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CONTINGENT FEES FOR PERSONAL INJURY LITIGATION

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Contingent fees are the typical form of payment for plaintiff attorneys on personal injury cases. Several states have imposed restrictions on contingent fees as one among several measures enacted in response to the growing cost of malpractice claims. This report presents a theoretical analysis of contingent and hourly wage contracts. The analysis is used to show the effect of these different forms of contract on the amount of litigation and to identify the probable effects of restrictions on contingent fees.
SUMMARY

Contingent fees are the typical mode of payment for plaintiff attorneys in personal injury litigation. Under a contingent contract, the attorney's fee is contingent on the outcome of the case: If the plaintiff wins, the attorney is paid some predetermined fraction of the award; if the plaintiff loses, the attorney receives no fee. Under an hourly wage contract, the plaintiff pays the attorney an hourly rate for his time, regardless of the outcome of the case. Thus, the contingent fee shifts the risk of zero return on the investment in litigation from the plaintiff to the attorney.

There is a long tradition of hostility toward contingent fees. A number of states have recently restricted their use in medical malpractice cases, in response to the rise in frequency and severity of malpractice claims. Opponents of contingent fees claim that giving lawyers the right to finance litigation makes them stir up cases, hoping for excessive financial reward. They also claim that the lawyer's financial stake creates a conflict of interest between lawyer and plaintiff. Proponents argue that by shifting the risk to the lawyer, contingent fees give legal recourse to plaintiffs who have legitimate claims but are unwilling to risk investing in an hourly wage contract. Further, they contend that by making the fee depend on the amount of recovery, contingent contracts align the interests of attorney and client. This alignment is particularly important when the client lacks the expertise to assess the lawyer's performance.

There is no conclusive theoretical analysis and little empirical evidence to support claims on either side of the debate. Yet, to the extent that fee arrangements affect the number of outcomes of suits filed, they affect the efficiency of the tort system in the performance of its dual functions of deterring negligent behavior and compensating people injured through negligence.

The purposes of this study are to clarify the debate over contingent fees and to determine the probable effects of restrictions on contingent fees on the frequency and severity of claims. The study analyzes the incentives created by the alternative assignment of risk
under the hourly and contingent contracts. The analysis assumes that attitudes toward risk affect the willingness of plaintiffs and attorneys to engage in litigation with uncertain payoff. Plaintiffs and attorneys may be averse to risk, or may prefer risk, or may be neutral to risk. A risk-averse person is one who would not participate in a lottery if the odds of winning were only even. A risk-prefering person would be willing to participate in a 50-50 lottery. A risk-neutral person is indifferent to the 50-50 lottery. In the medical malpractice context, a risk-averse plaintiff would not bring suit if the expected cost of litigation were as great as the expected award (i.e., the possibility of winning times the amount of the award).

The contractual assignment of risk and the parties' risk preference affect the number of cases that will be filed, the attorney's effort per case, and hence the probability of winning and size of award. If plaintiffs and attorneys are risk-neutral, the frequency of claims, the average gross recovery, and the plaintiff's probability of winning will be unaffected by the type of contract: The amount of litigation will be that necessary to maximize the net recovery of plaintiffs. The division of gross recovery into the net to the plaintiff and fee to the attorney is also unaffected, on average, over all plaintiffs. However, on cases won the actual fee is higher, hence net recovery is lower with a contingent fee than with an hourly wage contract. Obviously, on cases lost, the fee and therefore the plaintiff's out-of-pocket loss are zero.

Under the more plausible assumption that plaintiffs are typically risk-averse and lawyers risk-neutral, the frequency of claims, average gross recovery, and plaintiff's probability of winning will be lower with an hourly wage than with a contingent fee. This is because with an hourly rate, the plaintiff finances the litigation and bears the risk of zero return. With an hourly contract, the risk-averse plaintiff will spend less than is necessary to maximize the net value of his claim.

The analysis disputes the allegation that contingent fees result in excessive (above competitive) rewards for attorneys. Rational allocation of time by an attorney between contingent fee and hourly rate cases and market competition both act to control fees. True, the actual fee on cases won will exceed the value of time spent on those cases. However, the excess is compensation for the ex ante risk of receiving no
fee. What little empirical evidence is available confirms that, averaging over cases won and lost, the effective hourly earnings of attorneys paid on a contingent basis are similar to the hourly earnings of defense attorneys paid by the hour. This is consistent with competition and elimination of risk aversion from the contingent fee sector. Competition will tend to drive attorneys who are risk-averse out of the contingent fee sector. The risk-averse attorney would require an expected fee that exceeds the value of his time, whereas a risk-preferring attorney would accept a fee that is less than the value of his time. Thus, risk aversion on the part of the attorney tends to reduce the net recovery of the client, and risk preference tends to increase it.

Evidence on the ratio of legal costs to average award suggests that returns to attorney effort diminish more rapidly for the defense than for the plaintiff in severe injury cases. One implication of this asymmetry in the "judicial production function" is that a reduction in attorney wage rates will tend to induce a greater increase in the efforts of plaintiffs' attorneys and, hence, lead to an increase in the size of awards and plaintiff win rates. This factor may have contributed to the increase in frequency and severity of claims and pro-plaintiff shift in the law in recent years.

Constraints on the minimum time necessary to process a case may bar cases with low expected recovery from suit. This effect is independent of the type of fee contract: If small cases are barred from the judicial process, it is because of the high fixed costs, not the contingent fee system. Ceilings on the contingent fee percentage may significantly reduce the number of hours an attorney will spend on a case and effectively bar certain cases from trial. The types of cases likely to be affected are (1) cases of severe injury but uncertain evidence of negligence, (2) cases with low expected payoff (minor injuries), and (3) cases where the plaintiff is highly risk-averse. All these factors contribute to a relatively large fee percentage, in the absence of constraints.

Restriction on contingent fees would also tend to be regressive, deterring low- and middle-income plaintiffs from filing even meritorious
suits. Risk aversion, low wealth, and high borrowing costs all create obstacles to filing that a contingent fee reduces but may not totally eliminate. For example, a person with average risk aversion but assets of less than $20,000 would be unwilling to hire an attorney on an hourly basis to handle a malpractice suit yielding the average award of $29,456 (1977 data), even with a high probability of winning. Thus, in the absence of the contingent fee, the number of cases filed would certainly be less. Conversely, the common allegation that the contingent fee induces attorneys to bring claims with little legal merit has no basis in logic. The fact that the fee depends on winning provides an incentive to screen out cases with little legal merit—an incentive that is lacking with an hourly fee.

If ceilings or outright prohibition of contingent fees are intended to reduce the amount paid out through the malpractice liability system, they will probably be successful. However, if the socially optimal level of litigation is that which would be undertaken by a fully informed, risk-neutral plaintiff, the unconstrained contingent fee is likely to yield the closest approximation to this ideal. Without contingent fees, plaintiff risk aversion will produce a suboptimal investment in litigation and hence suboptimal deterrence and compensation. Even if the explicit policy objective were to reduce frequency of suits, size of awards, and expenditure on litigation, it is doubtful that limiting contingent fees is an efficient means of achieving these results.
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I. INTRODUCTION

Contingent fees are the predominant form of payment for plaintiff attorneys on medical malpractice and all other types of personal injury litigation. With a contingent fee, the attorney finances the litigation and is reimbursed for his services only if he wins the case. Thus, the contingent fee effectively shifts from the plaintiff to the attorney the risk of receiving zero return on the investment in litigation.

There is a long tradition of hostility toward contingent fees. They are prohibited in England and Canada. During 1975-1976, 18 states passed legislation limiting contingent fees for medical malpractice cases. McKinnon (1964) summarizes the basic objections to contingent fees: (1) Giving the lawyer the right to finance litigation allegedly motivates him to stir up suits—suits that are supportable but that would not be brought on the client’s initiative and suits that are groundless but have a nuisance value; (2) the stimulus to stir up suits is said to be fueled by excessive financial rewards; (3) the lawyer’s stake in the suit creates a conflict of interest between the lawyer and his client, which impedes settlement. The lawyer is allegedly more prone to gamble.

Conversely, proponents argue that (1) the contingent fee provides access to the courts for plaintiffs who are deterred by the cost and risk of hiring an attorney on an hourly basis but who may have legitimate claims; (2) the contingent fee permits an efficient allocation of the risk and cost of investing in litigation with an uncertain outcome; (3) by making the fee depend on the size of the recovery, the contin-

† Contingent fee contracts may stipulate that the plaintiff pay certain fixed costs, such as filing fees, regardless of the outcome. In practice, the attorney often advances these expenses and reimbursement may be de facto contingent on the plaintiff winning.

‡ Limiting contingent fees has been one of several legislative enactments designed to control the growth in the number of malpractice claims and the size of awards, which culminated in increases in malpractice insurance premiums of over 300% in some states in 1975.
gent contract aligns the interests of the attorney with those of his client. This is particularly valuable when the client lacks the expertise to monitor the attorney's performance.

Schwartz and Mitchell (1970) dispute the view that the incentives implied by a contingent fee contract induce the attorney to act in his client's best interest. They compare the incentives of an attorney paid on a contingent basis with a situation where a fully informed, risk-neutral client hires an attorney on an hourly basis. Relative to this benchmark, they conclude that the contingent fee results in fewer hours per case and consequently lower gross recoveries and lower lawyer fees. Their conclusion that the contingent fee induces the attorney to invest fewer hours than would maximize the net value of the claim to the plaintiff is accepted by Clermont and Curivan (1978) and Reder (1978). Reder advocates the abolition of legal restrictions on the outright sale of the claim by the client to the attorney or, as a second best solution, the public provision of a certifier, to provide the plaintiff with disinterested advice on when to settle.

Very little empirical evidence exists on the effects of contingent fees. Using data from a survey of plaintiff and defense attorneys handling medical malpractice cases, Dietz, Baird, and Berul (1973) find that the effective hourly wage of plaintiff attorneys paid on a contingent basis is not much higher than the hourly wage of the defense paid by the hour. This rough evidence that contingent fees do not affect lawyers' earnings is reinforced by the opinions expressed by attorney respondents to the survey. Less than 20% of either plaintiff or defense lawyers thought that the contingent fee stimulates claims, affects settlements, or results in excessive fees.

Thus, there is no consensus on how contingent fees affect, if at all, the number of claims filed, the propensity to litigate, and the size of awards and settlements. Yet the answers to these questions

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†The model underlying these conclusions is discussed more fully in Section II.

‡The effective hourly wage resulting from contingent fee contracts is computed by averaging fees on cases won over hours spent on cases won and lost and adjusting for fees to referring attorneys.
have important implications for the efficient operation of the tort system. The tort system is designed to perform two primary functions: deterring negligent behavior and compensating persons injured by negligent behavior. To the extent that fee arrangements for plaintiff attorneys affect the number and outcome of suits filed, they affect the efficiency of the system in performing its social purpose of deterrence and compensation. Public policy with respect to contingent fees should therefore be evaluated in the light of its effects on the efficient functioning of the entire tort system.†

This study develops a theoretical analysis of hourly wage and contingent fee contracts in order to infer the effects of limits on contingent fees. Specifically, the analysis examines the effect of hourly and contingent fee contracts on the amount of attorney hours, given the facts of a case; the probability of the plaintiff winning and the size of the gross recovery; the division of the gross recovery between the net recovery to the plaintiff and the fee of the attorney; and the plaintiff's propensity to bring a claim, given the occurrence of an injury.

Section II presents a theoretical analysis of the effects of hourly wage and contingent fee contracts, assuming risk neutrality. Section III modifies the analysis to allow for nonneutral attitudes toward risk for both plaintiff and attorney. Section IV analyzes the determinants of the attorney's share in a contingent fee contract, presents some empirical evidence, and derives implications about the effects of limits on the fee. Section V applies theory and evidence to draw conclusions about the effectiveness of plaintiff and defense attorney input in influencing court outcomes. Section VI examines

† If information and transactions are costless, the efficient functioning of the tort system requires that the injurer compensate the injured for damages caused in all cases of injury due to negligence. This zero-transactions-cost ideal is used here as a benchmark against which to evaluate outcomes under alternative fee arrangements. In a world of costly information and transactions, this may not be the appropriate benchmark, but revising the optimality conditions to take account of positive information and transactions costs is beyond the scope of this report.
the effect of hourly and contingent fees on the number of suits filed from a given universe of injuries. The final section summarizes the results and derives policy conclusions.
II. HOURLY WAGE AND CONTINGENT FEE CONTRACTS WITH RISK NEUTRALITY

This section presents models of the hourly wage contract (Model A) and two alternative formulations of the contingent fee contract: the Schwartz and Mitchell formulation (Model B) and a reinterpretation (Model C) based on an alternative specification of the nature of competition for cases. At this point, the analysis takes as given the plaintiff's decision to hire an attorney. It focuses on the effect of the type of contract on the number of attorney hours spent on a case, the implied size of gross recovery, and the division of this gross recovery between the net recovery of the client and the attorney's fee.† Risk neutrality of both client and attorney is assumed throughout.

The following notation is used:

\[ p = \text{probability of a positive recovery by the plaintiff}. \]
\[ A = \text{conditional expected gross recovery, given a positive recovery}. \]
\[ w = \text{wage rate of the attorney on an hourly wage contract, which is equal to the opportunity cost of attorney time on a contingent fee contract}. \]
\[ L = \text{input of attorney hours}. \]
\[ \alpha = \text{attorney's share of the award under a contingent fee contract}. \]
\[ pA(L) = \text{payoff function}. \]

By assumption, the expected gross recovery and the probability of a positive recovery are positive functions of attorney input, \( L \), with diminishing returns. Thus,

\[ \frac{\partial A}{\partial L}, \frac{\partial p}{\partial L} > 0; \quad \frac{\partial^2 A}{\partial L^2}, \frac{\partial^2 p}{\partial L^2} < 0. \]

†"Recovery" and "award" are used interchangeably to refer to court awards and out-of-court settlements.
MODEL A: HOURLY WAGE CONTRACT WITH RISK NEUTRALITY

The plaintiff is assumed to have full information in that he knows as much as the attorney does about the payoff function, pA(L), and can monitor attorney performance without incurring costs. The plaintiff buys attorney time by the hour.

**Decision Rule:** The plaintiff selects L to maximize his expected net recovery:

\[
\max_{L} \phi = pA - wL. \tag{A1}
\]

Maximization of Eq. A1 with respect to L yields the first-order condition:

\[
\frac{\partial (pA)}{\partial L} = w. \tag{A2}
\]

Equation A2 implies that the informed client maximizes his expected net recovery by purchasing attorney time up to the point where the attorney's gross marginal product, in terms of increased expected recovery, is equal to his hourly wage rate.

MODEL B: SCHWARTZ AND MITCHELL CONTINGENT FEE CONTRACT WITH RISK NEUTRALITY

It is assumed that the plaintiff is ignorant of the payoff function, pA(L), and hence is unable to evaluate the attorney's performance. The attorney is therefore free to choose the hours spent on the case. He is assumed to maximize his expected net profit, given that his fee is some fraction, \( \alpha \), of the gross recovery, and his time has an opportunity cost, w, equal to the wage he could earn on other cases.

**Decision Rule:** The attorney selects L to maximize his expected net profit:

\[
\max_{L} \phi = \alpha pA - wL. \tag{B1}
\]

†Model A corresponds to the hourly wage contract modeled by Schwartz and Mitchell (1970), except that their assumption of perfect knowledge implies \( p = 1 \) and A(L) is a certain, not an expected, value. With risk neutrality, the implications of the models are identical.
Maximizing Eq. B1 with respect to \( L \) gives

\[
\alpha \frac{\partial (pA)}{\partial L} = w. \tag{B2}
\]

Equation B2 implies that the attorney spends time up to the point where his share of the gross marginal product is equal to the opportunity cost of his time. Comparing Eqs. A2 and B2, since \( \alpha < 1 \), equilibrium occurs at a larger gross marginal product with a contingent fee than with an hourly wage contract. Assuming diminishing marginal productivity, this implies fewer hours per case and lower expected recovery with the contingent fee contract.

The Schwartz and Mitchell (S&M) formulation of the contingent fee contract implies that the attorney input is lower, and hence the gross recovery is lower than in the case where a fully informed client buys time by the hour. The S&M conclusions with respect to the effect of the contingent fee on the net recovery of the plaintiff and the fee of the attorney depend on a series of assumptions about the market for legal services. S&M assume that attorneys compete for contingent fee cases by bidding down \( \alpha \) until hourly earnings on contingent fee cases are reduced to the hourly wage rate in other cases.\(^{+}\) Taken alone, this assumption implies that both the net recovery of the plaintiff and the fee of the attorney will be lower with a contingent fee than if a fully informed plaintiff hires an attorney by the hour.

However, S&M modify their conclusion that both net recovery and fee will be lower with a contingent fee by introducing a general equilibrium adjustment in the market for legal services. They assume that this market consists of a fixed number of personal injury cases and a fixed number of other cases. They also assume that the number of attorney hours supplied to the market is fixed. Initially, all cases are handled with an hourly wage, and plaintiffs are assumed fully informed. S&M then drop the assumption of informed plaintiffs and introduce the contingent fee for personal injury cases. The analysis of the

\(^{+}\) A reasonable assumption, in view of the mobility of lawyers between contingent fee and hourly wage business.
contingent fee implies that the number of hours spent on personal injury cases decreases. S&M assume that these hours released from personal injury cases because of the introduction of the contingent fee are "dumped" in the hourly wage market, and depress the hourly wage by an amount that depends on the elasticity of demand for hours. This implies a reduction in the opportunity cost of time spent on contingent fee cases and thus some increase in time input, relative to the situation before the general equilibrium reduction in wage rates. Taking into account this second-round effect, S&M conclude that the introduction of the contingent fee unambiguously reduces the attorney's fee on personal injury cases (since both w and L fall). The effect on the plaintiff's net recovery is ambiguous, however, depending on whether the reduction in gross recovery (due to lower L) is greater or less than the reduction in the lawyer's fee. However, if the reduction in w is negligible, because demand for attorney time is elastic, the initial conclusion holds—the net recovery of the plaintiff is lower with a contingent fee.

The S&M conclusion, that the contingent fee contract fails to maximize the net value of the plaintiff's case because of a suboptimal input of attorney time, is analogous to the traditional view that share contracts in general are inefficient because they induce a suboptimal input of factors that are paid on a share basis. Cheung (1968) has shown that this criticism of share contracts in agriculture is misplaced because it ignores competition among tenants and assumes unrealistically simple forms of contract. Cheung shows that actual share cropping contracts in fact stipulate the level of inputs of the parties to the contract, in addition to their shares of output. When inputs are mutually determined, the private incentive for each party to invest less than the mutually optimal level of its input can be mitigated.

In the case of contingent fees for legal services, however, detailed specification of inputs is apparently not common. The typical contract stipulates only the attorney's share, which may vary depending on whether the case goes to trial, and perhaps that the client should assume certain expenses, such as court costs. Precise stipulation ex ante of the attorney's time input is presumably not feasible.
because the plaintiff faces high costs of ascertaining the optimum input and high costs of monitoring performance. It is shown in Model C below, however, that competition for cases and monitoring of outcomes can provide a perfect substitute for fully informed and costless monitoring of inputs.

MODEL C: REINTERPRETATION OF CONTINGENT FEE CONTRACT WITH RISK NEUTRALITY

All assumptions of the S&M model are retained with one exception. Whereas S&M assume attorneys compete for cases only with respect to the fee percentage, $\alpha$, here the more plausible assumption is made that attorneys compete in the net recovery they offer a client, $pA(1 - \alpha)$. Thus, bidding is in terms of the expected gross recovery as well as the fee percentage. Each attorney bases his bid on the number of hours he expects to spend. To maximize his chances of getting the case, he will bid a $pA$ and an $\alpha$ that maximize the expected net recovery to the plaintiff, subject to the condition that he cover the opportunity cost of his time. Although the bid is with respect to expected outcome, this implies a commitment of $L$. The hourly wage rate implied by the expected fee, $\alpha pA$, must equal what could be earned selling those hours on an hourly basis.

**Decision Rule:** The attorney selects $L$ and $\alpha$ to maximize the expected net recovery of the client, subject to the constraint that the attorney cover the opportunity cost of his time.

\[
\max_{L, \alpha} \phi = pA(1 - \alpha) + \mu(\alpha pA - wL), \quad \text{(C1)}
\]

where $\mu$ is a Lagrange multiplier.

Maximizing with respect to $L$, $\alpha$, and $\mu$, respectively, gives

\[
(1 - \alpha) \frac{\partial (pA)}{\partial L} + \mu \left[ \alpha \frac{\partial (pA)}{\partial L} - w \right] = 0, \quad \text{(C2)}
\]

\[
-pA + \mu pA = 0, \quad \text{(C3)}
\]

\[\text{The opportunity cost of attorney time, } w, \text{ may include some rents.}\]
\[ \alpha pA - wL = 0. \]  

(C4)

From Eq. C3, \( \mu = 1 \). Substituting this result in Eq. C2 yields

\[ \frac{\partial pA}{\partial L} = w. \]  

(C2')

Equation C2' defines the attorney's optimum input of hours, \( \hat{L} \), which in turn determines the expected award, \( \hat{pA} \), that the attorney will bid to try to get the case. The optimum \( L \) is that which equates the opportunity cost of his time, \( w \), with the gross marginal product. This is identical with the condition of equilibrium under an hourly wage contract, when a perfectly informed client determines the number of hours he will buy to maximize the net value of his claim (Eq. A2). Thus, the number of hours and expected gross recovery are invariant to the type of contract.

Although \( L \) and \( pA \) are invariant with respect to the type of contract, the division of the gross recovery into attorney's fee and net recovery of the client is affected. In comparing the attorney's fee under an hourly wage and a contingent fee contract, the possibility of a zero recovery creates a distinction between the fee expected ex ante and the fee realized ex post on cases with a positive recovery and hence positive fee. Equation C4 shows that the expected fee, \( \alpha pA \), is equal to the fee that would have been paid under an hourly wage contract, since \( w \) and \( L \) are identical. However, the actual fee on cases won, \( \alpha 2 \), exceeds the cost of time by a multiple that is the inverse of the ex ante optimized probability of winning, \( \hat{p} \). On medical malpractice cases with attorney representation, roughly 60% of the claims obtain some positive recovery. Assuming this is correctly anticipated, contingent fees on average will appear to overcompensate attorneys 66\% for their time spent on cases won. Thus, if the probability of win-

\[ \text{Munch (1980).} \]

\[ (.6)^{-1} = 1.66. \]  

Reder (1978) states that fees on cases won must compensate the attorney for his time spent on cases lost. This is a misleading interpretation of the determination of \( \alpha \). In a competitive environment, an attorney cannot charge a client for hours spent on other
ning is less than unity, the competitively determined fee will exceed the value of time spent ex post because it was uncertain ex ante. This holds even under the assumption that the attorney is risk-neutral.

CONCLUSION

If all parties are risk-neutral, the input of attorney effort and hence the probability of winning and size of gross recovery will be the same with a contingent fee contract (with the plaintiff unable to monitor attorney input) as if a fully informed plaintiff hired an attorney on an hourly basis. The plaintiff's expected net recovery on any particular case and the average net recovery of plaintiffs in general are invariant to the type of contract and are the maximum that can be obtained, taking into account the facts of the case, the payoff to attorney input, and the opportunity cost of attorney time. Similarly, the attorney's expected fee on a particular case and the average fee over all cases are the same with a contingent and an hourly contract. However, the actual fee realized on cases won is higher with a contingent fee by a multiple that is the inverse of the optimized probability of winning. Similarly, the plaintiff's realized net recovery on cases won is lower with a contingent fee. Obviously, the fee is less and the plaintiff's out-of-pocket cost is less on cases lost with a contingent fee.

These conclusions differ from those reached by S&M because of different assumptions about the nature of competition. Both the S&M model and the reinterpretation used here assume that attorneys compete for cases, such that hourly earnings on contingent fee cases are bid down to the hourly wage rate that can be earned on other cases. S&M assume that competition is confined to the fee percentage. Given a competitively determined fee percentage and opportunity cost of his time, the attorney is assumed to determine his time input on a case to maximize his own profit. It follows logically from these assumptions that attorney input with a contingent fee will be less, and hence the gross recovery, net recovery, and attorney's fee will be less with a contingent cases he has lost. Each client will only contract to pay for the expected value of time spent on his case.
fee than if a fully informed client hired an attorney on an hourly basis.

The alternative model developed here makes the more plausible assumption that attorneys compete in terms of the expected net recovery offered the client, which depends on the expected gross recovery as well as the attorney's fee percentage. This assumption yields the conclusions listed above, that is, no difference, by type of contract, in attorney effort, gross recovery, expected net recovery and expected fee, and therefore maximization of the net value of the case to the plaintiff. This conclusion of identical outcomes with contingent and hourly contracts holds even if the market for legal services is not competitive and rents are earned by some or all attorneys, provided that the degree of monopoly power is the same for a given attorney, whether he sells his time on an hourly or a contingent basis. With a uniform degree of monopoly power in the hourly wage and contingent fee markets, attorney input will be less, and the gross and net recovery will be lower, than with a competitive market for legal services. However, the outcome will still be the same, regardless of the type of contract.

† These conclusions ignore second-order effects discussed above, which, under plausible assumptions about the market for legal services, are too small to alter the conclusions.
III. HOURLY WAGE AND CONTINGENT FEE CONTRACTS
WITH RISK AVERSION

In this section, hourly wage and contingent fee contracts are compared under the assumption that the plaintiff and the attorney are averse to risk. Expected utility replaces wealth as the objective to be maximized. The following additional notation is used:

\( U(\cdot) \) = plaintiff's utility function.
\( V \) = plaintiff's initial wealth.
\( Z(\cdot) \) = attorney's utility function.
\( Y \) = attorney's initial wealth.

Subscript 1 denotes the state in which the plaintiff wins.
Subscript 0 denotes the state in which the plaintiff loses.

Primes denote marginal utilities.

\( \bar{U}' = pU_1' + (1 - p)U_0' \) = plaintiff's expected marginal utility.
\( \bar{Z}_c \) = attorney's utility of his certain income alternative, 
\( Y_c = Y + wL \).
\( \lambda = -(U''/U') \) = absolute risk-aversion parameter of plaintiff's utility function defined at \( V \).
\( \lambda^* = \lambda V \) = relative risk-aversion parameter of plaintiff's utility function defined at \( V \).
\( \gamma = -(Z''/Z') \) = absolute risk-aversion parameter of attorney's utility function defined at \( Y_c \).
\( \gamma^* = \gamma Y \) = relative risk-aversion parameter of attorney's utility function defined at \( Y_c \).

\( N_{AL} \) = elasticity of \( A \) with respect to \( L \).
\( N_{pL} \) = elasticity of \( p \) with respect to \( L \).

MODEL D: HOURLY WAGE CONTRACT WITH PLAINTIFF RISK AVERSION

Decision Rule: The plaintiff selects \( L \) to maximize his expected utility over the two possible outcomes, a positive or a zero recovery.

\[
\begin{align*}
\text{Max } & \phi = pU[V + A - wL] + (1 - p)U[V - wL]. \\
& L
\end{align*}
\]
Maximization of Eq. D1 with respect to $L$ yields

$$pU_1 \frac{\partial A}{\partial L} + \frac{\partial p}{\partial L} [U_1 - U_0] = w[pU_1 + (1 - p)U_0]. \tag{D2}$$

Equation D2 shows that when the plaintiff finances the litigation, risk aversion affects the evaluation of both the expected payoff and the expected costs. To determine the net effect of risk aversion on the plaintiff's purchase of attorney time, rewrite Eq. D2 as

$$p \frac{\partial A}{\partial L} \left( \frac{U_1}{U^*} \right) + \frac{\partial p}{\partial L} \left( \frac{U_1 - U_0}{U^*} \right) = w, \tag{D2'}$$

where $U^* = pU_1 + (1 - p)U_0 = \text{expected marginal utility}$. Using a second-order Taylor expansion of the utility function around $U(V)$ and multiplying through by $L/pA$,

$$\frac{\partial A}{\partial L} \frac{L}{A} \left[ \frac{1 - \lambda (A - wL)}{1 - \lambda (pA - wL)} \right] + \frac{\partial p}{\partial L} \frac{L}{p} \left[ \frac{1 - \lambda ((A/2) - wL)}{1 - \lambda (pA - wL)} \right] = \frac{wL}{pA}, \tag{D2''}$$

or

$$N_{A,L} \left[ \frac{V - \lambda^*(A - wL)}{V - \lambda^*(pA - wL)} \right] + N_{p,L} \left[ \frac{V - \lambda^*((.5A - wL)}{V - \lambda^*(pA - wL)} \right] = \frac{wL}{pA},$$

or

$$N_{A,L} k_1 + N_{p,L} k_2 = \frac{wL}{pA},$$

where $k_1$ = the term in the first square brackets,

$k_2$ = the term in the second square brackets.

With risk neutrality, $\lambda = 0$ and $k_1 = k_2 = 1$. With risk aversion, $\lambda > 0$, $k_1 < 1$, and $k_2 \geq 1$ as $p \geq .5$. Thus, the risk-averse plaintiff
always discounts $N_{A,L'}$ the elasticity of award with respect to attorney input. Hence he will buy fewer hours for purposes of increasing the award and will obtain a lower gross and net recovery than if he is risk-neutral. The reduction is greater, the lower $p$ and the lower $V$ relative to the expected net recovery. Similarly, if $\hat{p}$, the optimized probability of winning, is less than .5, the risk-averse plaintiff discounts the elasticity of $p$ with respect to attorney input. He therefore buys fewer hours for increasing $p$ and is less likely to win than if he is risk-neutral. Again, the effect is greater, the lower $p$ and the lower $V$ relative to the expected net recovery. However if $\hat{p} > .5$, risk aversion increases the plaintiff's evaluation of a further increase in $p$, and he spends more for this purpose and is more likely to win than if he is risk-neutral.

MODEL E: CONTINGENT FEE CONTRACT WITH RISK AVERSION

Because the contingent fee contract assigns to the attorney the risk of zero return on the investment in litigation, the attitudes toward risk of both the plaintiff and the attorney are relevant to choice of attorney effort and therefore the outcome. Competition implies that an attorney seeks to maximize the expected utility of the plaintiff, subject to the constraint that the attorney's expected utility of the contingent fee is equal to the utility of the alternative, certain income.

Decision Rule:

$$\max_{L,\alpha,\mu} \quad pU[V + A(1 - \alpha)] + (1 - p)U[V] + \mu[pZ(Y + \alpha A) + (1 - p)Z(Y) - Z(Y + wL)]$$  \hspace{1cm} (E1)

The first-order conditions with respect to $L$, $\alpha$, and $\mu$, respectively, are

$$pU_1'(1 - \alpha) \frac{\partial A}{\partial L} + (U_1 - U_0) \frac{\partial p}{\partial L} + \mu \left[ pZ_1' \alpha \frac{\partial A}{\partial L} + (Z_1 - Z_0) \frac{\partial p}{\partial L} - Z_1' \right] = 0,$$  \hspace{1cm} (E2)

$$-pAU_1' + pA_1' Z_1' = 0,$$  \hspace{1cm} (E3)
\[ pZ(Y + \alpha A) + (1 - p)Z(Y) = Z(Y + wL). \tag{E4} \]

From Eq. E3,

\[ U'_1 = \mu Z'_1. \]

Substituting in Eq. E2 yields

\[ p \frac{\partial A}{\partial L} + \frac{\partial p}{\partial L} \left[ \frac{U'_1 - U'_0}{U'_1} + \frac{Z'_1 - Z'_0}{Z'_1} \right] = w \frac{Z'_c}{Z'_1}. \tag{E2'} \]

Expanding Eq. E2' by a second-order Taylor expansion of \( U \) around \( V \) and \( Z \) around the certain income alternative, \( Z_c \), and multiplying through by \( L/pA \) yields

\[
\begin{aligned}
N_{A,L} + N_{p,L} & \left\{ (1 - \alpha) \left[ \frac{V - .5\lambda^*A(1 - \alpha)}{V - \lambda^*A(1 - \alpha)} \right] + \alpha \left[ \frac{Y_c - .5\gamma^*(\alpha A - wL)}{Y_c - \gamma^*(\alpha A - wL)} \right] \right\} \\
& = \frac{wL}{pA} \left[ \frac{Y_c}{Y_c - \gamma^*(\alpha A - wL)} \right] \tag{E2''}
\end{aligned}
\]

or

\[
N_{A,L} + N_{p,L} [(1 - \alpha)k_3 + \alpha k_4] = \frac{wL}{pA} k_5,
\]

where \( k_3 \) = the term in the first square brackets,

\( k_4 \) = the term in the second square brackets,

\( k_5 \) = the term in the third square brackets.

A comparison of Model E and Model C shows the effects of plaintiff risk aversion with a contingent fee contract. To isolate the effect of plaintiff risk aversion, assume that the attorney is risk-neutral, that is, \( k_4 = k_5 = 1 \). If the plaintiff is averse to risk, \( k_3 \) exceeds unity. Thus, with a contingent fee contract, the risk-averse plaintiff values an increment in the size of award as if he were risk-neutral but places a higher value on an increment in \( p \) than if he were risk-neutral. The
effect of plaintiff risk aversion with a contingent fee is to increase \( L \) beyond \( \hat{L} \), the optimal level with risk neutrality (with either a contingent fee or an hourly wage contract), but the additional hours are devoted exclusively to increasing the probability of winning. The gross recovery will be the same, and the probability of winning will be greater than in the risk-neutral case.

However, the net recovery of the plaintiff, both expected and realized, is reduced by his risk aversion which leads him to purchase hours in excess of the risk-neutral optimum, \( \hat{L} \). This is because the marginal product of hours in excess of \( \hat{L} \) is less than their cost, since \( \hat{L} \) is defined as the point at which \( \frac{3(pA)}{3L} = w \). The reduction in net recovery may be viewed as the price that the risk-averse plaintiff pays for the "insurance" of increasing the probability of winning. This "insurance" is paid by an increase in the attorney's share of the award. This follows from the equilibrium condition (Eq. E4) which, with attorney risk neutrality, is simply

\[
\alpha = \frac{wL}{pA}.
\]

Since \( N_{pA,L} < 1 \) at \( L = \hat{L} \), it follows that \( \alpha \) must increase if \( L > \hat{L} \).

A comparison of Model D and Model E shows that, in contrast with the risk-neutral plaintiff, the risk-averse plaintiff is affected by the type of contract. If the plaintiff is risk-averse, the gross recovery is greater with a contingent fee. The probability of winning on claims with \( \hat{p} < .5 \) (presumably when the plaintiff's case is relatively weak) is higher with a contingent fee. On claims with \( \hat{p} > .5 \), the comparison is ambiguous. The risk-averse plaintiff's expected net recovery (and the average for all plaintiffs) is higher with a contingent fee. It is possible that the realized net recovery on cases won is also higher. This contrasts with the risk-neutral case, where it was shown that although the expected net recovery is invariant with respect to the type of contract, the realized net recovery on cases won is lower with a contingent fee than with an hourly fee. With a risk-averse plaintiff, realized net recovery is greater with a contingent fee as
\[ A_{HW} - wL_{HW} < A_{CF} (1 - \alpha) = A_{CF} - \frac{wL_{CF}}{p} , \]

where the subscript HW denotes hourly wage,
the subscript CF denotes contingent fee.

Since \( A_{HW} - wL_{HW} < A_{CF} - wL_{CF} \), this condition holds for values of p close to 1.

Thus far the analysis has assumed that the plaintiff is risk-averse and the attorney risk-neutral. To isolate the effects of attorney risk aversion \( (\gamma^* > 0) \), assume that the plaintiff is risk-neutral \( (\lambda^* = 0) \). If the attorney is risk-averse, \( \gamma^* \) is positive and \( k_4 \) and \( k_5 \) exceed unity. The risk-averse attorney assigns a higher value to increments in p and a higher cost to time spent on a risky project. Multiplying through Eq. E2' by \( k_5^{-1} \) yields

\[
N_{A,L}k_5^{-1} + N_{p,L}[(1 - \alpha)k_5^{-1} + \alpha k_4k_5^{-1}] = \frac{wL}{pA}. \tag{E2''}
\]

Since \( 0 < k_5^{-1} < k_4k_5^{-1} < 1 \), attorney risk aversion induces discounting of both components of the payoff, \( N_{A,L} \) and \( N_{p,L} \), and hence there is an investment of less time on increasing both A and p. This implies that awards and plaintiff win rates are lower if attorneys using contingent fee contracts are risk-averse rather than risk-neutral. Because the net recovery of the plaintiff is maximized with risk neutrality, it follows that the plaintiff is worse off with a risk-averse attorney. Table 1 summarizes the effects of plaintiff and attorney risk aversion on the weights attached to \( N_{A,L} \) and \( N_{p,L} \) under the hourly wage and contingent fee contracts. Weights less than one indicate a decrease in attorney time input relative to the risk-neutral case; weights greater than one indicate an increase in attorney time input.

**CONCLUSION**

If the plaintiff is risk-averse, the outcome is not invariant with respect to the type of contract, in contrast with the risk-neutral case. When the plaintiff is risk-averse and the attorney is risk-neutral, the

\[ ^{\dagger} \text{If the plaintiff is also risk-averse, his preferences partially offset the attorney's tendency to discount } N_{p,L} \text{ and may dominate if } \lambda^* \text{ is sufficiently larger relative to } \gamma^*. \]
Table 1

WEIGHTS ATTACHED TO $N_{A,L}$ AND $N_{p,L}$ DUE TO RISK AVERSION, BY TYPE OF CONTRACT

<table>
<thead>
<tr>
<th>Elasticity of Payoff</th>
<th>Hourly Wage</th>
<th>Contingent Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Plaintiff Risk-Averse $\lambda^* &gt; 0$</td>
<td>Plaintiff Risk-Averse, Attorney Risk-Neutral $\lambda^* &gt; 0, \gamma = 0$</td>
</tr>
<tr>
<td>$N_{A,L}$</td>
<td>$\frac{V - \lambda^<em>(A - wL)}{V - \lambda^</em>(pA - wL)} &lt; 1$</td>
<td>$1$</td>
</tr>
<tr>
<td>$N_{p,L}$</td>
<td>$\frac{V - \lambda^<em>(.5A - wL)}{V - \lambda^</em>(pA - wL)} \geq 1$ as $p \geq .5$</td>
<td>$\alpha + (1 - \alpha) \frac{V - \lambda^*.5A(1 - \alpha)}{V - \lambda^*A(1 - \alpha)} &gt; 1$</td>
</tr>
</tbody>
</table>

NOTES: 
$\lambda^* = -(V''/V')V = \text{plaintiff risk aversion at } V, \text{ the certain level of wealth.}$
$\gamma^* = -(Z''/Z')Y_c = \text{attorney risk aversion at } Y_c, \text{ the certain level of wealth.}$

$N_{A,L} = \text{elasticity of } A \text{ with respect to } L.$

$N_{p,L} = \text{elasticity of } p \text{ with respect to } L.$

Weights greater (less) than 1 imply an increase (decrease) in attorney input relative to the risk-neutral optimum, $\hat{L}.$
input of attorney effort to increase the size of the award and hence the gross recovery will be greater with a contingent than with an hourly fee. This is because when the risk-averse plaintiff bears the risk of no return on the investment in litigation, the utility he assigns to an increment in the award is less than its dollar value. The probability of winning will be higher with a contingent fee on claims in which the plaintiff's case is relatively weak ($\hat{p} < .5$). When the plaintiff's case is relatively strong ($\hat{p} > .5$) the risk-averse plaintiff will purchase more attorney effort than if he were risk-neutral with both an hourly and a contingent fee.

With risk aversion, the plaintiff's expected net recovery (or the average recovery for all plaintiffs) is definitely greater with a contingent fee, and the realized net recovery on cases won may even be higher, in contrast with the risk-neutral result where the realized net recovery is lower with a contingent fee. The reason is that whereas with a risk-neutral plaintiff the expected net value of the claim is maximized with either an hourly or a contingent fee, with risk aversion the expected net value of the claim is not maximized, and the distortion is greater with an hourly wage than with a contingent fee.

Comparing the outcomes with a contingent fee under alternative assumptions about attitude toward risk, the expected and realized gross recovery is unaffected by plaintiff risk aversion. However, the risk-averse plaintiff implicitly buys more attorney effort to increase the probability of winning. This "insurance" is paid for in the form of a larger fee percentage for the attorney.

The analysis of the case in which the attorney is nonneutral toward risk contradicts the common notion that a contingent fee contract creates a conflict of interest between a risk-averse plaintiff and an attorney with a greater tolerance of risk. Attorney risk tolerance benefits the plaintiff by inducing greater input and hence a higher expected recovery. Essentially, a risk-tolerant attorney provides the risk-averse plaintiff with insurance in the form of a smaller share of a larger gross recovery. Thus, the contingent fee segment of the market for legal services will tend to attract
risk-tolerant attorneys, not necessarily because they earn monetary or nonmonetary rents from gambling but because they offer plaintiffs a higher net recovery than can risk-averse attorneys.\textsuperscript{†} Because competition will tend to eliminate risk-averse attorneys from the contingent fee business, attorney risk neutrality is assumed hereafter.

These results hold for the case in which \( p \), the probability of a nonzero recovery, is a continuous, nondecreasing function of attorney effort, \( L \). This is a realistic assumption for the great majority of cases that are closed by settlement, including during trial, rather than by trial to verdict.\textsuperscript{‡} The model does not encompass the situation where \( p \) is a discontinuous, possibly decreasing function of \( L \). This situation arises when the decision is whether or not to reject a positive settlement offer (\( p = 1 \)) in order to pursue litigation to court, where \( p \) may be considerably less than one, but the expected award, if positive, exceeds the settlement offer.\textsuperscript{+++}

\textsuperscript{†}Alternatively, the benefits of risk neutrality may be obtained by pooling risk through the formation of partnerships or firms.

\textsuperscript{‡}Less than 10\% of medical malpractice cases are tried to verdict (NAIC, 1977).

\textsuperscript{+++}In medical malpractice cases tried to verdict, the defendant wins approximately 80\% of the time (NAIC, 1977). Data are not available on the percentage of cases litigated to verdict that received a positive settlement offer.
IV. THE ATTORNEY'S SHARE: INTERPRETATION, EVIDENCE, AND EFFECTS OF CONSTRAINTS

This section provides an interpretation of the attorney's fee percentage, $\alpha$, and shows how it is affected by the characteristics of the case and attitudes toward risk. Empirical evidence on fee percentages is presented. This framework is then used to evaluate the effects of constraints on contingent fees.\(^\dagger\)

DETERMINANTS OF THE ATTORNEY'S SHARE

When the attorney is risk-neutral, his fee is equal to the opportunity cost of his time, adjusted for the ex ante optimized probability of winning (Eq. C4):

$$\alpha = \frac{w^L}{p}. $$

If the plaintiff is also risk-neutral (Model C), the wage rate is equal to the expected marginal product (Eq. C2). It follows that $\alpha$ is equal to the elasticity of expected award with respect to attorney effort:

$$\alpha = \frac{\hat{L}}{pA} \frac{\partial (pA)}{\partial L} = \frac{N}{pA,L}, $$

where "$\hat{}$" indicates values at the risk-neutral optimum. This is analogous to the solution in Cheung (1968) that the equilibrium rental percentage in a share contract is equal to the elasticity of output with respect to land. Since $\alpha$ is typically one-third, $N_{pA,L} = .3$ is assumed in the following analysis.

The S&M model of the contingent fee equilibrium input, with competitive elimination of rents, implies

$$\alpha \frac{\partial (pA)}{\partial L} = w = \frac{\alpha pA}{L}. $$

Hence $N_{pA,L} = 1$.

\(^\dagger\) The discussionpresumes that the expectations on the basis of which $\alpha$ is determined are realized on average.
Since $\alpha$ is typically .3, this model implies that the attorney's gross marginal product is equal to three times his wage rate. In other words, if the plaintiff were to switch to an hourly contract, his expected net recovery would be $2 for every $1 spent on legal fees. Foregone profits of this magnitude seem implausibly large.

When the plaintiff is risk-averse but the attorney is risk-neutral, $\alpha$ is still equal to the probability-adjusted opportunity cost of the attorney's time. However, the risk-averse plaintiff places a higher value on increasing $p$ and thus purchases greater attorney effort, $L^*$, by offering a larger share, $\alpha^*$. At the margin, the attorney's wage exceeds his marginal product. Therefore, the fee percentage exceeds the elasticity of output with respect to attorney effort:

$$\alpha^* = \frac{wL^*}{pA} > \frac{N^*}{pA}.$$  

Thus, other things being equal, the negotiated $\alpha$ will be higher, the more risk-averse the plaintiff.†

To summarize these results, the $\alpha$ that is determined by voluntary, contractual arrangements will be higher: the lower the ex ante optimized probability of winning; the smaller the ex ante optimized award; the higher the opportunity cost of the attorney's time or, equivalently, the greater his productivity; and the more risk-averse the plaintiff.

So far it has been assumed that the attorney's time input is infinitely divisible. In practice there may be some minimum effort required to handle a case. The time required to file briefs, take depositions, negotiate, etc. are to some extent independent of the value of the case. If the minimum time required exceeds the unconstrained optimum, $\alpha$ must rise to compensate the attorney for his additional effort.‡

†In this case, different "prices" to different plaintiffs does not reflect price discrimination by the attorney. It is a market response to different plaintiffs seeking different products (more effort, surer award) depending on risk aversion.

‡The behavior of the defense affects the minimum effort required to ensure the plaintiff a "reasonable" probability of winning. If the defense devotes more time to defending cases involving high stakes, the minimum plaintiff effort may also rise with the stakes. Thus, although it seems more likely that a minimum time constraint will be binding on cases with low stakes, it is possible that cases with higher stakes are also affected.
To illustrate the order of magnitude of the effect on a, consider the case in which both plaintiff and attorney are risk-neutral. If L is constrained to exceed L by x%, a must increase if the additional time produces less than an x% increase in the expected recovery, in order to satisfy the constraint that the attorney covers the opportunity cost of his time. The elasticity of a with respect to L is

\[ N_{a,L} = \frac{d \ln a}{d \ln L} = 1 - \frac{d \ln pA}{d \ln L} = 1 - N_{pA,L}. \]

If \( N_{pA,L} = .33 \) at the unconstrained \( L \), \( N_{a,L} = .66 \). Thus, if the constrained minimum time input is twice the unconstrained optimum, a must increase from .33 to .55. In this example, the attorney would require over half the expected recovery to make it worth his while to take the case.

Thus, if the complexity of the legal process sets a lower bound on the time required to file suit, cases for which this minimum exceeds the optimum may be effectively barred from prosecution because the fee required by an attorney to recover the opportunity cost of his time would absorb too much of the gross recovery and might even exceed it.\(^\dagger\) Any procedural reform that reduces the minimum effort will tend to reduce fees on cases for which the existing constraints are binding and to encourage filing of cases that are currently excluded because either p, the probability of winning, or A, the expected recovery, are too small, in view of the constrained lower bound on L. For example, if the effect of substituting arbitration for the judicial forum for handling cases is to reduce the minimum number of hours needed to bring a case, the model would predict an increase in the filing of cases for minor injuries (low A) and cases with weak evidence for the plaintiff (low p).

It must be emphasized, however, that to the extent that the existence of minimum fixed costs of bringing suit deters filing of some claims, the result derives from the size of the legal fees, relative to the expected gross recovery, and is independent of whether the attorney with a lower opportunity cost of time, w.
torney is paid on an hourly wage or contingent fee basis. It has been demonstrated in Section II that, assuming risk neutrality, the expected gross recovery, the expected attorney's fee, and hence the expected net recovery are the same under an hourly wage or a contingent fee contract. Thus, the contingent fee per se is irrelevant to the exclusion of cases from the system.

**EVIDENCE OF THE ATTORNEY'S SHARE**

The contingent fee percentage is generally set by a voluntary contract between the plaintiff and the attorney, subject to the influence of custom, recommended fee schedules, and statutory restrictions. McKinnon (1964) states

A typical contingent fee contract is ... frequently a form contract containing a customary rate of fee used by lawyers of the community. It may well be based upon a recommendation in a bar association fee schedule, and the client may be unaware of the possibility of negotiating a lower rate.

Although the intent of recommended fee schedules may be to eliminate competition in setting fees, evidence from a survey of contingent fees of medical malpractice cases suggests that there is considerable variation in the fee percentages charged. Dietz, Baird, and Berul (DB&B) (1973) report evidence from two surveys: (1) a National Survey of a random sample of 800 lawyers in private practice, and (2) a random Selective Survey of 400 additional lawyers known to be engaged in medical malpractice litigation.† Table 2 shows the percentage of lawyers who normally use fixed contingent, sliding contingent, and hourly fees; Table 3 shows the distribution of fee percentages for those using a fixed percentage; and Table 4 shows the distribution of sliding fee arrangements.

Approximately 90% of the respondents use some form of contingent fee. Of those using a fixed percentage, 33\(\frac{1}{3}\)% is most common, but the

† The Selective Survey sample consists of lawyers who specialize in malpractice work.
Table 2
PERCENT OF LAWYERS WHO NORMALY USE DIFFERENT TYPES
OF FEE ARRANGEMENTS

<table>
<thead>
<tr>
<th>Fee Arrangement</th>
<th>National Survey Respondents&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Selective Survey Respondents&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed contingent fee</td>
<td>60</td>
<td>45</td>
</tr>
<tr>
<td>Sliding contingent fee</td>
<td>30</td>
<td>47</td>
</tr>
<tr>
<td>Hourly rate</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

<sup>a</sup>30 plaintiff lawyers reporting.
<sup>b</sup>132 plaintiff lawyers reporting.

Table 3
CONTINGENT FEE PERCENTAGE RATES

<table>
<thead>
<tr>
<th>Fixed Contingent Fee Percentage</th>
<th>National Survey Respondents (%)&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Selective Survey Respondents (%)&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>33&lt;sup&gt;1/3&lt;/sup&gt;</td>
<td>78</td>
<td>58</td>
</tr>
<tr>
<td>40</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>45</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>50</td>
<td>11</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Mean fee</td>
<td>36</td>
<td>38</td>
</tr>
<tr>
<td>Median fee</td>
<td>36</td>
<td>38</td>
</tr>
</tbody>
</table>

<sup>a</sup>18 plaintiff lawyers reporting.
<sup>b</sup>60 plaintiff lawyers reporting.
Table 4
SLIDING CONTINGENT FEE ARRANGEMENTS

<table>
<thead>
<tr>
<th>Sliding Contingent Fee Arrangement</th>
<th>National Survey</th>
<th>Selective Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>20%-25% before trial; 33 1/3% through trial</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>25% before trial; 33 1/3% through trial; 40% through appeals</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>33 1/3%-50% for adults; 25%-33 1/3% for dead or minor plaintiffs</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>33 1/3% before trial; 40% through trial and appeal</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>33 1/3% before trial; 40% through trial and appeal (25%-33 1/3% for dead or minor plaintiffs)</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>33 1/3% before trial; 50% with trial and appeal</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>33 1/3% before trial; 40% with trial; 50% through appeal</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>40% through trial; 50% appeal (25% for dead or minor plaintiffs)</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>40% through trial; 50% appeal</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>40% before trial; 45%-50% if tried or appealed</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>25% before filing; 33 1/3% after filing; 40% after trial; 50% on appeal (Oregon State Bar Minimum Fee Schedule)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>New Jersey Sliding Scale</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td>7</td>
</tr>
</tbody>
</table>

range runs from 25% to 50%. Of those using a sliding scale, the most common percentages are 33\(\frac{1}{3}\)% before trial and 40% through trial and appeals, but the range runs from 20% before trial to 50% through appeals. Thus, these surveys indicate considerable diversity in fee percentages. The pattern of charging a higher percentage for cases taken to trial than for cases settled before trial is consistent with the model, which predicts that the fee percentage is higher, the higher the probability of a zero recovery, because plaintiff win rates are substantially lower on cases tried to verdict than on cases settled out of court. However, because both the lawyer's time input and, usually, the expected award (if positive) are also greater if the case is tried to verdict, it is not possible to determine the extent to which each of these three factors contributes to the higher percentage charged for cases taken to trial.

These medical malpractice surveys did not ask explicitly whether the percentage charged is related to the size of recovery. It is interesting that a 1961 study of contingent fees for 3000 personal injury cases in New York City shows the same average fee as the medical malpractice surveys (36%) and a distinct inverse relation between fee percentage and size of recovery, both overall and at each stage of disposition. Aggregating over cases settled and tried, the average fee ranges from 41% of cases under $1000 to 29% of cases over $25,000.

†These surveys show variation in fees nationwide. It is possible that there could be considerable variation among communities, but little variation within a community. State licensure requirements may impede equalizing earnings across states.

‡Munch (1980).

††DB&B (1973) report that "in many cases the attorneys specified that the normal sliding contingent fees are reduced when the plaintiff is a minor or deceased." Relatively large recoveries could explain the fee reduction in these cases.

‡‡Franklin, Chanin, and Mark (1961). In this sample of cases, the fee percentage does not vary systematically by stage of disposition for a given size of recovery. Plaintiff win rates by stage of disposition are not reported.
CEILINGS ON CONTINGENT FEES

The effect of ceilings on contingent fees depends on the extent to which they impose binding constraints. Based on the above evidence on the range of fees typically charged, the Federal Tort Claims Act ceiling of 25% is likely to be binding in most cases. The most stringent limit on fees for medical malpractice cases is the Indiana limit of 15% of any recovery from the patient compensation fund. Limits that decrease with the size of the recovery (sliding scale) are most likely to be binding on severe injury cases. For example, the California medical malpractice statute imposes a ceiling of 40% on the first $50,000; 33\frac{1}{3}\% on the next $50,000; 25% on the next $100,000; and 10% on amounts over $200,000.† Because the average award in California on cases paid in 1976 was $31,508, the average case at that time would have been unaffected by the ceiling. Unless the limits are revised, however, inflation will bring an increasing number of cases within the binding limits. The California sliding scale yields an average percentage of less than one-third on all cases over $140,000. For example, the average percentage on an award of $1 million would be roughly 14%. Assuming that 40% is typical of the freely contracted percentage for a $1 million case going to trial, the California statute imposes a ceiling that is roughly one-third of the free market fee.

A binding fee ceiling is expected to reduce the number of hours an attorney is willing to spend on a case, and thus reduce both gross and net recovery. A very crude estimate of the order of magnitude involved can be obtained from the model described above. Assuming a risk-neutral attorney, the condition of competitive equilibrium, \( \alpha = wL/pA \), can be used to solve for the reduction in \( L \) and \( pA \) that is necessary to accommodate an imposed reduction in \( \alpha \), given a relation between \( L \) and \( pA \).

†California State Assembly Bill AB 1, 1976. The total award to which these percentages are applied is the gross award before deduction of the plaintiff's nonrecoverable costs. The California Citizens' Commission on Tort Reform recommended a ceiling of 40% for the first $50,000; 25% for amounts in excess of $50,000 if the case goes to trial; and for cases settled out of court the corresponding percentages are 33% and 20%. These percentages are to be applied to net awards, after deducting the plaintiff's nonrecoverable costs (Righting the Liability Balance, 1978).
Using the approximation \( N_{pA,L} = .33 \), the elasticity of \( pA \) with respect to \( \alpha \), \( N_{pA,\alpha} \), can be obtained as follows:

\[
\frac{d \ln pA}{d \ln \alpha} = \frac{d \ln pA}{d \ln L} \frac{d \ln L}{d \ln \alpha}.
\]

However,

\[
\frac{d \ln \alpha}{d \ln L} = 1 - \frac{d \ln pA}{d \ln L} = .67.
\]

Therefore,

\[
\frac{d \ln pA}{d \ln \alpha} = .33(.67)^{-1} = .5.
\]

Thus, if \( N_{pA,L} = .33 \) when \( \alpha \) is cut by 50%, the equilibrium adjustment of attorney time implies that the expected gross recovery will fall by 25%. If \( N_{pA,L} = .4 \), then \( N_{pA,\alpha} = .66 \); that is, the expected gross award falls by two-thirds of the reduction in \( \alpha \), or 33%. These rough calculations imply that binding ceilings on contingent fees will probably induce a considerable reduction in attorney effort and hence gross recoveries. If the constraints are structured as a decreasing percentage of successive increments of award, with no distinction by stage of disposition, cases most likely to be affected are those with large stakes, especially those with a low probability of winning, and especially those that would have been taken to trial. One predicted effect of such constraints is to bar from trial cases of severe injury in which the issue of negligence is in doubt. Positive settlement offers will be made less frequently and for lower amounts. To the extent that such cases serve as precedents for higher awards or extend the scope of liability for

\[\text{(1)}\]

The relation between expected outcome in court and size and likelihood of settlement is analyzed in Munch (1980). Even if few cases are affected by the fee ceilings, there may be a large effect on total pay out because the distribution of payments is highly skewed. For claims closed July 1975 to June 1976, 3% of the claims accounted for 57% of the total indemnity paid to plaintiffs (NAIC, 1977).
negligence, there may be repercussions in the form of lower awards and reduced frequency of claims in general. The ceilings may also be binding on cases in which the unconstrained \( \alpha \) is high because the expected recovery is small or because the plaintiff is extremely risk-averse. A decrease in size of awards and frequency of suit is therefore also predicted for minor injuries.

**RESTRICTIONS ON OUTRIGHT SALE (\( \alpha = 1 \))**

Shavell (1978) and others have shown that if, in a contractual relation between a principal and an agent, the principal is risk-averse and the agent is risk-neutral, the optimal agent's share is one; that is, the principal's utility is maximized by outright sale of his rights to the claim to the agent. In practice, outright sale of personal injury claims does not occur; in fact, based on the evidence from DB&B (1973), \( \alpha \) never exceeds .5.

The obstacles to the attorney acquiring more than a 50% share of a claim are both legal and pragmatic. The common law doctrines of maintenance and champerty restrict the attorney's right to acquire a financial interest in a case he is representing. McKinnon (1964) cites evidence that courts would not enforce a fee in excess of 50%.

However, even if these legal restrictions on the sale of claims were abolished, as advocated by Reder (1978), practical obstacles remain. Outright sale is an optimal solution only if the value of the claim depends solely on the behavior of the attorney. In reality, the value of a personal injury claim depends on the behavior of the plaintiff before and during trial. If the plaintiff has no share in the outcome of the claim, he has no incentive to maximize its value. At the limit, the profit-maximizing plaintiff could capture the value of the claim from both the attorney and the defendant by selling his right to the claim to his attorney for its expected value and then selling his services to the defense to save them that expected value. Such a scenario is not totally fanciful. The possibility of profit from changing sides is demonstrated in cases involving multiple defendants, when one defendant settles secretly with the plaintiff and then works for the plaintiff against the other defendants. The secret set-
tlement provides that the final payment by the settling defendant to the plaintiff is inversely related to the award obtained against the remaining defendants.†

Thus, the problem of enforcing that the plaintiff acts in a way that maximizes the value of the claim may be as important as the legal restrictions in limiting the share of the claim that the attorney will buy.

†Such agreements, called "Mary Carter" agreements, have been outlawed in some states.
V. INFERENCES FROM FEES TO THE "JUDICIAL PRODUCTION FUNCTION"

Assuming optimizing behavior, evidence on legal fees can be used to draw inferences about the productivity of attorney time, pA(L), hereafter referred to as the "judicial production function."

PLAINTIFF

It has been shown that, with risk neutrality, the contingent fee percentage is equal to the optimized elasticity of expected award with respect to attorney effort. Thus, if an attorney charges the same \( \alpha \) on all cases of widely different value, it follows that the optimized elasticity of output is uniform. Furthermore, because \( \alpha = wL/pA \) and because for each attorney the opportunity cost of time is constant, a uniform \( \alpha \) implies that \( L/pA \) is also uniform across cases. In other words, if the optimal time input increases in proportion to the expected value of the case, charging a constant \( \alpha \) does not imply excessive returns on cases with high stakes, in contrast with the presumption underlying sliding scale limits on contingent fee percentages.

DEFENSE

The defense counsel is usually paid on an hourly basis.\(^\dagger\) The objective of the defense is assumed to be to minimize the expected pay out, which includes both the expected award to the plaintiff and legal fees.\(^\ddagger\) Let \( H \) denote defense attorney hours and \( pA(H) \) the payoff function with \( \partial(pA)/\partial H < 0, \partial^2(pA)/\partial H^2 > 0. \)

\(^\dagger\) When the defense is an insurance company or a firm, choice of an hourly rather than a contingent fee rate is consistent with the notion that the contingent fee is an efficient device for shifting the risk and cost of financing litigation to the party with the lowest cost and/or most information. When the defendant is a private party, comparable to the plaintiff, the reasons for a different choice of contract are not obvious.

\(^\ddagger\) This formulation ignores the fact that the defendant may be an insurance company that handles many cases. A precedent established on one case may have value for the defense of others, which creates interdependence between the optimum strategies on similar cases.
**Decision Rule:** The defense selects $H$ to minimize total expected pay out:

$$\min = p\Lambda(H) + wH.$$  \hspace{1cm} (F1)

The first-order condition for a minimum is

$$\left| \frac{\partial (p\Lambda)}{\partial H} \right| = w.$$  \hspace{1cm} (F2)

Multiplying through by $H/p\Lambda$ yields

$$-N_{p\Lambda,H} = \frac{wH}{p\Lambda}.$$  \hspace{1cm}

Thus, the ratio of legal costs to expected award is equal to the elasticity of expected award with respect to attorney time. This is identical with the equilibrium condition for the plaintiff. A measure of the optimized elasticity of expected award with respect to defense effort can be obtained from the ratio of defense expenditure to award, averaged over cases with zero and nonzero payment to the plaintiff.

The ratio of defense expenditure to award on medical malpractice cases by severity of injury is reported in Table 5. The inverse relation is striking. Defense expenditure decreases from over two-thirds of the award for injuries categorized at Temporary Insufficient to less than 10% of the award for injuries categorized at Permanent Significant. By contrast, the limited evidence on fee percentages on the plaintiff's side shows a narrower range of fees (25%-50%), no systematic inverse relation between fee percentage and expected size of award, and an increase in fee percentage for cases going to trial (which tend to result in relatively large awards).

This evidence suggests an asymmetry in the judicial production function facing the plaintiff and the defense that increases with the severity of the injury. The marginal product of attorney effort appears to diminish more rapidly for the defense than for the plaintiff the more severe the injury. This is not surprising in view of the law defining compensable damages. Economic loss (potential wage loss plus medical
Table 5
DISPOSITION OF MALPRACTICE CLAIMS

<table>
<thead>
<tr>
<th>Severity of Injury</th>
<th>Claims with Payment (%)</th>
<th>Average Indemnity per Incident ($)&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Defense Expense ÷ Indemnity per Incident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Only</td>
<td>19</td>
<td>821</td>
<td>.91</td>
</tr>
<tr>
<td>Temporary Insignificant</td>
<td>31</td>
<td>719</td>
<td>.66</td>
</tr>
<tr>
<td>Temporary Minor</td>
<td>39</td>
<td>2,076</td>
<td>.47</td>
</tr>
<tr>
<td>Temporary Major</td>
<td>50</td>
<td>7,676</td>
<td>.22</td>
</tr>
<tr>
<td>Permanent Minor</td>
<td>52</td>
<td>10,941</td>
<td>.24</td>
</tr>
<tr>
<td>Permanent Significant</td>
<td>52</td>
<td>31,701</td>
<td>.12</td>
</tr>
<tr>
<td>Permanent Major</td>
<td>47</td>
<td>71,253</td>
<td>.09</td>
</tr>
<tr>
<td>Permanent Grave</td>
<td>54</td>
<td>126,418</td>
<td>.08</td>
</tr>
<tr>
<td>Death</td>
<td>41</td>
<td>19,081</td>
<td>.15</td>
</tr>
</tbody>
</table>


<sup>a</sup>Includes cases with zero payment.
and other out-of-pocket expenses) sets a floor below which the award cannot fall but leaves the upper limit undefined lacking a clear measure of fair compensation for pain and suffering. It is presumably easier to establish a case for compensation for pain and suffering the more severe the injury.

This evidence on the characteristics of the judicial production functions for plaintiff and defense has important implications for the effect of a change in attorney wage rates on the size of awards and frequency of plaintiff recoveries. If the judicial production functions were entirely symmetrical, a fall in attorney wage rates would induce an equal increase of attorney effort on both sides of a case and result in no net change in outcomes. However, when the judicial production functions are asymmetrical, the effect of an equi-proportionate change in wage rates of defense and plaintiff counsel is not neutral in its effect on case outcomes.

Rough estimates of the effect on outcomes of a change in \( w \) may be obtained from the models and data presented so far. For each side, taking the behavior of the other and hence the judicial production function as given, the elasticity of expected award with respect to attorney wage rate is

\[
N_{PA,w} = N_{PA,L} \frac{N_{L,L}^{-1}}{w}
\]  

(C1)

Differentiating the first-order conditions yields the intuitively obvious result that the elasticity of \( \hat{L} \) with respect to \( w \) is simply the inverse of the elasticity of marginal product with respect to \( L \):

\[ \frac{\hat{L}}{w} = \frac{1}{N_{PA,L} N_{L,L}^{-1}} \]

\[ \frac{\hat{L}}{w} = \frac{1}{N_{PA,L} N_{L,L}^{-1}} \]

\[ \frac{\hat{L}}{w} = \frac{1}{N_{PA,L} N_{L,L}^{-1}} \]

This assumes no change in expectations of the judicial production function. Presumably, over time both sides would realize that a downward shift in the production function had occurred because of the increased effort by the other side. Optimum effort by both sides would therefore fall, possibly to the level prevailing before the fall in wage rates. A complete equilibrium analysis of the effect of a change in attorney wage rates is beyond the scope of this report.

\[ \frac{\hat{L}}{w} = \frac{1}{N_{PA,L} N_{L,L}^{-1}} \]

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There is sufficient mobility of lawyers between the defense and plaintiff's bar to justify treating the market for legal services as a single market.
\[ N_{L,w} = N_{MP,L}^{L} \]

These results apply equally to the hourly wage or the contingent fee contract, assuming risk neutrality. For a constant elasticity production function of the form

\[ |pA| = L^\delta, \]

the elasticity of marginal product is

\[ N_{MP,L} = N_{pA,L} - 1. \]

Substituting in Eq. 61 yields

\[ N_{pA,w} = \frac{N_{pA,L}}{N_{pA,L} - 1} \]

The use of .33 and .2 as typical values of \( N_{pA,L} \) for the plaintiff and defense, respectively, implies values of \( N_{pA,w} \) of .49 for the plaintiff and .25 for the defense. Thus, a fall in attorney wage rates that affects both sides equally will induce a greater increase in attorney effort on the plaintiff's side and hence an increase in awards and in the plaintiff's probability of winning.

Empirical evidence supports this prediction, at least with respect to award size.\(^{\dagger}\) An analysis of the determinants of the size of awards in a cross-section of medical malpractice claims shows that award size is negatively related to the average income of lawyers in the state, after controlling for severity of injury, economic loss, and other variables.\(^{\ddagger}\)

\(^{\dagger}\) The prediction with respect to the plaintiff's probability of winning cannot be tested using average win rates. The prediction relates to the probability of winning for a specified degree of negligence. A decrease in attorney wage rates is likely to attract into the system cases with a lower degree of negligence. Thus, the average plaintiff win rate on all cases could fall, despite an increase in the probability for each case, because of the change in the mix of cases to include more with less evidence of negligence.

\(^{\ddagger}\) Munch (1980).
VI. NUMBER OF SUITS

PLAINTIFF RISK AVERSION

Section III analyzed the effect of risk aversion, assuming that the plaintiff had decided to hire an attorney, on the amount of attorney time purchased. It was shown that with an hourly wage contract, risk aversion reduces the number of hours purchased. This section examines the effect of plaintiff risk aversion on the decision to hire an attorney with an hourly wage contract. It has been widely recognized that risk aversion may deter a plaintiff from filing a suit when recovery is less than certain if he must pay the attorney on an hourly basis and bear the risk of zero return on his investment.

The risk-averse plaintiff will hire an attorney on an hourly wage basis if the expected utility of the gamble exceeds the utility of his certain wealth. Thus,

\[ pU[V + A - wL] + (1 - p)U[V - wL] \geq U[V]. \]  

(H1)

Taking a second-order Taylor expansion around \( V \), Eq. H1 reduces to

\[ pA - wL \geq \frac{\lambda^*}{2V} [pA^2 - 2pAwL + (wL)^2]. \]  

(H1')

Dividing both sides by \((pA - wL)\) and substituting a value of 2 for \( \lambda^* \) yields the following necessary and sufficient condition for hiring an attorney on an hourly wage basis:

\[ V \geq \left[ A - wL + (1 - p) \frac{AwL}{pA - wL} \right]. \]  

(H2)

\[ ^\dagger \text{Certain wealth, } V, \text{ may be defined to include any payment the plaintiff receives for the claim if he does not hire an attorney. The evidence from the closed-claims surveys shows that an attorney is indispensable to filing a formal suit. The attorney wage cost, } wL, \text{ incorporates the optimum decision with respect to } L. \]

\[ ^\dagger\!\!\dagger \text{For evidence that relative risk aversion is approximately 2, see Brown and Deaton (1972).} \]
Since the third expression in square brackets is positive, a necessary condition for filing suit is that the plaintiff's certain wealth, V, exceed the net recovery expected if the suit prevails, A - wL. The lower p, the greater the excess of V over A - wL that will be necessary to induce the plaintiff to take the gamble.

In 1977 the average award on paid claims was $29,456.\(^\dagger\) This implies an average net recovery of roughly $20,000. Thus, a plaintiff with average risk aversion but with assets of less than $20,000 would be unwilling to hire an attorney on an hourly basis to file a malpractice suit of average size, even with a high probability of winning. The deterrence to filing is greater: the lower the probability of winning; the lower the plaintiff's initial wealth position; the greater the aversion to risk; and the higher w.\(^\dagger\)

This rough calculation suggests that a substantial number of low- and middle-income plaintiffs would be deterred from filing even "meritorious" claims in the absence of contingent fees, or some equivalent contingent form of payment or legal insurance. The argument is therefore substantially correct: The contingent fee gives those of relatively low means easier access to the judicial process. Restrictions on contingent fees are regressive in their effect.

Even with the contingent fee contract, plaintiff risk aversion may still affect the propensity to sue if filing suit requires a substantial amount of the plaintiff's time, or if the plaintiff has obtained a settlement offer without representation. In deciding whether to hire an attorney, the plaintiff must weigh the expected increase in award against the attorney's fee. This decision can be stated in terms of Eq. H1 by interpreting V to include the settlement offer without an attorney, A as the increment expected to be gained by hiring an attorney, and wL to include any costs incurred by the plaintiff. Thus, even with the contingent fee, plaintiff risk aversion may reduce the number of suits filed below the level that would prevail if plaintiffs were risk-neutral.

\(^\dagger\) NAIC (1977), p. 105.
\(^\dagger\) High borrowing costs are equivalent to a high w.
ATTORNEY ATTITUDE TOWARD RISK

Probably the most common criticism of the contingent fee is that it encourages attorneys to gamble and stir up "nonmeritorious" or "nuisance" suits. The expected utility hypothesis postulates that an attorney will accept a case if the expected utility of the fee exceeds the expected utility of his alternative income. Therefore, the expected fee must exceed or fall short of the opportunity cost of his time, depending on whether he is averse to or prefers risk. Risk-prefering attorneys will be attracted to the contingent fee business because their risk preference tends to maximize the net recovery of plaintiffs.

Thus, the limited truth in the charge that a gambling attorney stirs up nonmeritorious cases is that a risk-prefering attorney would accept a case that would not be accepted by a risk-neutral attorney, and would charge an expected fee that is less than the cost of his time. Note, however, that a risk-averse attorney's incentive to take non-meritorious cases is greater with an hourly wage contract, where he bears no risk of zero fee.

A common counterargument is that there is effectively little threat of zero recovery and zero fee and thus little incentive to screen cases, because an insurance company can always be forced to make some payment, to avoid more costly litigation. The evidence presented in Table 5 strongly refutes this allegation. Over 50% of claims are closed without payment to the plaintiff, and, even for severe injuries, the percentage without payment exceeds 40%.

In conclusion, to the extent the contingent fee increases the number of suits, this is due to the reduction of barriers created by plaintiff risk aversion and high financing costs. These barriers are not totally eliminated. Conversely, the attorney has a greater incentive to bring cases with little legal merit if he is paid an hourly fee than if his fee is contingent on winning.

† Data for 1970, 1974, and 1976 show a similar plaintiff win rate of roughly 50%.
VII. CONCLUSION

This study examined two alternative forms of contract for purchasing legal services for personal injury plaintiffs: the hourly wage contract and the contingent fee. The contracts differ in their assignment of the risk of zero return on the investment of attorney time. This difference in risk assignment may affect: (1) the decision to bring a case; (2) the amount of attorney effort and hence the probability of winning and the gross recovery on the case; and (3) the division of this gross recovery between the net recovery of the plaintiff and the attorney's fee.

It has been shown that, given certain assumptions about competition in the market for cases, the two forms of contract are identical in outcome if all parties are risk-neutral, with the exception of the distribution of the award. The expected fee and expected net recovery are the same, with either a contingent fee or an hourly wage contract; however, the realized fee on cases won is greater, and hence the realized net recovery is lower with a contingent fee.

Under the more reasonable assumption that the plaintiff is risk-averse and the attorney risk-neutral, the input of attorney effort, hence the gross recovery, and the plaintiff’s probability of winning will be higher with the contingent fee. The plaintiff's expected net recovery is certainly higher with a contingent fee, and realized net recovery on cases won may even be higher, in contrast with the case of a risk-neutral plaintiff. The reason for this result is obvious: Because investment in attorney effort with an uncertain payoff is risky, less will be undertaken if the risk must be borne by a risk-averse plaintiff, as with an hourly fee.

Risk aversion on the part of the attorney using a contingent fee tends to reduce the expected utility of the plaintiff; risk preference tends to increase it. This is because the risk-averse attorney will

†Under certain circumstances, the probability of winning may be higher with an hourly wage. See Section II.
require an expected fee that exceeds the opportunity cost of his time as compensation for risk-bearing. By contrast, the risk-preferring attorney will accept an expected fee that is less than the opportunity cost of his time. Consequently, competition will drive out of the contingent fee sector of the market those attorneys who are averse to risk, precisely because they fail to maximize the net recovery of plaintiffs. What limited empirical evidence is available confirms that the effective hourly earnings of plaintiff attorneys, paid on a contingent basis, are not very different from the hourly earnings of defense attorneys paid by the hour. This is consistent with competition and elimination of risk aversion from the contingent fee sector.

The conclusion reached here—that with a risk-neutral plaintiff the outcome is invariant with respect to the type of contract, whereas the risk-averse plaintiff is unambiguously better off with a contingent fee—conflicts with the conclusion reached by Schwartz and Mitchell (1970) and accepted by Clermont and Currivan (1978). The difference in conclusions arises from differing assumptions about the form of competition. These authors assume competitive bidding only on the attorney's share, \( \alpha \). The assumption here is that attorneys compete on the net recovery offered to plaintiffs, which encompasses both the plaintiff's share, \( 1 - \alpha \), and the magnitude of the expected recovery, \( pA \). If it is accepted that competition on the net recovery to the plaintiff is more meaningful, hence more plausible, it follows that the contingent fee induces the attorney to maximize the net utility to the plaintiff of his claim, subject to the constraint that the attorney cover the opportunity cost of his time. Even if the market for legal services is not perfectly competitive, with the result that attorneys earn more than competitive returns, the above result of invariance with respect to the type of contract still holds, except that the opportunity cost of time includes some rent. This rent would be paid under either type of contract.

The contingent fee reduces, but may not totally eliminate, the obstacles to filing claims created by plaintiff risk aversion, low

\[ \text{They also assume competition in hourly wage rates on other business, but this is not fundamental to their conclusion.} \]
wealth, and high borrowing costs. It was estimated that a plaintiff with average risk aversion but with assets less than $20,000 would be unwilling to hire an attorney on an hourly basis to handle a malpractice suit yielding the average award of $29,456 (1977 data), even with a high probability of winning. Thus, in the absence of the contingent fee, the number of claims filed would certainly be significantly less. Conversely, the common allegation that the contingent fee induces attorneys to bring claims with little legal merit has no basis in logic. The fact that the fee depends on winning provides an incentive to screen out cases with little legal merit—an incentive that is lacking with an hourly fee.

For both the plaintiff, using a contingent fee, and the defense, using an hourly wage, the ratio of legal costs to expected award is a measure of the elasticity of expected payoff with respect to attorney effort. Evidence on the ratio of legal costs to expected award suggests that returns to attorney effort diminish more rapidly for the defense than for the plaintiff on severe injury cases. One implication of this asymmetry in the "judicial production function" is that a symmetrical reduction in attorney wage rates will tend to induce a greater increase in attorney effort on the plaintiff's side and hence lead to an increase in size of awards and plaintiff win rates.†

It has been shown that constraints on the minimum number of hours required to handle a case may bar cases with low expected recovery from suit, but this effect is independent of the type of contract. Statutory ceilings on the attorney's fee percentage may significantly reduce the number of hours an attorney will spend on a case and effectively bar certain cases from going to trial. The types of case that are likely to be affected are (1) cases involving severe injuries but with relatively low probability of winning; (2) cases where the plaintiff is highly risk-averse; and (3) cases with very low expected payoff. All these factors contribute to a relatively large unconstrained α.

†The extent to which this asymmetry underlies the recent pro-plaintiff changes in legal rules defining scope of liability and compensable damages is an interesting question to be addressed in future research.
In conclusion, if the objective of ceilings or outright prohibition of contingent fees is to reduce the amount paid out through the malpractice liability system, some success in achieving this goal is probable. Two major questions remain unanswered, however. First, if the benchmark of the ideal number of cases and optimum expenditure on litigation is that which would be chosen by a fully informed, risk-neutral plaintiff, the unconstrained contingent fee is likely to induce the closest approximation to this ideal. Without the contingent fee, plaintiff risk aversion will produce a suboptimal investment in pursuing claims. Second, even if the explicit policy objective were to reduce the frequency of suits, size of awards, and expenditure on litigation, it is doubtful whether limits on contingent fees are an efficient or equitable means of achieving this result.

*The question of whether the benchmark of the risk-neutral plaintiff is the socially correct benchmark, within the context of the overall social objectives of the tort system, is beyond the scope of this report.*
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