyer would want to accept it, believing a worse result might be

---

46. For a derivation of the formula for the optimal fee, see the Appendix infra at page 73.
47. See supra notes 30-33 and accompanying text.
48. Or the client’s reservation price would be if the plaintiff were as well informed as his lawyer. See supra note 31 and accompanying text.
realized at trial. We can interpret $\theta$ as the probability that the lawyer’s reservation price, rather than the client’s, will be the operative one in settlement bargaining.\(^4\)

**Table 3**

**Bargaining Under Symmetric Information:**

<table>
<thead>
<tr>
<th>$\lambda$</th>
<th>$\theta$</th>
<th>Optimal Fee $r^{**}$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.1</td>
<td>17%</td>
</tr>
<tr>
<td></td>
<td>.5</td>
<td>23%</td>
</tr>
<tr>
<td></td>
<td>.9</td>
<td>31%</td>
</tr>
</tbody>
</table>

Here we can imagine different plausible stories. In some settings the client will have only a very rough idea of whether a proposed settlement amount approximates the expected judgment,\(^5\) because a lawyer in such settings may be willing and easily able to convince the client to accept a settlement that is, unbeknownst to the client, well below the expected judgment.\(^6\) In such settings we would expect the value of $\theta$ to be relatively high. On the other hand, if the client has independent sources of information concerning the expected judgment, or if the lawyer is worried about possible adverse professional consequences of “selling out” on the client, we might expect the plaintiff to refuse any amount much below the expected judgment. In this event, the value of $\theta$ is relatively low.

As we see from Table 3, as the value of $\theta$ rises, so does the optimal fee $r^{**}$. The intuition here is that higher values of $\theta$ mean, in effect, that a claim has less intrinsic strength in settlement. For as the value of $\theta$ rises, so (all else equal) does the likelihood that the case will settle for less than the expected judgment $w$. Thus, on an intuitive level, raising the value of $\theta$ has roughly the same effect as lowering the value of $\alpha$ or $\beta$. All

\(^4\) Alternatively, we can think of the plaintiff side’s reservation price as falling at a point in between that of the lawyer and that of the client; $\theta$ then indicates the location of that point. It makes no difference which interpretation we adopt.

\(^5\) One may consider a tort case involving complex issues of proof, or highly variable damage measures such as pain and suffering.

\(^6\) My assumption here is that the client has formal veto power over a proposed settlement. A court would be unlikely to honor any attorney-client agreement that gave the lawyer the power to settle over the client’s objection.
else equal, therefore, the more influence the lawyer has on the settlement decision, the greater her fee should be.

2. The Parties' Relative Bargaining Power ($\lambda$)

To settle, the parties must agree on an amount somewhere between their reservation prices. Each would like the amount to be as close as possible to the other's reservation price. The amount they finally settle on depends on each party's ability to make a credible "final offer" – to make a credible threat to go to trial if his settlement terms are not met. Here, too, it is possible to imagine several stories. The defendant, if it is an organization (such as an insurance company) may have an interest in establishing a reputation for being a tough bargainer, so as to extract settlement concessions in future cases. That interest lends credibility to its threat to walk away if its offer is refused. The plaintiff, if he is an individual, frequently has no analogous reputation concerns, since he does not expect to be embroiled in similar litigation in the future. So, on this account, the defendant would have the upper hand in bargaining.

But there are other possible accounts. In some settings, the plaintiff's anger or desire for vindication may lend credibility to his threat to go to trial unless the defendant makes large concessions in settlement. If the plaintiff's lawyer has control of the settlement decision, she may have her own concerns about her reputation that favor going to trial unless the defendant makes big settlement concessions. These considerations might sometimes give the plaintiff's side the upper hand in bargaining.

The value of $\lambda$ reflects the relative weight of these different factors. A high value of $\lambda$ means that, in expected terms, the case settles at a point near the plaintiff side's reservation price, or equivalently, that there is a high probability the case will settle for exactly that reservation price. As Table 3 shows, high values

52. Settlement here may include the idea of submitting to some type of binding arbitration.

53. This is another way of saying that the defendant has more on the line than $w + y$; also on the line are expected payments in future cases. Strictly speaking, this means the defendant's reservation price will be different from $w + y$. I ignore this complication here.

54. Here again, this is a way of saying the plaintiff has more on the line than $(1 - r)w$. See supra note 53.

55. She may want the publicity of a big trial so as to attract business; alternatively, she may want to establish herself as a tough bargainer, so as to extract good settlements in the future.
of \( \lambda \) push up the value of \( r^{**} \). The intuition here is similar to what we saw with \( \theta \); high values of \( \lambda \) lower the intrinsic strength of the case.

Examining \( \theta \) and \( \lambda \) together, we see that a claim’s strength is at its greatest when \( \theta \) and \( \lambda \) are both low, for this means both that the plaintiff’s reservation price is high and that the settlement amount is at the greatest possible distance above that price. In these instances, as we see from Table 3, \( r^{**} \) is at its lowest. Conversely, a claim is at its weakest when \( \theta \) and \( \lambda \) are both high, for then the plaintiff’s reservation price is low and the case settles very close to that price. In these instances, \( r^{**} \) is at its highest. Observe, finally, that when \( \theta = 0 \) and \( \lambda = 1 \), the case settles for exactly the expected judgment; there, as we would expect, \( r^{**} = r^{*} \).

C. Information Stories

Let us now examine the significance of informational asymmetries between the parties concerning the expected judgment. To keep matters simple, we will put to one side the variations in \( \theta \) and \( \lambda \) that we have been discussing to this point.

1. Information Concerning the Fee

Begin by assuming that the defendant is unable to observe the plaintiff’s fee arrangement with his lawyer. The defendant knows the lawyer is getting a fixed percentage but does not know what that percentage is. In this setting, the plaintiff may find it in his interest to give the lawyer a lower fee than he would otherwise.

The essential insight here is simple. Consider \( r^{*} \) and some lower fee \( \bar{r} \). Suppose the defendant cannot tell which fee the plaintiff is using. Then the amount he will pay to settle the case is independent of the fee the plaintiff chooses. The plaintiff will be tempted to save money by choosing the low fee, since choosing the high one would not increase the settlement amount.

Choosing the low fee has a cost, though, since it means the plaintiff will do worse at trial if the case fails to settle. The defendant, knowing of the plaintiff’s incentive to choose the low fee (though unable to observe the fee he has chosen), will be

56. Another way of saying this is that the plaintiff extracts from the defendant most of the settlement surplus.
tempted to call the plaintiff's "bluff" and take the case to trial.\textsuperscript{57} If the defendant does this, the plaintiff will be better off if she had chosen $r^*$. 

Asymmetric information concerning the fee thus creates a complex strategic decision for the plaintiff. In general, the plaintiff's optimal strategy in this setting is to pursue what game theorists call a "mixed strategy": he should, with some probability less than one (\textit{but greater than zero}), pay the lawyer fee $r^*$, and otherwise pay the lower fee $\tilde{r}$. For example, he might flip a coin to decide which fee to pay.\textsuperscript{58} The resulting derivation is illustrated in the Appendix.\textsuperscript{59}

Table 4 uses an example employing the same sample case used above.\textsuperscript{60} The table gives the plaintiff's optimal strategy for three different values of $\tilde{r}$.\textsuperscript{61} Notice that if $\tilde{r}$ is very low, the plaintiff will be reluctant to use it. The reason for this is that the lower the value of $\tilde{r}$, the more likely the defendant is to make a low settlement offer – so that the plaintiff's bluffing strategy in effect backfires. Thus, even if the plaintiff could use a fee much lower than $r^*$ without the defendant knowing it, he will be reluctant to do so in equilibrium. However, as Table 4 indicates, it will be tempting to use fees a little bit lower than $r^*$ in a substantial number of cases.

2. Information Concerning the Evidence

Now suppose the defendant is unable to observe the strength or quality of the evidence, or other exogenous elements, supporting the plaintiff's claim. To examine this prob-

\textsuperscript{57} Alternatively, the defendant might offer a relatively small amount in settlement.

\textsuperscript{58} Another interpretation of a mixed strategy is that some plaintiffs pay $r^*$, while others pay the lower fee.

\textsuperscript{59} See infra p. 73. The intuition is this: It cannot be in the plaintiff's interest to pay $r^*$ all the time, since if he did so defendants would make high settlement offers accordingly – in which case, the plaintiff would be better off switching to a lower fee. Nor, however, can it be in the plaintiff's interest to pay the lower fee all the time, since if he did so defendants would scale down their settlement offers accordingly – in which case the plaintiff would be better off using $r^*$.

\textsuperscript{60} This example is derived from a bargaining game in which (i) settlement bargaining consists of a single, take-it-or-leave-it offer by the defendant; and (ii) the plaintiff side's reservation price for settling is equal to the expected judgment at trial. Thus, $\lambda = 1$ and $\theta = 0$. We assume that $a = 100,000$, that $\beta = .0001$, and that the defendant's litigation costs are the same as the plaintiff's.

\textsuperscript{61} We assume, as in the model, that the plaintiff is only choosing between $r^*$ and one other fee. Thus, the reader should assume that only one value of $\tilde{r}$ is available to the plaintiff.
Table 4
PRIVATE INFORMATION ABOUT THE FEE

<table>
<thead>
<tr>
<th>Value of $\bar{r}$ in relation to $r^*$</th>
<th>Probability the plaintiff uses $r^*$</th>
<th>Probability the plaintiff uses $\bar{r}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\bar{r} = .75r^*$</td>
<td>.50</td>
<td>.50</td>
</tr>
<tr>
<td>$\bar{r} = .50r^*$</td>
<td>.75</td>
<td>.25</td>
</tr>
<tr>
<td>$\bar{r} = .25r^*$</td>
<td>.90</td>
<td>.10</td>
</tr>
</tbody>
</table>

Problem, let us restore the assumption that the parties are symmetrically informed about the plaintiff’s fee arrangement. Here, too, the plaintiff may find it in his interest to give the lawyer a lower fee than he would otherwise. He does this in the hope of tricking the defendant into thinking the claim is stronger than it is.

Two factors drive this result. First, the plaintiff’s fee gives the defendant a noisy signal about the strength of the evidence. Second, the stronger the plaintiff’s evidence (or other exogenous elements of his claim), then, all else equal, the lower the fee should be in the event the case goes to trial. The upshot is that lowering the fee may have the curious effect of raising the amount the defendant offers to settle the case, by leading him to believe the plaintiff has a very strong claim.

Table 5 gives an example using the same sample case used above. Assume that the plaintiff’s claim is, from the defendant’s standpoint, indistinguishable from a claim with “twice as much quality” – meaning with twice the value of either $\alpha$ or $\beta$. The table indicates the optimal strategy for the plaintiff given the relative proportion of such high-quality cases in the overall population of cases. As the table indicates, the plaintiff may rationally pursue a “mixed strategy,” sometimes using a fee lower than would be optimal if the case were certain to go to trial.

3. Investing in Information

Asymmetric information concerning the evidence, then, exerts downward pressure on the optimal fee, encouraging plain-
CONTINGENT FEES AND SETTLEMENT

TABLE 5
PRIVATE INFORMATION ABOUT THE EVIDENCE:
OPTIMAL FEES GIVEN DIFFERENT CASE PARAMETERS

<table>
<thead>
<tr>
<th>Proportion of high-quality cases</th>
<th>Probability plaintiff uses 32% fee (= $r^*$)</th>
<th>Probability plaintiff uses 22% fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>.75</td>
<td>.55</td>
<td>.45</td>
</tr>
<tr>
<td>.50</td>
<td>.85</td>
<td>.15</td>
</tr>
<tr>
<td>.25</td>
<td>.95</td>
<td>.05</td>
</tr>
</tbody>
</table>

Plaintiff's case: $\alpha = 100,000$ $\beta = .0001$ ($r^* = 32\%$)
High-quality case: $\alpha = 200,000$ $\beta = .0001$ ($r^* = 22\%$)

tiffs to choose lower fees than they would under symmetric information. An important caveat here: We have assumed there is no way for the plaintiff to reveal the quality of his evidence. (The interpretation here might be that settlement bargaining occurs before discovery.) The analysis changes if the plaintiff can influence the amount of information the defendant has about the claim.

Suppose, for example, that the plaintiff's attorney can invest effort in gathering and presenting the plaintiff's evidence to the defendant before settlement bargaining occurs. Then a plaintiff who has a high-quality case might want his lawyer to reveal this fact to the defendant, so as to improve the defendant's settlement offer.\(^{65}\) For that reason, he may be willing to pay the lawyer a fee greater than $r^*$, if doing so is needed to give the lawyer a sufficient incentive to undertake substantial pre-negotiation efforts in order to distinguish him from his low-quality-case counterparts.

This problem – of encouraging the lawyer to invest in the case prior to settlement negotiations and not just prior to trial – may arise in a variety of ways in any litigation in which the parties are asymmetrically informed about the case.\(^{66}\) On the one hand,

\(^{65}\) In the simple model just explored, the plaintiff with a high-quality case did not care about revealing this fact to the defendant; the reason for this is he could always do at least as well at trial as in settlement. One can, however, easily imagine settings in which the high-quality-case plaintiff could, if the fact were known to the defendant, do better in settlement than at trial. The plaintiff thus would have an incentive to call the defendant's attention to the quality of his case.

\(^{66}\) The problem is less likely to arise under conditions of symmetric information. Generally speaking, any pre-settlement expenditure under such conditions is, from the spending party's standpoint, a waste, because it burns up part of the settlement surplus without generating an offsetting improvement in that party's expected settlement recovery.
as we have seen, the plaintiff may stand to gain from having the lawyer invest in transmitting to the defendant some of the plaintiff's private information about the case.\textsuperscript{67} On the other hand, the plaintiff may also benefit from having the lawyer invest in acquiring some of the defendant's private information about the case.\textsuperscript{68} Doing so may raise the plaintiff's reservation price for settling ($V_p$), there again improving the quality of the settlement from the plaintiff's standpoint.

To analyze this problem, I will not explicitly model the bargaining process between the parties. Doing so would complicate the discussion without adding much insight.\textsuperscript{69} Instead, I will use a model that simply treats the expected settlement amount as a positive function of the lawyer's pre-negotiation effort, without saying anything about the details of bargaining. This should suffice to give some sense about how the pre-negotiation investment issue affects the optimal fee problem.

Let us suppose that the amount of settlement is a function of the lawyer's pre-negotiation investment, as follows:

$$s = yw(1 - e^{-\delta x}),$$  \hspace{1cm} (11)

where

- $z =$ The lawyer's pre-negotiation investment;
- $y =$ An exogenous parameter representing the maximum potential multiple (in expected terms) of $w$ recovered in settlement ($y > 0$); and
- $\delta =$ An exogenous parameter affecting the marginal productivity of the lawyer's pre-negotiation efforts ($\delta > 0$).

\textsuperscript{67} For example, the plaintiff's lawyer has to decide how much to invest in documenting the strength of the plaintiff's case (for example, obtaining expert opinions concerning the severity of the plaintiff's injuries) and how much to invest in furnishing information to the defendant (for example, giving the defendant expert affidavits). Discovery rules and the like leave the attorney with considerable discretion on these matters.

\textsuperscript{68} Investigation, aggressive discovery, and poring over materials produced in discovery can yield such information about the defendant's case. Note that the defendant has an incentive to disclose private information voluntarily if the information is unfavorable to the plaintiff. However, the plaintiff's lawyer may then have to decide how much to invest in verifying the information.

\textsuperscript{69} See generally Steven Shavell, Sharing of Information Prior to Settlement or Litigation, 20 RAND J. ECON. 183 (1989) (providing a model of voluntary information transmission in settlement bargaining).
In this expression, \( z, y, \) and \( \delta \) play a role analogous to that of \( x, \alpha, \) and \( \beta \) in the trial production function in our sample family of cases. The term \( yw \) indicates the upper limit of possible settlement amounts, in expected terms. When \( yw \) is less than one, the upper limit is less than the expected judgment; when \( yw \) is greater than one, the upper limit is less than the expected judgment.

**Table 6**

**Investing in Settlement:**

<table>
<thead>
<tr>
<th>( y )</th>
<th>( \delta = .0002 (2\beta) )</th>
<th>( \delta = .001 (10\beta) )</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.8</td>
<td>( r^{**} = 43% )</td>
<td>( r^{**} = 37% )</td>
</tr>
<tr>
<td>1.0</td>
<td>39%</td>
<td>33%</td>
</tr>
<tr>
<td>1.2</td>
<td>35%</td>
<td>30%</td>
</tr>
</tbody>
</table>

Let us see what the optimal fee looks like if we take \( w \) from our sample family of cases. Table 6 generates the value of \( r^{**} \) in the same case we examined in previous subsections. Observe that \( r^{**} \) may exceed \( r^* \).

**VI. Concluding Remarks**

The principal conclusion emerging from our analysis is that the possibility of settlement does not, in general, mean a lower linear fee is preferable for the client to the fee that would be optimal if the case were certain to go to trial. Why is this true? Stepping back a bit from the model, the main reasons are these.

First, the moral hazard problems associated with trial carry over to the settlement context. That is, giving the attorney a low fee means she will put relatively little work in to the claim should it go to trial, so the expected judgment will be relatively small. As a result, all else being equal, the defendant will pay relatively little to settle the case. In this way, in a world of settlement the client suffers all the agency-cost difficulties he would encounter if the

---

70. The formula for the optimal fee in this Table is derived in the Appendix *infra* at page 73.

71. Table 6 assumes that \( w \), the expected judgment, is independent of the lawyer's *pre-negotiation* investment, and it assumes that the case definitely settles.
case were to go to trial. This is why $r^*$ is presumptively the right linear fee, regardless of the likelihood of settlement.

Second, the possibility of settlement introduces its own additional moral hazard problems. These arise, as we have seen, in both the lawyer's decision to invest before negotiation and in the bargaining stage itself. In effect, they are cumulative with the moral hazard problems associated with trial. Thus, returning to the analysis of Part IV, attorney moral hazard in connection with trial accounts for the value of $w$; attorney moral hazard in settlement may account for the fraction $q$ that the defendant pays of $w$ in settlement. It is this sort of accumulation of moral hazard problems that explains why $r^*$ may be higher than $r^{**}$.72

A corollary is that, generally speaking, the possibility (even certainty) of settlement is not an appropriate rationale for capping contingent fees. So long as the fee is unitary – meaning the lawyer collects the same percentage whether the case goes to trial or settles – then the prospect of settlement does not generally lower the optimal fee.

72. One interesting consequence is that ex ante, clients might be better off committing themselves not to agree to any settlement. They could then just pay the lawyer $r^*$. However, courts are hostile to the idea of enforcing waivers of the right to settle. See Miller, supra note 3, at 210 n.65.
Appendix

A. Divergence of \( r^{**} \) from \( r^* \)

Here we derive the results in Part IV.A. The client wants to choose \( r \) to maximize \((1 - r) W\), where \( W = pqw + (1 - p)w \). Differentiating with respect to \( r \) gives

\[
(1 - r) \left[ \frac{dq}{dr} pw + \frac{dp}{dr} (q - 1)w + \frac{dw}{dr} (pq + 1 - p) \right] - W. \tag{A1}
\]

Now, by assumption, \( r^* \) maximizes \((1 - r) w\), which implies that at \( r^* \), \((1 - r) (dw/dr) - w = 0\); rearranging terms, we have \( dw/dr = w/(1 - r) \). Accordingly, we can rewrite (A1) as

\[
(1 - r^*) \left[ \frac{dq}{dr} p^*w^* + \frac{dp}{dr} (q^* - 1) w^* \right], \tag{A2}
\]

where \( p^* \), \( q^* \) and \( w^* \) are the values of \( p \), \( q \), and \( w \) evaluated at \( r^* \). Expression (A2) has the same sign as

\[
\frac{dq}{dr} p^* + \frac{dp}{dr} (q^* - 1). \tag{A3}
\]

Observe that if \( dq/dr \) and \( dp/dr \) are zero, then \( r^{**} = r^* \). Otherwise \( r^{**} \) may be greater or smaller than \( r^* \).

B. The Value of \( r^{**} \) in Different Settlement Stories

In what follows we derive the optimal fees for the simulated cases described in Part V.

1. Trial-Only World

The lawyer’s trial production function is assumed to take the form

\[
w (x) = \alpha (1 - e^{-\beta x}) \tag{A4}
\]

73. See Hay, supra note 1, at 515-17 for a more detailed discussion of this production function and the optimal contingent fee it implies.
where \( x \) is the lawyer's total pretrial investment in the case. If the case goes to trial, the lawyer chooses \( x \) to maximize \( rw - x \); the first-order condition of the solution is \( r \alpha \beta e^{-\beta x} - 1 = 0 \), which implies that \( x = \ln(r \alpha \beta) / \beta \); plugging this into (A4) gives \( w = \alpha(1 - [1/r \alpha \beta]) \). The client wants to choose \( r \) to maximize \((1 - r)w\). The first-order condition of the solution is given by 
\[
(1 - r) \frac{dw}{dx} \frac{dx}{dr} = w.
\]
Inserting the appropriate values (derived from the above expressions) into this equation and solving for \( r \), we have

\[
r^* = \sqrt{\frac{1}{\alpha \beta}}.
\]

2. Settlement Bargaining

We derive the optimal fee for the setting described in Part V.B. Since the parties have symmetric information, the expected settlement amount is given by

\[
s = \lambda (w - \Theta \frac{x}{r}) + (1 - \lambda) (w + y)
\]

\[
= w - \lambda \Theta \frac{x}{r} + (1 - \lambda) y
\]

Assume the parties have the same costs – that is, that \( y = x \). Given settlement, the client wants to maximize \((1 - r)s\). The first-order condition is \((1 - r)s' - s = 0\). Proceeding as we did above for the trial-only world, we find that the optimal fee is given by

\[
r^{**} = \sqrt{\frac{1 + (\ln(r \alpha \beta) + r)(\lambda + \lambda \Theta - 1)}{\alpha \beta}}.
\]

3. Asymmetric Information About the Evidence

Call a plaintiff with high-quality evidence a "high type," and call his counterpart with low-quality evidence a "low type." Begin by considering the high type's choice of fee. Faced with a plaintiff with some fee \( r \), the most the defendant will offer to settle for...
is $w_H$. Not knowing the plaintiff's type, the defendant will offer either $w_l$ or $w_H$, the later of which, by assumption, is the greater figure. If he offers less than $w_H$, the case will go to trial. Thus, the high type's expected payoff is $(1 - r) w_H$, which by definition is maximized by $r_H^*$. Accordingly, the high type should definitely choose $r_H^*$.

Now consider the defendant's choice of offer amounts. If the defendant observes $r_L^*$, he knows he faces a low type, and should offer $w_L^*$. But if he observes $r_H^*$, he does not know what type he faces. Let $\tilde{w}_L$ represent the expected judgment for a low type who uses $r_H^*$. The defendant should offer either $\tilde{w}_L$ or $w_H^*$, since the latter dominates all greater amounts, while the former dominates all amounts less than $w_H^*$. A high type will accept nothing less than $w_H^*$. Thus, if he offers less than that, the defendant may as well offer the minimum amount acceptable to the low type, namely $\tilde{w}_L$.

Returning to the plaintiff's side, consider the low type's choice of fee. If he uses anything other than $r_H^*$, he will immediately be recognized as a low type. And if the defendant knows he faces a low type, he will offer $w_L$. Thus, if he uses any fee $r$ other than $r_H^*$, the low-type's payoff will be $(1 - r) w_L$, which is by definition maximized by $r_L^*$. It follows that the low type should choose either $r_H^*$ or $r_L^*$. Let $j$ be the probability that the defendant offers $w_H^*$ to settle the case. Then the low type will be indifferent between the two offer amounts when

$$(1 - r_H^*) [j w_H^* + (1 - j) \tilde{w}_L] = (1 - r_L^*) w_L^*.$$ 

Denote by $\hat{j}$ the value of $j$ satisfying this equality. Then, rearranging terms, we have

$$\hat{j} = \frac{(1 - r_L^*) w_L^* - (1 - r_H^*) \tilde{w}_L}{(1 - r_H^*) w_H^* - (1 - r_L^*) \tilde{w}_L}.$$ \hspace{1cm} (A8)

If $j > \hat{j}$, the low type will prefer $r_H^*$.

Turning back to the defendant, let $g$ represent the conditional probability that a plaintiff using $r_H^*$ is a high type. Upon observing $r_H^*$, the defendant will be indifferent between the two offer amounts if
\[ g(w_{H^*} + y_{H^*}) + (1 - g) \tilde{w}_L = w_{H^*}, \]

where \( y_{H^*} \) represents the defendant's anticipated litigation costs if the plaintiff is a high type and takes the case to trial. Denote by \( \hat{g} \) the value of \( g \) that satisfies this equality. Rearranging terms, we find that

\[ \hat{g} = \frac{w_{H^*} - \tilde{w}_L}{w_{H^*} + y_{H^*} - \tilde{w}_L}. \quad (A9) \]

If \( g > \hat{g} \), the defendant will prefer to offer \( w_{H^*} \).

We are now in a position to derive the optimal fee in equilibrium. We need to distinguish two cases.

**Case 1:** \( \mu > \hat{g} \). Let \( \mu \) represent the unconditional distribution of high types in the relevant population of claims \((1 > h > 0)\). We know, since all high types use \( r_{H^*} \), that \( g \geq \mu \). Accordingly, if \( \mu > \hat{g} \), it follows that \( g > \hat{g} \). The defendant will then definitely offer \( w_{H^*} \), meaning, since \( j < 1 \), that \( j > \tilde{j} \). Thus, the low type will, like the high type, want to follow a pure strategy of using \( r_{H^*} \).

**Case 2:** \( \mu < \hat{g} \). In case 2, the low type will not follow a pure strategy in equilibrium. For if all plaintiffs used \( r_{H^*} \), then it would be true that \( g < \hat{g} \), so the defendant would offer \( \tilde{w}_L \) to everyone; but then the low type would be better off switching to \( r_{L^*} \). By definition, \((1 - r_{L^*})w_{L^*} > (1 - r_{H^*})\tilde{w}_L \). On the other hand, if all low types used \( r_{L^*} \), then the defendant would offer \( w_{H^*} \) to every plaintiff who used \( r_{H^*} \), but then the low type would be better off switching to \( r_{H^*} \). By assumption, \((1 - r_{H^*})w_{H^*} > (1 - r_{L^*})w_{L^*} \). No pure strategy pursued by the low type can hold in equilibrium.

There is, however, a mixed-strategy equilibrium in which the plaintiff randomizes between the two fees. We know that the low type is indifferent between the fee amounts when the defendant offers \( w_{H^*} \) with probability \( j \). Now, let \( h \) represent the unconditional probability the low type uses fee \( r_{H^*} \). By Bayes' rule,

\[ g = \frac{\mu}{\mu + h(1 - \mu)}. \quad (A10) \]

Let \( \hat{h} \) represent the value of \( h \) that establishes this equality when we plug in the value \( \hat{g} \). Rearranging terms, we have
\[ \hat{h} = \frac{\mu (1 - \hat{g})}{\hat{g} (1 - \mu)}. \] 

(A11)

Suppose the low type uses \( r_{H}^{*} \) with probability \( \hat{h} \). Then, substituting terms into (A10), we have

\[ g = \frac{\mu}{\mu + \left( \frac{\mu (1 - \hat{g})}{\hat{g} (1 - \mu)} \right) (1 - \mu)} = \hat{g}. \] 

(A12)

From this it follows that there is an equilibrium point at which the low type uses \( r_{H}^{*} \) with probability \( \hat{h} \), while the defendant offers \( w_{H}^{*} \) with probability \( \hat{f} \).

4. Asymmetric Information about the Fee

We now derive the equilibrium for the game described in Part V.C.2 of the text. Let \( l \) denote the probability the plaintiff employs the low fee \( (\hat{r}) \). Let \( m \) be the probability the defendant makes the low offer \( (\hat{w}) \). The plaintiff is indifferent between the two fees when

\[ (1 - \hat{r}) [m \hat{w} + (1 - m) w^{*}] = (1 - r^{*}) w^{*}. \]

Let \( \hat{m} \) denote the value of \( m \) for which this is an equality. Rearranging terms gives

\[ \hat{m} = \left( \frac{r^{*} - \hat{r}}{1 - \hat{r}} \right) \frac{w^{*}}{w^{*} - \hat{w}}. \] 

(A13)

As for the defendant, he is indifferent between the two offer amounts when

\[ w^{*} = \hat{w} \bar{w} + (1 - \bar{l}) (w^{*} + y^{*}). \]

Let \( \hat{l} \) denote the value of \( l \) for which this inequality is satisfied. Rearranging terms gives
\[ \hat{i} = \frac{y^*}{(w^* - \hat{w}) + y^*}. \]  

(A14)

If the plaintiff uses the low fee with probability \( \hat{i} \) and the defendant makes the low offer with probability \( \hat{m} \), neither has an incentive to defect from equilibrium.

5. Investment in Settlement

Assume the settlement production function has the following structure:

\[ s = \gamma w (1 - e^{-\delta z}) \]

where \( z \) is the lawyer's pre-negotiation investment, and \( \gamma \) and \( \delta \) are exogenous parameters. We will assume that the pre-negotiation investment has no effect on the expected judgment at trial; thus \( w \) is independent of \( z \).

This assumption may often be realistic. Suppose that \( \delta > \beta \), which essentially means it is easier to bring the parties "up to speed" in the case than it is to bring the court up to speed. If this inequality holds, and if \( \gamma \) is not too great (though it may be more than one), the lawyer, given a particular fee, will invest less in the pre-settlement negotiation than she would in the trial-only world. As a result, the value of the expected judgment is unaffected by the lawyer's pre-negotiation investment. The interpretation here is that whatever trial preparation occurs before negotiation could, and would, just as easily have been put off until the post-negotiation phase. The lawyer can therefore treat \( w \) as exogenous to her choice of pre-negotiation investment level.

Finding the optimal fee then involves the same procedure that we followed in the trial-only setting. Indeed, we can simply transfer the results of the trial-only setting to the present concern by substituting \( \gamma w \) for \( \alpha \), \( \delta \) for \( \beta \), and \( x_i \) for \( x \). Doing so yields the following equilibrium value for the settlement as a function of the fee:

\[ s = \gamma w \left( 1 - \frac{1}{\gamma w \delta} \right). \]  

(A15)
Plugging in \( w = \alpha(1 - [1/\rho \sigma \beta]) \) and rearranging terms yields

\[
s = \alpha \gamma \left( 1 - \frac{\beta + \gamma \delta}{\rho \alpha \beta \gamma \delta} \right).
\]

(A16)

The client then wants to choose \( r \) to maximize \((1 - r)s\). Solving his problem as we did for the trial-only world generates the optimal fee

\[
r^{**} = \sqrt{\frac{1}{\alpha \beta \gamma} + \frac{1}{\alpha \delta \gamma}}.
\]

(A17)