

Essay

INCREASING ACCESS TO JUSTICE: A PROPOSAL

Ben Depoorter & Jef De Mot

Abstract

This Essay advances a proposal that would substantially increase access to justice for valuable law suits that are currently deterred by litigation costs. The proposal has two components. First, under the proposed system a plaintiff is allowed to choose a damage multiplier which determines the amount of damages he or she receives if the case is won. Second, courts select randomly from each case with a probability inverse to the multiplier selected by the plaintiff.

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Ben Depoorter^φ and *Jef De Mot*^Υ

INTRODUCTION

This Essay advances a proposal that would substantially increase access to justice. The proposal has two components. First, under the proposed system a plaintiff is allowed to choose a damage multiplier which determines the amount of damages he or she receives if the case is won. Second, courts randomly select cases for trial with a probability inverse to the multiplier selected by the plaintiff. In essence, this proposal introduces a flexible damage multiplier which inversely affects the probability of adjudication.

The proposal has two main benefits. First, it will improve the deterrent function of the tort system. By allowing the plaintiff to set a flexible multiplier, the proposed system ensures higher payments in cases where the costs of litigation are prohibitive. Compared to the current situation, the proposed system will promote carefulness among potential injurers, because they will face a higher probability of litigation. Second, by reducing the costs of litigation relative to the gains, a multiplier increases access to justice for individuals that would not pursue even

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though their claim has substantial merit. Currently, a claim with merit, for instance with a 70% chance of winning, will not be filed if the trial costs are \$8,000 and the harm suffered amount to \$10,000. Even with such a high probability of winning, the expected value of trial is negative ($0.7 \times \$10,000 - \$8,000 = -\$1,000$). By contrast, under our proposal, if the plaintiff selects a multiplier of 3, it will be beneficial to file the case. In that case, the expected value of trial would be positive ($0.7 \times \$30,000 - \$8,000 = \$23,000 - \$8,000 = \$15,000$). The multiplier thus allows plaintiffs to file cases that are meritorious but are currently not filed due to the high costs involved. Of course, with the application of the inverse multiplier, the case will be litigated only with a 1/3 (33%) chance of success. However, as we will discuss below in Part I, this does not diminish the beneficial effects of the proposal. Because the random element of adjudication is set off against the increased damages of the multiplier, the expected loss of a suit remains more or less equal for the defendant in our proposal. There is, thus, no reason to assume that the proposal will lead to excessive precautions. Moreover, because the value of the case has become positive, the defendant now faces a realistic chance of paying (multiplied) damages if the case does get selected for trial. As a result, plaintiffs will regularly receive compensation from defendants in settlements. Our proposal thus achieves important improvements on the incentive scheme of the tort system without imposing excessive precautions on plaintiffs.

Part I describes the arguments in favor of our proposal and provides a description of its effects. Part II discusses a number of possible objections to our proposal. One possible objection to this proposal could be that it is unfair because it randomly selects cases for trial and hence arbitrarily reduces access to justice to some plaintiffs. As discussed below, the beneficial effects of the proposal are assured by the fact that many defendants will settle claims in light of the possibility that a multiplier will be selected by the plaintiff. Also, it is important to consider that the merits of the proposal must be evaluated against the current situation where negative value suits are neither filed nor settled. Part III suggests a number of possible modifications to the proposal. Part IV concludes. In the Appendix we provide a concise formal explanation of our proposal, including a description of the effect of

the proposal in the presence of different attitudes towards risk or increased litigation expenditures.

I. INCREASING ACCESS TO JUSTICE

Before turning to a more rigorous description of our proposal, we first outline the main arguments in favor of the proposal. In the following Sections we address possible modifications and objections.

Frivolous law suits, punitive damages, and large jury verdicts all seemingly stand in testament to the assertion that the amounts of litigation in today's society are plainly excessive.¹ However, from a social point of view it can also be argued that there may be an inadequate number of law suits.² If too few lawsuits are filed, too few potential tortfeasors will invest adequately in precaution. Economic theory predicts that a victim files a lawsuit only if the expected benefits of a trial outweigh the expected costs. Thus, even when a victim has a highly meritorious claim, i.e., when the probability of winning is high, a potential plaintiff will not file a lawsuit if the litigation costs outweigh the expected benefits of trial. In such circumstances, substantial public, as well as private, gains can be attained by increasing access to justice. Litigation costs, by creating negative value suits, undermine the deterrent effect of tort law. Surely, if tortfeasors

¹ See, e.g., Marc Galanter, *Reading the Landscape of Disputes: What We Know and Don't Know (And Think We Know) About Our Allegedly Contentious and Litigious Society*, 31 UCLA L. REV. 4 (1983) (relating the increase of litigation to improved knowledge about the causation of injuries and of technologies for preventing them); David W. Barnes, *The Litigation Crisis: Competitiveness and other Measures of Quality of Life*, 71 DENV. U. L. REV. 71 (1993) (exploring the deeper meaning of excessive litigation).

² An inadequate amount of lawsuits may occur because a plaintiff does not adequately take into account the positive effect of his lawsuit on the deterrent function of the tort system. This problem will be acute when the social benefits of a lawsuit outweigh the private gains of the plaintiff. See Steven Shavell, *The Social Versus The Private Incentive To Bring Suit In A Costly Legal System*, 11 J. LEG. STUD. 333 (1982) (explaining the misalignment between private and social incentives to bring lawsuits).

can prevent certain accident losses at low costs, the absence of a reasonable expectation of facing a lawsuit is problematic.

The problem of high litigation costs and reduced access to justice has long been recognized. Fee shifting, class actions, insurance for expenses, and public subsidies for legal representation can be regarded as instruments that induce valuable suits. Our proposal is an attempt to obtain similar results without requiring any redistribution from and to third parties. Existing instruments either require one of the parties to subsidize the litigation (from the plaintiffs to the attorney in class action litigation, or from the losing litigant in a system with fee-shifting) or necessitate public investment in private litigation (subsidies for legal expenses).

A simple numerical example demonstrates the effect of our proposal. Suppose there are three groups of victims that seek compensatory damages for accident losses. The first group faces litigation costs of \$50, the second group would incur costs of \$200 and the third category of victims faces trial costs of \$300. All victims have suffered compensable harm of \$100. Each group has a 70% probability of obtaining compensation in trial (assume further that plaintiff and defendant share this estimate). Finally, the trial costs of the defendant are \$50. Victims of the first type will be willing to go to court: the expected value of trial is positive ($0.7 \times \$100 - \$50 = \$20$). Victims in the second group will not go to trial: the expected value of litigation is negative for this group ($0.7 \times \$100 - \$200 = -\$130$). Likewise, victims in the third group will not go to trial under the current system ($0.7 \times \$100 - \$300 = -\$230$). Although victims in all three groups have highly meritorious claims (70% chance of victory), only those in the first group have a credible threat to sue. As a result, only the victims in the first group are likely to receive a settlement offer.

Under our proposal, victims in all three groups will have a credible threat to sue. The effect of our proposal is the following: first, a plaintiff is allowed to choose a damage multiplier which determines the amount of damages he or she receives in case of a trial victory. For example, if the victim chooses a multiplier of 5, he or she will receive not \$100 but \$500. Second, the victim is only allowed to bring the case to trial with a probability that equals the (multiplicative) inverse of the selected multiplier. In our example,

the victim will have a 20% (1/5) chance that the case will proceed to trial. Thus, there is a probability of 80% that the case will not be selected for adjudication. If we return to the example above, we see that victims in group two and three will be offered a positive settlement amount under our proposal. Note that the settlement amount closely approximates the expected judgment (\$70). The expected value of trial for a victim in group 2 increases from -\$130 to \$30 ($1/5 \times (0.7 \times \$500 - 200)$).³ There will be a probability of 1 in 5 that the victim will be allowed to try the case in court. In that case, the victim has a 70% chance of obtaining \$500 (5×100) while incurring trial costs of \$200. However, with a probability of 4/5, the plaintiff will not be allowed to pursue his claim before the courts. In that event, of course the plaintiff is left empty-handed. Meanwhile, the defendant's expected losses under our system equal \$80 ($1/5 \times (0.7 \times \$500 + \$50)$) when faced with a victim belonging to the second group. If the parties divide the settlement surplus equally, the victim will receive a settlement amount of \$55. By analogy, a victim in group 3 will likely receive a settlement amount of \$45.

The intuition of our proposal is the following: the expected benefit for the plaintiff remains the same, irrespective of the magnitude of the damage multiplier chosen by the plaintiff. This is largely due to the combination of the selected multiplier and the inverse probability that the trial will have a cancelling effect. In the example above, the plaintiff selects a multiplier of 5. As a result, the expected benefit rises to \$70 ($1/5 \times 0.7 \times \500). If the plaintiff selects a multiplier of 10, the expected benefit would still remain \$70 ($1/10 \times 0.7 \times \1000).

In fact, the expected costs of litigation decrease when the selected damage multiplier is relatively higher. In the absence of a damage multiplier, the cost of litigation equals \$200 for the plaintiff. With a damage multiplier of 5, the (expected) costs decrease to \$40 ($200/5$), because litigation costs must be adjusted by the 20% probability of the trial occurring. If the plaintiff selects

³ Throughout this example we assume that the parties to the litigation are risk neutral and the trial costs are fixed. We relax these assumptions in the appendix.

a multiplier of 10, the expected costs are further reduced to \$20 (200/10).

The combination of a damage multiplier and an inversely related probability of adjudication does not affect the benefits of litigation, yet it certainly decreases the costs thereof. Thus, the overall effect is an increase of the expected value of the plaintiff's claim. The proposal enables suits that have merit but that are deterred from being filed due to the prohibitive costs relative to the potential gains. At first glance, one may fear that the system is so detrimental for potential tortfeasors that they will be induced to take excessive precautionary measures. Indeed, injurers may ultimately pay an amount far greater the value of the actual harm done. This line of thinking however neglects the fact that the victim is only allowed to litigate with a probability inversely related to the damage multiplier and that most parties will settle before a multiplier has been chosen. Also, it is important to consider that the merits of the proposal must be evaluated against the current situation where negative value suits are neither filed nor settled.

How will the current proposal change the behavior of litigants? First, by selecting a multiplier a plaintiff will be able to create a credible threat of initiating a law suit. For this reason, many defendants will be inclined to settle as soon a multiplier is selected by the plaintiff. In fact, the pure availability of a multiplier may be generally sufficient to induce settlement offers. A risk neutral plaintiff will likely select a multiplier that is just enough to create a credible threat of litigation to the defendant. Any further increase of the multiplier has as a downside in that it reduces the probability of the case being selected for litigation. Generally, a further increase of the multiplier will depend on the relative litigation costs borne by both parties. If the costs of trial are higher for the plaintiff than the defendant, the plaintiff will select a higher multiplier. That is because a higher multiplier reduces litigation costs; hence, if the plaintiff's litigation costs are higher than those of the defendant, the former will benefit more from the larger multiplier. Conversely, if the defendant's litigation costs exceed the plaintiff's costs, the plaintiff will select the lowest possible multiplier that makes the threat of litigation credible. Any additional increase of the multiplier benefits the defendant more than the plaintiff. This is because the benefit of a higher

multiplier weighs more heavily in favor of the party with the highest relative litigation costs. Consider the following numerical example: Assume a dispute where \$100 is at stake and both parties believe that there is an 80 percent probability that the plaintiff will win the case at trial. Imagine further that the plaintiff's costs of litigation (\$90) are lower than the defendant's (\$150). The plaintiff's claim has negative expected value ($0.8 \times \$100 - \$90 = -\$10$). If the plaintiff is faced with a choice between a multiplier of 2 or 3, he or she will select the lower multiplier. If the parties agree to divide the surplus from bargaining equally, a multiplier of 2 creates an expected settlement of \$95 (the expected value of the plaintiff is $\$80 - \$45 = \$35$, the expected cost of the claim for the defendant is $-\$80 + 75 = -\155). With a multiplier of 3, the expected value of settlement falls to \$90 (the expected value of the plaintiff is $\$80 - 30 = 50$, the expected cost of the claim to the defendant is $-\$80 - 50 = -\130). An inverse multiplier of 1/3 has a greater impact in reducing the defendant's litigation costs and, in the process, reduces the settlement offer the plaintiff can hope to receive.

Finally, let us consider the effect of risk aversion on parties' behavior. A risk averse plaintiff, one who prefers certain outcomes over uncertain events (even if the expected benefits are identical),⁴ will be sensitive to the probability of not being selected for trial. For this reason, a risk averse plaintiff will generally prefer lower multipliers. Because lower multipliers reduce the amount at stake, more claims will be settled. This follows from the general principle that settlements are more likely to be achieved when the litigation costs are high relative to the amount at stake.⁵

In effect, our proposal adapts to the context of litigation fundamental law enforcement policy insights advanced by economists.⁶ Also, our proposal shares common ground with a

⁴ Risk aversion is "the hesitation over risky monetary prospects even when they involve and expected gain". Matthew Rabin and Richard H. Thaler (2001), *Anomalies Risk Aversion*, 15 (1) JOURNAL OF ECONOMIC PERSPECTIVES 219, at 219.

⁵ For a general overview of the economic perspective on the choice of litigants between trial and settlement, see Robert Cooter and Daniel Rubinfeld, *Economic Analysis of Legal Disputes and their Resolution*, 27 J. ECON. LIT. 1067 (1989).

⁶ See Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 J. POL. ECON. 169, 183-82 (1968) (explaining the fundamental trade-off in enforce-

recent article by Rosenberg and Shavell which introduces a system of random adjudication with double damages.⁷ Although both proposals share the fundamental idea of introducing a random element to adjudication, our proposal is fundamentally different in terms of application and implementation. First, our proposal goes far beyond the goal of merely reducing the amount of litigation. Instead, we hope to increase access to justice in general. Second, our proposal aims to improve the deterrence of the tort system by bringing to life so-called negative value suits that have merit but that currently not filed because of litigation costs. Third, our proposal introduces a multiplier selected by the plaintiff rather than a system of double damages with conditional adjudication. It is sensible to allow plaintiffs to select the multiplier themselves because the government generally has less information of litigation expenditures of potential plaintiffs in any given dispute. By comparison, a system that simply doubles the damages in all cases will often result in a damage award that is above or below the level required to create a positive value suit. In the former case, doubling damages will lead to excessive precautions in society. In the latter scenario, a double damage rule will not create a credible threat of suit and, consequently, fail to improve the deterrence function of the tort system.

II. POSSIBLE OBJECTIONS

(1) *The proposal is unfair to a plaintiff.* One may well argue that the proposed system is unfair because not all plaintiffs are treated equally as some claims are admitted to trial and others are not. A few responses are in order. First, plaintiffs with identical trial costs are treated equally if they select the same multiplier. All plaintiffs have the same probability of selection for

ment policy between the levels of certainty and severity of sanctions); James D. Miller, *Using Lotteries to Expand the Range of Litigation Settlements*, 26 J. LEGAL STUD. 69, 69 (1997) (showing that litigants might settle after agreeing to participate in a lottery).

⁷ David Rosenberg and Steven Shavell (2005), *A Simple Proposal to Halve Litigation Costs*, 91 VA. L. REV. 1721 (proposing a system of random adjudication with double damages).

trial. Some litigants will be lucky, others will not be so fortunate. Second, most cases will settle before the plaintiff has filed suit and has selected a multiplier. Risk aversion of most parties will induce settlement prior to the official filing stage. Hence, random selection occurs only with regard to plaintiffs that have not settled prior to the filing stage. Third, even if some plaintiffs are left empty-handed under the proposed system, plaintiffs with negative expected value suits receive nothing under the current system. From this viewpoint, the proposed system enhances fairness. Finally, the legal system generally treats individuals with similar characteristics differently for the purpose of cost savings and efficiency. For example, when ten individuals consistently speed on the highway during the course of one year, it is probably that some offenders will receive many speeding tickets while others may not receive any tickets at all. The scarcity of resources for monitoring traffic law violations, which also applies to the broader range of law enforcement activities, necessitates a certain element of randomness.

(2) *The proposal is unfair to a defendant.* The random element of adjudication also impacts defendants. Defendants will face trial only if the claim of the plaintiff is selected for trial. As a result, some defendants will not have to compensate victims and others will be forced to compensate an amount that is much larger than the harm that they caused. This may be regarded as unfair. However, the same remarks made above apply with equal force here. Most prominently, parties may settle prior to the case being filed. Moreover, it is important to recognize that this system enhances the deterrent effect of the tort system by creating a credible threat of litigation in disputes where a plaintiff has a strong legal claim.

(3) *The proposal adversely affects risk-averse parties.* Because the stakes are increased, our proposal imposes additional risks on individuals involved in legal disputes. To the extent that parties are risk averse, these risks must be considered a cost of the system. The plaintiff faces the risk that his case will be eliminated at the filing stage. However, the risk of not being selected is an improvement over the certainty of not receiving compensation in the current approach of negative value suits. For the defendant,

the system imposes a potential cost that is the multiple of the actual harm inflicted on the victim. However, this risk can be avoided through settlement. Consider also that with higher degrees of risk aversion among parties, it is more likely that claims will likely settle prior to filing.

(4) The proposal will induce frivolous lawsuits and weak cases. As a potential drawback, our proposed system may attract frivolous lawsuits. Plaintiffs with very weak cases, who would otherwise not undertake any action, might be compelled to select a high multiplier in the hope that they their case will be randomly selected for trial. In the advent of this possibility, defendants who are very risk averse might be inclined to make settlement offers. Yet, the attraction of frivolous suits is not necessarily a grave problem. Abuse of the system can be largely avoided by allowing judges to punish frivolous suits with increased sanctions. Aside from frivolous suits, our proposal also makes it easier to file rather weak – but not frivolous – cases. In the following section we suggest some modifications in order to reduce the incidence of weak cases.

(5) The proposal will be used for lawsuits with positive expected value. Another point worth considering is that the system might be used by plaintiffs for whom the system is not intended: plaintiffs with claims that have a positive expected value.⁸

⁸ As an example, consider the following situation: A plaintiff has a highly meritorious claim with a probability of trial victory of 90%. The amount at stake is \$1,000. The plaintiff's trial costs are \$800. The plaintiff has a claim with a positive expected value but the trial costs are close to the expected value of the judgment (\$900). Suppose that the defendant's trial costs are only \$200. The plaintiff wants a minimum settlement amount of \$100 (\$900-\$800), while the maximum settlement amount acceptable to the defendant is \$1,100 (\$900+\$200). If the parties divide the settlement surplus equally, they will settle for an amount of \$600. Although the plaintiff does not need a multiplier to obtain a positive settlement offer, he or she will elect this option, especially if the plaintiff is not too risk averse. Suppose for simplicity that a risk neutral plaintiff selects a multiplier of 2. The expected value becomes \$500 ($1/2 \times (0.9 \times 2,000 - 800)$). Now the expected losses of the defendant are \$1000 ($1/2 \times (0.9 \times 2,000 + 200)$). The parties will settle for \$750 instead of \$600.

Although some plaintiffs may attempt to use the multiplier to increase their damage award, there is reason to believe that this will not only occur in limited cases. First, by selecting a multiplier, a plaintiff also incurs a risk that the case will not be selected for trial (inverse multiplier). For this reason, our proposed system is most advantageous to plaintiffs with high litigation costs. Plaintiffs with relatively high trial costs have more to gain from selecting a multiplier. Suppose a plaintiff with trial costs of \$800 selects a multiplier of 2. The expected trial costs decrease from \$800 to \$400. Plaintiffs with low trial costs do not have as much to gain from applying a multiplier. Suppose that the trial costs of the plaintiff are \$200. By selecting a multiplier of 2, the plaintiff gains only \$100. Assume further that litigants are risk averse. The increased risk of not being allowed to go to court is mostly worth taking for plaintiffs with high trial costs. As a result, our proposal will not induce frequent litigation – a high multiplier reduces the probability that a case will be selected for trial. Second, even with positive expected value cases, the system is most likely to be used by plaintiffs that have higher trial costs than their adversaries.⁹ This may be socially beneficial, since settlement offers will move closer to the expected judgment, as we have seen above.¹⁰

(6) *The proposal will increase trial expenditures.* As the stakes increase, expenditures will rise for those cases that are selected for trial. Plaintiffs will now have a greater incentive to win and will spend more time and resources to obtain (multiplied) damages. Likewise, defendants will have an increased incentive not to lose. However, it should be recognized that, due to risk aversion, plaintiffs will often ask for a relatively low multiplier. Second, cases with a high multiplier have a low chance of being selected for trial. Consequently, parties will often settle and no trial expenditures will be incurred.

⁹ See *supra* Section III at p. 10.

¹⁰ See *supra* Section III at p. 8

IV. POSSIBLE MODIFICATIONS

In this section we suggest a few modifications of our proposal. These variations address some of the remaining objections to our proposal.

4.1. Introducing a maximum multiplier by law

We have discussed how risk neutral plaintiffs would be more likely to select a higher multiplier. In reality, however, plaintiffs are usually risk averse and may often select a multiplier that is much lower. Nonetheless, some plaintiffs with weak cases may select large multipliers in order to exploit risk aversion on the part of defendants. This could largely be prevented by introducing a rule that sets a maximum multiplier. For example, plaintiffs could be obliged to select a multiplier in a range between 1 and 3.¹¹ By limiting the multiplier, potential abuses of the system are curbed, while reducing potential trial expenditures for cases that go to trial. However, it should be noted that a restriction on the size of the multiplier will prevent some victims from creating a credible threat of suing.¹²

4.2. Tying the multiplier to the merits of the case

We have seen that the system may attract frivolous suits and that this problem could partially be solved by either increasing the sanctions for frivolous suits or by capping the multiplier to a certain maximum. However, these measures do not prevent the

¹¹ Additionally, the system could be restricted to claims of a certain value, e.g. \$5000. Alternatively, the maximum multiplier could be linked to the amount at stake: the higher the amount at stake, the lower the maximum multiplier.

¹² Some victims may have such substantial trial costs that the maximum multiplier allowed by law is smaller than the minimum multiplier they need to make their suit have positive expected value.

system from attracting weak – though not frivolous – claims.¹³ Weak cases could be deterred somewhat by tying the multiplier to the ex-ante merits of the case. If the court finds the case to be rather weak from an ex-ante perspective but strong enough for a plaintiff victory, it could lower the multiplier that the plaintiff selected.

5.3. Restricting the system to negative expected value suits

If for some reason we would want the system to be restricted to lawsuits with negative expected values, this could be achieved in two ways:

1. *Ex ante*: If the plaintiff selects a multiplier, the court could immediately estimate whether the claim could be filed without the system (that is, verify whether the expected costs are larger than the expected benefits of the case at trial). If the answer is in the affirmative, the court could then refuse the plaintiff's multiplier. Needless to say, courts (or court officials) will sometimes make errors when performing this task. When courts are assigned such tasks, it is inevitable that a certain number of cases with positive expected value will move through the system, while some negative expected value cases will be denied use of the multiplier.

2. *Ex post*: The court could refuse to apply the damage multiplier in its final decision in the event that the court feels the claim would have been filed even without the system. This approach creates greater risks for the plaintiff but reduces transaction costs relative to the ex ante approach.

¹³ Note that a maximum multiplier can prevent many, but not all weak cases from being filed.

V. CONCLUSION

Empirical research demonstrates that victims often do not undertake legal action against the alleged injurer. The social cost of such inaction could be large. In this paper we propose a new system that may stimulate valuable claims. Our proposal introduces a flexible damage multiplier which inversely affects the probability of adjudication. A plaintiff is allowed to select a damage multiplier while, at the same time, access to the courts is restricted with a probability equal to the inverse of the damage multiplier. While the expected benefit of litigation remains the same under this system; the expected costs drop. This increases the expected value of suing.

This system has some disadvantages that can be eliminated to some extent. Most notably, the system may attract frivolous suits and may also stimulate rather weak suits. These disadvantages can be largely avoided by increasing the sanctions for frivolous suits, by introducing a maximum multiplier and by tying the multiplier to the merits of the case.

Finally, an interesting feature of the system is that it is unlikely to increase the workload of the civil justice system. Our proposal will induce many more settlements than additional litigation. The system should increase deterrence at relatively low cost. We do not propose a wholesale adaptation of this system. To be sure, we recommend implementing this system on a minor scale first (for instance, traffic offences in a state). Only after a thorough analysis of the results would a further expansion be appropriate.

APPENDIX: FORMAL EXPOSITION

In this Section we present a formal exposition of our proposal.

2.1. Assumptions and Notations

Throughout the analysis we will apply the following symbols:

P_p = the estimation by the plaintiff of the plaintiff's chances of success

P_d = the estimation by the defendant of the plaintiff's chances of success

J = the damage award

C_p = the trial costs of the plaintiff

C_d = the trial costs of the defendant

M = the multiplier chosen by the plaintiff

We adopt the following (initial) assumptions. Both parties are risk neutral, filing and settling lawsuits is costless (but there are costs to litigate a claim), parties share an identical estimation of the plaintiff's probability of success at trial (and there is no asymmetric information on other aspects as well), the litigation expenditures of the parties are fixed and, finally, both parties pay their own trial costs. These assumptions will be relaxed further on in the model. If the parties settle, they divide the surplus equally (this is the Nash Bargaining Solution). After the plaintiff files his claim and chooses a damage multiplier M , a lottery system determines whether he will be allowed to litigate his claim in court. The probability depends on the plaintiff's choice of M . More precisely, the plaintiff has a probability $1/M$ of obtaining permission to proceed to trial. If so, a court victory results in an award of $M.J$. In case of a loss, the plaintiff obtains nothing.

2.2. The plaintiff's selection of the damage multiplier

Currently, without our proposal, the expected value of a trial for a plaintiff equals $P_p.J - C_p$. When $C_p > P_p.J$, the expected value of the law suit for the plaintiff is negative. A claimant will not file suit and no settlement offer will be made by the injurer. Under our proposal a

plaintiff can select a multiplier M . Accordingly, the plaintiff will be allowed to go to court with a probability $1/M$. If randomly selected for trial, the expected value of the claim will equal $P_p.M.J - C_p$. As a result, the expected losses of the defendant equal $P_d.M.J + C_d$. The parties will settle after the plaintiff has chosen M and the plaintiff will be allowed to go to trial if and only if $P_d.M.J + C_d \geq P_p.M.J - C_p$. This equation can be rewritten as follows: $C_p + C_d \geq (P_p - P_d).M.J$. In case of a settlement, the likely amount will consist of $P_p.M.J - C_p + \frac{1}{2}(P_d.M.J + C_d - P_p.M.J + C_p)$.¹⁴

Let us examine the expected gains of the plaintiff expects for any given multiplier M . If the parties go to trial, the expected value of the plaintiff who chooses a certain M equals: $1/M.(P_p.M.J - C_p) + (1-1/M).0 = P_p.J - C_p/M$. If the plaintiff chooses an M which likely induces a settlement, the plaintiff will expect to obtain $1/M.(P_p.M.J - C_p + \frac{1}{2}(P_d.M.J + C_d - P_p.M.J + C_p)) + (1-1/M).0 = P_p.J + \frac{1}{2}(P_d.J - P_p.J + (C_d - C_p)/M)$. We need to distinguish between two conditions:

Condition 1: If $P_p \leq P_d$, the parties will always settle after the plaintiff has chosen a certain M , no matter what M the plaintiff selects. The plaintiff will choose M to maximize:

$$S = P_p.J + \frac{\left(P_d.J - P_p.J + \frac{(C_d - C_p)}{M} \right)}{2}$$

What multiplier will a risk-neutral plaintiff likely select? At the limit, the multiplier must be high enough in order that the legal claim reflects a positive expected value. Hence, the minimum multiplier must satisfy $P_p.M.J - C_p \geq 0$ or $M_{\min} = C_p/(P_p.J)$. Whether the plaintiff will ask for a multiplier greater than M_{\min} depends on the relative litigation costs of both parties. If the costs of trial are higher for the plaintiff than for the defendant ($C_p > C_d$), the plaintiff will select the maximum multiplier possible (M_{\max}).¹⁵ A higher multiplier would reduce the differences

¹⁴ This is the Nash Bargaining Solution.

¹⁵ M_{\max} could be imposed by law (see further). If not, a risk neutral plaintiff would choose an infinitely high M .

between the expected trial costs of the parties. Formally, S increases when M increases:

$$\frac{\partial S}{\partial M} = -\frac{(C_d - C_p)}{2 \cdot M^2} > 0, \text{ when } C_p > C_d.$$

Conversely, if the defendant's litigation costs exceed those of the plaintiff ($C_d \geq C_p$), the plaintiff will select the minimum multiplier (M_{\min}). That is because any further increase of the multiplier benefits the defendant more than the plaintiff.¹⁶ Formally, S decreases or remains the same if M increases:

$$\frac{\partial S}{\partial M} = -\frac{(C_d - C_p)}{2 \cdot M^2} \leq 0, \text{ when } C_p \geq C_d$$

Condition 2: If $P_p > P_d$, the decision to settle depends on the choice of M .

If the plaintiff chooses an $M > (C_p + C_d)/(P_p - P_d) \cdot J$, the parties will proceed to trial. In that case, the plaintiff needs to maximize $P_p \cdot J - C_p/M$. The plaintiff will select an M that is as high as possible (M_{\max}). The potential plaintiff expects to gain $P_p \cdot J - C_p/M_{\max}$. If the plaintiff selects an $M \leq (C_p + C_d)/(P_p - P_d) \cdot J$, the parties will settle. If $C_p > C_d$, the plaintiff will select a maximum M , equaling $(C_p + C_d)/(P_p - P_d) \cdot J$.¹⁷ We denote this maximum as M_{\max} . The plaintiff expects to gain $P_p \cdot J - C_p/M_{\max}$.¹⁸ When $C_p \leq C_d$, the plaintiff selects M_{\min} . The plaintiff's expected

¹⁶ Actually, when $C_p = C_d$, the plaintiff will be indifferent.

¹⁷ Since we consider the case $M \leq (C_p + C_d)/(P_p - P_d) \cdot J$.

¹⁸ When the plaintiff chooses M_{\max} , the expected value of the plaintiff equals the expected loss of the defendant, since for any $M < M_{\max}$ the parties settle and for any $M > M_{\max}$ the parties litigate. Consequently, the settlement surplus is equal to zero at M_{\max} .

to gain $\frac{1}{2}(P_d \cdot J + C_d/M_{\min})$.¹⁹ We need to distinguish between two sub-conditions:

Condition 2.A. If $C_p > C_d$, the plaintiff balances $P_p \cdot J - C_p/M_{\max}$ against $P_p \cdot J - C_p/M_{\max}$. The plaintiff will choose M_{\max} and the parties will go to trial when $M_{\max} > M_{\max}$. When $M_{\max} > M_{\max}$, the plaintiff will select M_{\max} and the parties will settle.

Condition 2.B. If $C_p \leq C_d$, the plaintiff balances $P_p \cdot J - C_p/M_{\max}$ with $\frac{1}{2}(P_d \cdot J + C_d/M_{\min})$. Since $M_{\min} = C_p/P_p \cdot J$, the plaintiff will ask for M_{\min} and the parties will settle when $P_p \cdot \frac{1}{2}(P_d \cdot J) \leq C_p/M_{\max} + (C_d/C_p) \cdot P_p \cdot J$. Since $C_d \geq C_p$, this is always true. In other words, when $C_p \leq C_d$, the plaintiff will select M_{\min} and the parties settle.

Condition 3: The plaintiff is risk-averse. A risk-averse plaintiff will be particularly sensitive to the chance of not being selected for trial. The sensitivity to the probability will obviously induce lower multipliers. A risk averse plaintiff is thus unlikely to select the maximum multiplier. As the plaintiff's risk aversion increases, the (privately) optimal multiplier for a risk-averse plaintiff will be closer to the minimum multiplier (M_{\min}).²⁰ Given the effect of relative optimism (as stated above), lower levels of M induce larger amounts of settlements, while higher M values increase the chance of trial. Therefore, if we assume risk-aversion on the part of the plaintiff, trials it can be expected that many disputes will reach a settlement.²¹

Condition 4. Endogenous trial expenditures. A multiplier increases the stakes of litigation. As such, it can be expected that the expenditures on cases selected for trial cases would increase. Plaintiffs have a greater incentive to win and will spend more time and resources to obtain

¹⁹ When the plaintiff chooses M_{\min} , his expected value of trial is zero (by definition of M_{\min}).

²⁰ More formally, the plaintiff will increase the multiplier as long as the marginal benefits from an increase (larger settlement amount or larger expected value of trial) outweigh the marginal costs of risk.

²¹ The parties only go to trial when the multiplier is larger than $(C_p + C_d)/(P_p - P_d) \cdot J$. The trial costs ($C_p + C_d$) are by definition large because the plaintiff's claim has a negative expected value.

(multiplied) damages. Likewise, defendants will have an increased incentive not to lose.

If the plaintiff increases his expenditures on trial in proportion to the increased stakes (from C_p to $M \cdot C_p$), the lawsuit retains its negative expected value. After selecting M , the expected value of the plaintiff will equal the expected value without a multiplier:

$$\frac{(P_p \cdot M \cdot J - M \cdot C_p)}{M} = P_p \cdot J - C_p$$

Although expenditures are likely to rise, this rise will generally be lower than the increase of the stakes. This follows from the assumption that parties first make the most worthwhile legal investments. In other words, the marginal return of investment decreases as a party invests more. Empirical research has confirmed that the expenditures of the parties do not rise as rapidly as the amount awarded in trial or settlement.²²

²² See KAKALIK, J.S. ET AL., VARIATION IN ASBESTOS LITIGATION COMPENSATION AND EXPENSES (1984).