

SETTLING MULTIDEFENDANT LAWSUITS: THE ADVANTAGE OF CONDITIONAL SETOFF RULES

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ABSTRACT

In cases involving multiple defendants, each defendant's incentive to settle is influenced by the setoff rule enforced in the relevant jurisdiction. This article suggests that the effect of a setoff rule depends on whether the setoff is conditional on a finding that the settling defendant or defendants were legally liable. Previous research, which assumed that the setoff was unconditional, found that the two principal rules applied by modern courts—the pro tanto and proportionate share rules—often discourage settlement when the plaintiff's probabilities of prevailing against each defendant are not perfectly correlated. This article shows that the disincentive to settlement can be reduced or eliminated by making the setoff conditional on the liability of the settling defendant or defendants. The conditional setoff rules are of practical as well as theoretical interest because several states currently apply them.

BECAUSE a large percentage of defendants settle, one of the most important questions regarding multidefendant lawsuits is how settlement with one defendant affects the liability of a nonsettling defendant. In recent years, this question has generated significant controversy. Several states and the United States Supreme Court have adopted a newer method of calculating the nonsettling defendant's liability (the proportionate share rule),¹ which takes into account relative fault, while most states have

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¹ There is no consensus on the naming of this setoff rule. See *McDermott v. AmClyde*, 114 S.Ct. 1461, 1466 n.9 (1994) (adopting term "proportionate share rule"); Lewis A. Kornhauser & Richard L. Revesz, *Multidefendant Settlements: The Impact of Joint and Several Liability*, 23 J. Legal Stud. 41, 54 (1994) (using term "apportioned set-off rule"); A. Mitchell Polinsky & Steven Shavell, *Contribution and Claim Reduction among Antitrust Defendants: An Economic Analysis*, 33 Stan. L. Rev. 447 (1981) (using term "claim reduction").

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retained an older method (the pro tanto rule), which does not.² Because of its importance, this controversy has attracted the attention of scholars in law and economics.³ The most important recent work in this area is that of Lewis Kornhauser and Richard Revesz.⁴ In contrast to earlier work, they explicitly consider the extent to which the plaintiff's probabilities of prevailing against the defendants are correlated.⁵ They conclude that, when the plaintiff's probability of prevailing against each defendant is independent of his probability of prevailing against the other, both of the setoff rules applied by contemporary courts discourage settlement.

This article suggests that the prospects for settlement under independent probabilities may be much brighter. It describes an alternative interpretation of the proportionate share setoff rule and demonstrates that its effects on settlement are neutral when the probabilities are independent and for any positive correlation of probabilities. It also suggests an alternative interpretation of the pro tanto setoff rule and shows that it encourages settlement with some or all defendants ("partial" or "full" settlement) whenever the probabilities are independent or positively correlated. While some commentators have discussed these alternative interpretations,⁶ the law and economics literature has not.

The alternative interpretations of both setoff rules share one feature: granting a setoff is conditional on a finding that the settling defendant is liable. Thus under either of the alternative interpretations, if the jury (or judge in a bench trial) finds that the nonsettling defendant is liable, the nonsettling defendant is responsible for the entirety of the plaintiff's dam-

² McDermott, 114 S.Ct. 1461 (1994) (adopting the proportionate share rule); Brief of United States as Amicus Curiae in *McDermott v. Amclyde* at 14-15 n. 8 (listing states applying each rule).

³ See, for example, Frank H. Easterbrook, William M. Landes, & Richard A. Posner, Contribution among Antitrust Defendants: A Legal and Economic Analysis, 23 J. Law & Econ. 331, 363-64 (1980); Polinsky & Shavell, *supra* note 1. Easterbrook, Landes, and Posner, at 363-64, do not explicitly discuss the proportionate share rule but instead analyze what is often called the "pro rata rule." That rule is essentially a variant of the proportionate share rule in which each defendant's percent of fault is one divided by the total number of defendants.

⁴ Kornhauser & Revesz, Multidefendant Settlements, *supra* note 1; Lewis A. Kornhauser & Richard L. Revesz, Settlement under Joint and Several Liability, 68 N.Y.U. L. Rev. 427 (1993).

⁵ Earlier work had assumed that the probability of prevailing against one defendant was perfectly correlated with the probability of prevailing against the other. See note 3 *supra*. This assumption made sense because the earlier work focused on antitrust litigation, where an action that made one defendant liable usually made others liable as well.

⁶ Thomas V. Harris, Washington's Unique Approach to Partial Settlements: The Modified Pro Tanto Credit and the Reasonableness Hearing Requirement, 20 Gonz. L. Rev. 69, 94-95 nn. 87-88 (1984/85); Henry G. Miller, The Art of Advocacy-Settlement § 19.04, nn. 6-7 (Matthew Bender 1993); Restatement (Second) of Torts, § 885, Comment f.

ages, unless the trier of fact also finds the settling defendant to be liable.⁷ If both defendants are found liable, however, the nonsettling defendant is granted a setoff. Under the proportionate share rule, the setoff is equal to the percent of fault allocated to the settling defendant times the damages; the nonsettling defendant is thus responsible only for the percent of fault allocated to him times the damages. Under the pro tanto rule, the setoff is the amount of the settlement. Because the alternative setoff rules condition the setoff on a finding that the settling defendant is liable, this article will call these alternative interpretations the "conditional proportionate share rule" and the "conditional pro tanto rule" and will call Kornhauser and Revesz's interpretations the "unconditional proportionate share rule" and the "unconditional pro tanto rule."

The conditional interpretations are less discouraging of settlement because a nonsettling defendant may still be liable for the entirety of the plaintiff's damages. When neither defendant settles and the plaintiff's probabilities of prevailing against each defendant are not perfectly correlated, there is some probability that each defendant will be responsible for the entirety of the plaintiff's damages. Under the conditional setoff rules, however, if one defendant settles, the nonsettling defendant will always be granted a setoff and so no longer faces the risk that he will be solely liable for all of the plaintiff's damages. By reducing the liability of the nonsettling defendant, the unconditional setoff rules make partial settlement unattractive to the plaintiff and give each defendant an incentive to reject offers which might lead to full settlement. By restoring the risk that the nonsettling defendant will be liable for the entirety of the plaintiff's damages, the conditional setoff rules restore the parties' incentives to settle.

While the settlement properties of the conditional setoff rules would make them worthy of analysis even if no court currently applied them, the importance of the conditional proportionate share rule is enhanced by the fact that most, if not all, jurisdictions that have adopted the proportionate share rule employ the conditional interpretation.⁸ Of jurisdictions

⁷ For simplicity, this statement and the rest of the article assume a suit with a single plaintiff and two defendants.

⁸ See, for example, *Leger v. Drilling Well Control, Inc.*, 592 F.2d 1246, 1248, 1251 (5th Cir. 1979) (adopting the rule that "a tortfeasor seeking to assert a reduction by the degree of fault of alleged joint tortfeasors must prove by a preponderance of the evidence that the settling defendant was, in fact, at fault."); *Smith v. Zufelt*, 880 P.2d 1178, 1188 (Colo. 1994); *Adcox v. Children's Orthopedic Hospital and Medical Center*, 864 P.2d 921, 928 (Wash. 1993); *Taylor v. United States Fidelity & Guaranty Co.*, 630 So.2d 237, 239-40 (La. 1993); 1A Iowa Uniform Jury Instructions Annotated § 300.6 (1990). I have found no cases supporting the unconditional interpretation of the proportionate share rule. It is possible that Kornhauser and Revesz came to this interpretation as a result of their interest in suits involving hazardous wastes, where, if liability were based on negligence (which it is not),

that apply the pro tanto rule, which is most jurisdictions, only two apply the conditional interpretation.⁹ Nevertheless, it is interesting to note that this interpretation may once have been more prevalent.¹⁰

Although the settling defendant is not represented at trial, courts that apply one of the conditional setoff rules do not find it difficult to determine whether the settling defendant is liable. The litigating parties have the incentive and the ability to present the relevant evidence and arguments. The plaintiff would like the trier of fact to determine that the settling defendant was not liable because that way he may be able to collect the entirety of his damages from the nonsettling defendant. Similarly, since the nonsettling defendant would like a setoff, he will argue that the settling defendant was liable. If necessary, the settling defendant can be deposed, subpoenaed, or called as a witness. The procedure to determine whether the settling defendant is liable is very similar to the procedure to determine his percentages of fault, a determination that is necessary under either interpretation of the proportionate share rule.¹¹

It should be noted that, when the settling defendant is exonerated and the nonsettling defendant is found liable, the plaintiff's net recovery is greater than his damages. Although the cases do not explicitly discuss this issue, they do address a closely related one. Under the proportionate share rule, if both defendants are found liable, but the settling defendant's percentage of fault times the damages is found to be less than the amount of his settlement, the plaintiff's recovery from both defendants will be greater than his damages. Most courts allow this overcompensation, al-

one could imagine granting a proportionate setoff even when the settling defendant was not liable because one could apportion liability based on the relative volume and toxicity of each defendant's waste. In most contexts, however, it would be difficult to apportion liability between a liable and a nonliable party. Under a negligence regime, both liability and apportionment are ordinarily based on "fault" or negligence, so even if the finder of fact allocated liability between a liable and a nonliable defendant, a nonliable party would be apportioned 0 percent of the fault and thus effectively absolved of liability. See the Uniform Comparative Fault Act, § 2(a)(2) (apportionment is based on fault); *Stanhope v. Brown County*, 280 N.W.2d 711 (Wis. 1979) (settling defendant was allocated 0 percent fault).

⁹ *Medical Center of Delaware, Inc. v. Mullins*, 637 A.2d 6, 8-9 (Del. 1994) (applying conditional pro tanto rule); *Scalf v. Payne*, 583 S.W.2d 51 (Ark. 1979) (the same).

¹⁰ Restatement (Second) of Torts, § 885, Comment f (1979) (describing the conditional pro tanto rule as the "older rule").

¹¹ It might be thought that the plaintiff would be estopped, either by his pleadings or by the settlement itself, from arguing at trial that the settling defendant was not liable. Courts applying the pro tanto and pro rata rules are divided on the issue. See *Washington v. Washington Hospital Center*, 579 A.2d 177, 189 & n.14 (D.C. Ct. App. 1990). No court applying the proportionate share rule, however, has accepted the estoppel argument. In addition, the plaintiff should be able to avoid any pleadings-based estoppel argument by pleading in the alternative either that both defendants are liable or that each is solely liable.

though a few limit the plaintiff's in-court recovery to prevent it.¹² Although the plaintiff may recover more than his damages when the settling defendant is found not liable, there is no danger of overdeterrence because this excess recovery is offset by the fact that the plaintiff will almost always recover less than his damages when the settling defendant is found liable.¹³

Part I of this article briefly summarizes the Kornhauser and Revesz settlement model and discusses why, under their interpretations of the setoff rules, both the proportionate share and the pro tanto rule discourage settlement when the plaintiff's probabilities of prevailing are independent. Part II then shows that the conditional proportionate share rule has a neutral effect on settlement regardless of the correlation of probabilities and that the conditional pro tanto rule encourages full or partial settlement regardless of the correlation of probabilities. Part III summarizes the settlement properties of the various rules and briefly discusses some other considerations—litigation costs, deterrence, and fairness to individual defendants—which might influence the choice of setoff rule. It concludes that, while the conditional proportionate share rule is probably the most expensive to apply, it may give potential defendants the best incentives to take care and may be the most fair.

I. THE MODEL AND THE UNCONDITIONAL SETOFF RULES

A. *The Model*

In order to illustrate the contrast between the conditional interpretation of the setoff rules and the interpretation used by Kornhauser and Revesz, this article adopts the model employed in their papers. Assume that a single plaintiff sues two defendants, Row and Column. The jurisdiction apportions liability among nonsettling defendants according to relative fault. All parties are perfectly informed. They know that all parties are risk neutral, that the defendants are infinitely solvent, and that litigation costs are zero.¹⁴ The parties also know the amount of the plaintiff's dam-

¹² See *McDermott v. AmClyde*, 114 S.Ct. 1461, at 1470–71; Kornhauser & Revesz, *supra* note 1, at 47.

¹³ See note 35 *infra*.

¹⁴ Kornhauser and Revesz also explore the effect of positive litigation costs, but in this article, I will assume that they are zero. This assumption simplifies the analysis and highlights the contrast between the conditional and unconditional interpretations of the setoff rules because even the unconditional setoff rules encourage settlement when litigation costs are large enough. See Kornhauser & Revesz, *supra* note 1, at 66.

ages, which is normalized to one; that Row and Column's percent of fault are respectively r and $1 - r$, where $0 < r \leq 1/2$;¹⁵ and that the plaintiff was not contributorily negligent or otherwise required to bear some of the loss himself.¹⁶ They also know that the plaintiff's probability of prevailing against each defendant is p ,¹⁷ where $0 < p < 1$, and they know the correlation of probabilities, which is reflected in δ , $1 \leq \delta \leq 1/p$, where δp is the probability that the plaintiff prevails against one defendant given that he prevails against the other. The condition $\delta = 1$ implies independent probabilities because $\delta p = p$. The condition $\delta = 1/p$ implies perfectly correlated probabilities because $\delta p = 1$.¹⁸ The plaintiff makes take-it-or-leave-it settlement offers to both defendants, and they respond simultaneously without cooperation. If only one defendant accepts the settlement offer, the plaintiff litigates against the nonsettling defendant. If neither accepts, the plaintiff litigates against both. If settlement and litigation give a party the same payoff, the party prefers settlement.

The plaintiff's optimal pair of offers will vary depending on the setoff rule and a number of other factors. Sometimes the optimal pair of offers will be one for which it is neither defendant's best response to accept or for which it is only one defendant's best response to accept. In such situations, the setoff rule will be said to discourage settlement or to encourage only partial settlement. Under other conditions, the plaintiff's optimal pair of offers will be one that induces both defendants to settle. In such a situation, the setoff rule will be said either to be neutral regarding settlement or to encourage settlement, depending on whether the full settlement outcome would be undermined if the assumption of perfect knowledge were relaxed and it were assumed that the parties were even somewhat optimistic about their probability of prevailing, the allocation of liability, or damages. This description of a setoff rule as encouraging, discouraging, or being neutral regarding settlement takes as its baseline a simple one-plaintiff, one-defendant lawsuit, where under similar assumptions—risk neutrality, zero litigation costs, and a preference for

¹⁵ The assumption that Row's percent of fault is less than or equal to one half is purely notational. It simply means that when the defendants are of unequal fault, the less culpable defendant will be called Row. This naming simplifies the analysis without loss of generality.

¹⁶ The absence of plaintiff negligence is implicit in Kornhauser and Revesz's model.

¹⁷ Like Kornhauser and Revesz's model, this article assumes that the plaintiff's probability of prevailing against Row is the same as his probability of prevailing against Column, even when the probabilities are not perfectly correlated. A more general model might allow the probabilities to differ.

¹⁸ The condition $0 \leq \delta < 1$ implies a negative correlation of probabilities. Like Kornhauser and Revesz's analysis, this article will be limited to independent and positively correlated probabilities.

settlement over litigation when both yield the same payoff—settlement is possible when the parties are perfectly informed (or at least similarly misinformed) but impossible when the parties are optimistic.

B. The Unconditional Setoff Rules

Kornhauser and Revesz give formal proofs that show that the unconditional interpretations of the pro tanto and proportionate share rule discourage settlement when the plaintiff's probabilities of prevailing against each defendant are independent.¹⁹ In order to understand why conditional setoff rules have superior settlement properties, it is useful to consider the following explanation of why unconditional setoff rules discourage settlement. If both defendants had litigated, each would have faced the risk that he alone might have been found liable and would thus have been responsible for the entirety of the plaintiff's damages. If one defendant settles and the other litigates, the nonsettling defendant (the "holdout") no longer faces that risk because he is always given a setoff. One defendant's settlement thus confers a windfall on the other. This "holdout windfall" makes both partial and full settlement unattractive to the plaintiff. Partial settlement is unattractive because the nonsettling defendant's liability is less than it would have been had the plaintiff litigated against both defendants. Full settlement is unattractive because to induce both defendants to settle, the plaintiff would have to offer each defendant a settlement sufficiently low that he would prefer settlement even if the other defendant settled. Such a settlement, however, would leave the plaintiff with a lower expected recovery than trial, so the plaintiff prefers litigating to settling.²⁰

Under the unconditional pro tanto rule, the "holdout windfall" is partially offset by what might be called the "pro tanto penalty," the fact that, if both defendants are liable, a settlement with one defendant usually leaves the nonsettling defendant with a larger expected liability than if

¹⁹ See Kornhauser & Revesz, *supra* note 1, at 51–52, 54.

²⁰ An example may make this idea clearer. Let $p = 0.5$, $r = 0.5$, and $\delta = 1$. If the plaintiff litigated, his expected recovery would be 0.75, 0.375 from each defendant. If the plaintiff offered each defendant a settlement for 0.375, full settlement would not be a Nash equilibrium. Row, for example, would reason that, if Column accepted the offer, he (Row) would be better off litigating because litigation would give him an expected liability of only $0.3125 = 0.5(1 - 0.375)$. To induce both defendants to settle, the plaintiff would have to offer both defendants settlements sufficiently low that each would prefer settlement even if the other settled. The plaintiff's best pair of offers would be 0.25 to one defendant and 0.375 to the other. This pair gives the plaintiff an expected recovery of only 0.625, so litigation against both defendants, which yields an expected recovery of 0.75, would be more attractive. This example is borrowed from Kornhauser & Revesz, *supra* note 4, at 449–51.

the case had gone to trial against both defendants. Nevertheless, for any settlement that the plaintiff would be rational to offer, the holdout windfall is greater than the pro tanto penalty.²¹ As a result, even under the unconditional pro tanto rule, one defendant's settlement confers a net windfall on the other, making settlement unattractive to the plaintiff.

II. SETTLEMENT UNDER CONDITIONAL SETOFF RULES

Conditional setoff rules remove the disincentive to settlement by eliminating the holdout windfall. Even if one defendant settles and the other litigates, the trier of fact will determine whether the settling defendant is liable; if he is not, the nonsettling defendant will be responsible for the entirety of the plaintiff's damages. As a result, the conditional interpretations do not discourage full settlement even when the probabilities are independent. Nevertheless, as discussed more fully below, when the defendants are of unequal fault, partial settlement is sometimes preferred to full settlement.

A. *The Conditional Proportionate Share Rule*

The settlement properties of the conditional proportionate share rule result from the fact that a defendant's expected liability is unaffected by the other defendant's decision to settle or litigate. Consider first Row's expected liability when the probabilities are independent. With probability $p(1 - p)$, Column will be exonerated at trial, and Row will be found liable, in which case Row will be liable for one, the entirety of plaintiff's damages, whether Column settled or not. The fact that Row will be liable for the entirety of the plaintiff damages even if Column settled is what makes the conditional proportionate share rule different from the unconditional proportionate share rule. With probability p^2 , both defendants will be found liable at trial, in which case Row's liability will be r . If Column litigated, Row's liability will be r because liability will be apportioned. If Column settled, Row's liability will be r because Row will be granted a setoff of $1 - r$. With probability $1 - p$, Row will be exonerated at trial, in which case his liability will be zero, regardless of whether Column settled. Row's expected liability is therefore $p(1 - p) + rp^2$. Similar reasoning shows that Column's expected liability is $p(1 - p) + (1 - r)p^2$.

To determine whether the conditional proportionate share rule encourages or discourages settlement when the probabilities are independent, it

²¹ For a proof of this statement, see the Appendix.

is necessary to determine whether there is a pair of offers (R, C) for which the unique Nash equilibrium is that both defendants accept and that, if accepted by both defendants, would make the plaintiff better off than no settlement or partial settlement. To be the unique Nash equilibrium, settlement must be both Row and Column's best response, whether the other settles or litigates. Since Row's expected liability is $p(1 - p) + rp^2$ whether Column settles or litigates, and since it is assumed that a defendant prefers settlement to litigation when both give the same payoff, Row's best response is to accept any offer such that $R \leq p(1 - p) + rp^2$. Similarly, Column's best response is to accept any offer such that $C \leq p(1 - p) + (1 - r)p^2$.

The plaintiff's optimal full settlement offer is therefore the pair $(p(1 - p) + rp^2, p(1 - p) + (1 - r)p^2)$. The plaintiff's optimal partial settlement offer²² is either $(p(1 - p) + rp^2, 1)$ or $(1, p(1 - p) + (1 - r)p^2)$. The optimal full settlement offer and the optimal partial settlement offer both give the plaintiff an expected recovery of $p(2 - p)$, as does no settlement. Since it is assumed that the plaintiff prefers settlement to litigation when both give the same payoff, the plaintiff's optimal strategy is full settlement.

Thus, unlike the unconditional proportionate share rule, the conditional proportionate share rule does not discourage settlement. Even when litigation costs are zero and the probabilities are independent, there is a pair of offers that yields a full settlement Nash equilibrium and that benefits the plaintiff. However, since full settlement and litigation give the plaintiff the same expected recovery, if the parties were even slightly optimistic, full settlement would become impossible. When the probabilities are independent, the conditional proportionate share rule is therefore best described as neutral regarding settlement.

While the preceding discussion analyzed only the case of independent probabilities, the analysis for any positive correlation of probabilities would be nearly identical. Row's best response is to accept any offer such that $R \leq p(1 - \delta p) + r\delta p^2$. Column's best response is to accept any offer such that $C \leq p(1 - \delta p) + (1 - r)\delta p^2$. The plaintiff's optimal full settlement offer is therefore the pair $(p(1 - \delta p) + r\delta p^2, p(1 - \delta p) + (1 - r)\delta p^2)$. Full settlement is the plaintiff's best strategy because full settlement, partial settlement, and no settlement all give the plaintiff the same expected recovery, $p(2 - \delta p)$. Thus, the conditional proportionate share rule is neutral regarding settlement when the probabilities are independent and for any positive correlation of probabilities.

²² There are an infinite number of optimal partial settlement offers since the amount of the offer that the plaintiff anticipates will be rejected can take any value, as long as it is high enough to ensure rejection. For simplicity, I set the offer to one.

B. *The Conditional Pro Tanto Rule*

This section shows that the conditional pro tanto rule encourages full settlement when the defendants' fault is relatively equal, when the probabilities are independent and for any positive correlation of probabilities. It also shows that, when the defendants' fault is sufficiently unequal, the conditional pro tanto rule encourages only partial settlement, again when the probabilities are independent and for any positive correlation of probabilities. For easy comparison, the discussion in this section follows the structure of Kornhauser and Revesz's analysis of the unconditional pro tanto rule.²³ It first considers the conditions under which defendants settle, then calculates the plaintiff's best full and partial settlement offers, and finally determines whether and when the plaintiff will choose to make offers that yield full settlement, partial settlement, or no settlement.

1. The Defendants' Settlement Game

Suppose the plaintiff makes settlement offers (R, C) . If Column accepts C , Row accepts R if and only if

$$R \leq \delta p^2(1 - C) + p(1 - \delta p) \quad \text{for } C < 1. \quad (1)$$

The right-hand side of the inequality in (1) is Row's expected liability if he litigates and Column settles for C . With probability δp^2 , both defendants are found liable at trial, in which case Row is granted a setoff of C , leaving Row with a liability of $1 - C$. With probability $p(1 - \delta p)$, Row is found liable at trial, and Column is exonerated, in which case no setoff is granted, and Row pays the entirety of the plaintiff's damages. Expression (1) brings out the difference between the conditional and unconditional pro tanto rules. Under the unconditional pro tanto rule (the version modeled by Kornhauser and Revesz), Row is granted a setoff regardless of whether Column is found liable at trial, so Row's expected liability if he litigates is simply $p(1 - C)$ rather than $\delta p^2(1 - C) + p(1 - \delta p)$. Note, however, that, when the probabilities are perfectly correlated ($\delta = 1/p$), the difference between the two versions of the pro tanto rule disappears. When the probabilities are perfectly correlated, making setoff conditional on a finding that the settling defendant was liable has no effect because, if the nonsettling defendant is found liable, the settling defendant is found liable as well. Expression (1) assumes that $C < 1$. The conditions under which Row settles if $C \geq 1$ are not important because Column will not accept such large settlement offers.

²³ Kornhauser & Revesz, *supra* note 1, at 57-73.

Similarly, if Row accepts R , Column accepts C if and only if

$$C \leq \delta p^2(1 - R) + p(1 - \delta p) \quad \text{for } R < 1. \quad (2)$$

If Column litigates, Row settles for R if and only if

$$R \leq r\delta p^2 + p(1 - \delta p). \quad (3)$$

The right-hand side of this expression is Row's expected liability if both defendants litigate. It does not depend on the setoff rule.

Similarly, if Row litigates, Column settles for C if and only if

$$C \leq (1 - r)\delta p^2 + p(1 - \delta p). \quad (4)$$

2. The Plaintiff's Strategy

The determination of the plaintiff's strategy proceeds in nearly identical fashion to that set out by Kornhauser and Revesz, so this article will only set out the conclusions:

To litigate against both defendants, the plaintiff needs to make settlement offers to each defendant that are sufficiently high to ensure that both are rejected. Settlement offers of one will always suffice for this purpose. Litigating against both defendants brings the plaintiff an expected recovery of $p(2 - \delta p)$.

If the plaintiff is to achieve partial settlement, his optimal pair of offers is $(1 - r)\delta p^2 + p(1 - \delta p)$ to Column, and a high settlement offer (such as one) to Row. Such offers will bring the plaintiff an expected recovery of

$$(1 - r)\delta p^2 + 2p(1 - \delta p) + \delta p^2\{1 - [(1 - r)\delta p^2 + p(1 - \delta p)]\}.$$

The asymmetry of the offers to Column and Row stems from the assumption that $r \leq 1/2$, that is, that Row is the less culpable defendant.²⁴ When $r = 1/2$, the offers to Row and Column could be reversed.

If the plaintiff is to achieve full settlement, his optimal pair of offers depends on the relationship of r , p , and δ . When $r \leq p/(1 + \delta p^2)$, the optimal pair is $p/(1 + \delta p^2)$ to each defendant.²⁵ With that pair, the plaintiff's expected recovery is $2p/(1 + \delta p^2)$. When $r > p/(1 + \delta p^2)$, the optimal pair of offers is $\delta p^2(1 - [(1 - r)\delta p^2 + p(1 - \delta p)]) + p(1 - \delta p)$ to Row, and $(1 - r)\delta p^2 + p(1 - \delta p)$ to Column. Such offers will bring

²⁴ See note 15 *supra*.

²⁵ This pair yields a full settlement Nash equilibrium even when $r > p/(1 + \delta p^2)$. However, when $r > p/(1 + \delta p^2)$, it is also a Nash equilibrium for both defendants to litigate. Since the latter equilibrium makes both defendants better off, it is assumed that the defendants will both reject the offer, so that this pair will yield full settlement only when $r \leq p/(1 + \delta p^2)$. See Kornhauser & Revesz, *supra* note 1, at 63-64.

the plaintiff an expected recovery of

$$\delta p^2\{1 - [(1 - r)\delta p^2 + p(1 - \delta p)]\} + 2p(1 - \delta p) + (1 - r)\delta p^2.$$

3. Outcomes of the Game

By comparing the plaintiff's expected recoveries under no settlement, partial settlement, and full settlement, it is possible to determine the outcomes of the game. A little algebra shows that full settlement always provides the plaintiff a higher expected recovery than no settlement. Similarly, when $r \leq p/(1 + \delta p^2)$, that is, when relative fault is sufficiently unequal, partial settlement provides the plaintiff a higher expected recovery than full settlement. However, when $r > p/(1 + \delta p^2)$, that is, when relative fault is sufficiently close to being equal, partial settlement and full settlement give the plaintiff the same expected recovery, so the plaintiff will settle with both since it is assumed that parties prefer settlement to litigation when both yield the same payoff.

The fact that full settlement dominates no settlement is easy to explain. The conditional pro tanto rule pressures both defendants to settle for relatively high amounts because if one defendant settles, the nonsettling defendant gets no holdout windfall but suffers the pro tanto penalty described above.²⁶

The fact that partial settlement sometimes dominates full settlement is slightly more difficult to explain. The plaintiff's best strategy is often to litigate against Row and to offer Column a settlement equal to Column's expected liability if both defendants went to trial. One might think that the plaintiff could get the same recovery by offering Row a settlement equal to Row's expected liability at trial given the settlement with Column, but this is not the case. When relative fault is sufficiently unequal, the pro tanto rule enables the plaintiff to extract so much from the less culpable party (Row) that the more culpable party (Column) no longer suffers a pro tanto penalty if he litigates when Row settles. In fact, the pro tanto penalty turns into a windfall, giving Column an incentive to litigate.²⁷ As a result, to induce both to settle, the plaintiff would have to

²⁶ See *supra* at 451.

²⁷ An example may make this clearer. Consider a case of independent probabilities and unequal fault: $p = 0.5$, $r = 0.25$, and $\delta = 1$. The plaintiff's optimal strategy is (1, 0.4375), a pair of offers yielding partial settlement. That pair leaves Row with an expected liability of 0.390625. If the plaintiff offered the pair (0.390625, 0.4375), however, full settlement would no longer be a Nash equilibrium. Column would reason that, if Row accepted the offer, he (Column) would be better off litigating because his expected liability would then be only 0.40234375. There is no pro tanto penalty but, instead, a windfall because, if Row settles and Column litigates and both are found liable at trial, Column will be granted a 0.390625 setoff, so his liability will be 0.609375, whereas if both litigated and were found

make much lower settlement offers. Since full settlement would then give the plaintiff a lower expected recovery than partial settlement, the plaintiff prefers to make offers yielding partial settlement.

Unlike the conditional proportionate share rule, the incentive to settle under the conditional pro tanto rule is somewhat resistant to optimism. If the plaintiff and Column are mutually optimistic about their probability of prevailing or the apportionment of liability or the amount of damages, settlement may still benefit both parties. The plaintiff will scale back his offer to Column to the point where Column will accept. If the mutual optimism is relatively small, the offer will still benefit the plaintiff. For this reason, it is appropriate to describe the conditional pro tanto rule as encouraging settlement in some cases. If the plaintiff and Row are mutually optimistic, however, the plaintiff will prefer partial settlement to full settlement. Since the offer to Row under the optimal pair of offers yielding full settlement is (the plaintiff's view of) Row's expected liability at trial given that Column settles, the plaintiff will think he will do better by settling with Column and litigating against Row.²⁸

III. SUMMARY AND CONCLUSIONS

The contrast between the conditional and unconditional setoff rules is illustrated by Table 1. As the table makes clear, the conditional version of each setoff rule has superior settlement properties to the unconditional version. When the probabilities are perfectly correlated, the conditional and unconditional versions have the same settlement properties. Making the setoff conditional on the settling defendant's liability makes no difference when the probabilities are perfectly correlated because perfect correlation of probabilities means that the settling defendant would be found liable whenever the nonsettling defendant was. When the probabilities are independent (and for intermediate correlations), the conditional ver-

liable at trial, Column's liability would be $0.75 = 1 - 0.25$. For the mathematics of the pro tanto windfall, see the Appendix.

²⁸ An example may make these points clearer. Consider a case of perfectly correlated probabilities and unequal fault ($r = 0.4$, $\delta = 1/p$), where there is some disagreement on p . The plaintiff and Row think $p = 0.5$, whereas Column thinks $p = 0.45$. If the plaintiff litigates against both defendants, he calculates his expected recovery to be 0.5. Since Column thinks $p = 0.45$, the largest offer that would ensure that Column will settle would be $0.27 = 0.45(1 - 0.4)$, in which case the plaintiff's optimal pair of offers would be (0.365, 0.27). On the other hand, if Column agreed that $p = 0.5$, but Row thought $p = 0.45$, the plaintiff would now find partial settlement his best strategy. The best full settlement he could negotiate would be (0.315, 0.3), which would give him an expected recovery of 0.615. In contrast, if the plaintiff settled with Column for 0.3 and litigated with Row, the plaintiff would think that Row's expected liability would be 0.35 and, thus, that his expected recovery would be 0.65.

TABLE 1
CONDITIONAL AND UNCONDITIONAL SETOFF RULES

	INDEPENDENT PROBABILITIES		PERFECTLY CORRELATED PROBABILITIES	
	Relatively Equal Fault	Relatively Unequal Fault	Relatively Equal Fault	Relatively Unequal Fault
Unconditional proportionate share rule	Discourages settlement	Discourages settlement	Neutral	Neutral
Conditional proportionate share rule	Neutral	Neutral	Neutral	Neutral
Unconditional pro tanto rule	Discourages settlement	Discourages settlement	Encourages full settlement	Encourages partial settlement
Conditional pro tanto rule	Encourages full settlement	Encourages partial settlement	Encourages full settlement	Encourages partial settlement

sions of the setoff rules are superior. The unconditional interpretations of the setoff rules discourage settlement whenever the probabilities are independent. In contrast, the conditional proportionate share rule is neutral regarding settlement even when the probabilities are independent, and the conditional pro tanto rule either encourages full settlement (when the defendants are of relatively equal fault) or encourages partial settlement (when defendants are of relatively unequal fault).

While the choice between the unconditional and conditional interpretation of each of the setoff rules is relatively easy, it is difficult to choose between the conditional proportionate share rule and the conditional pro tanto rule. That choice would depend on the relative desirability of partial and full settlement and on whether defendants tend to be of relatively equal or unequal fault.

Of course, the settlement properties of the various rules are not completely described by the model used in this article. Richer models might take into account asymmetric information,²⁹ sequential offers, multiple rounds, and contingent offers.³⁰ In addition, settlement properties are

²⁹ See Kathryn E. Spier, A Note on Joint and Several Liability: Insolvency, Settlement, and Incentives, 23 J. Legal Stud. 559, 563-67 (1994).

³⁰ See John J. Donohue III, The Effect of Joint and Several Liability on the Settlement Rate—Mathematical Asymmetries and Metaissues about Rational Litigant Behavior: Comment on Kornhauser and Revesz, 23 J. Legal Stud. 543, 555-56 (1994) (showing how contingent settlement offers can remove the disincentive to settlement).

not the only consideration relevant to the choice of a setoff rule. Other considerations include litigation costs, deterrence, and fairness to individual defendants.

The conditional interpretations of the setoff rules are likely to increase the cost of litigating nonsettled cases because they force the parties to prove or disprove the settling defendant's liability at trial. The increased cost, however, may not be large because evidence as to the settling defendant's liability is often presented anyway. Under the unconditional proportionate share rule, the parties must present such evidence in order to ascertain the nonsettling defendant's percent of fault. Similarly, under the unconditional pro tanto rule, parties may present evidence relating to the settling defendant's liability in order to provide context for the entire dispute. In addition, the nonsettling defendant will sometimes "try the empty chair," that is, present evidence of the settling defendant's liability in order to convince the finder of fact that the settling defendant was solely responsible. Although the conditional setoff rules will increase the cost of litigating nonsettled cases, they may reduce total litigation costs by increasing the number of settlements. Indeed, the fact that litigation is more expensive under the conditional setoff rules provides an additional reason to believe that the conditional setoff rules are more favorable toward settlement and thus suggests that the analysis in Part II (which assumes zero litigation costs) understates the advantage of the conditional setoff rules.

The effect of the pro tanto rule on deterrence under perfectly correlated probabilities has been explored in articles by Kathryn Spier and Marcel Kahan.³¹ Since they assume perfectly correlated probabilities, their analysis applies equally to both the conditional and unconditional pro tanto rule. Spier argues that the pro tanto rule may give defendants too great an incentive to take care because, when the probabilities are correlated, plaintiffs may extract more in settlement than their expected recovery if the case went to trial. Kahan, however, shows that the effect is difficult to predict *ex ante*. Although settlement under the pro tanto rule gives plaintiffs higher expected recoveries than they would have received if the case had gone to trial, the pro tanto rule does not always increase defendants' *marginal* incentives to take care and, in fact, will sometimes decrease the incentive to take additional care. As Kahan and Spier point out, the incentive effects of the pro tanto rule have important and unpleasant policy implications. Since the game-theoretic complexities of multidefendant settlement have only been recognized recently, damage

³¹ Spier, *supra* note 29, at 560–63; Marcel Kahan, The Incentive Effects of Settlements under Joint and Several Liability, — Int'l Rev. L. & Econ. — (1996).

rules may implicitly assume that settlements yield outcomes similar to trials. Under the pro tanto rule, that assumption would be false, and damage rules might have to be reformulated.³² In addition, the optimal damage rules for single and multidefendant lawsuits would be different. Under models similar to those used here, defendants in single defendant lawsuits settle for their expected liability at trial, so, unlike multidefendant settlement under the pro tanto rule, single defendant settlement yields incentives similar to those provided by trial outcomes.³³

In considering the incentive effects of the conditional proportionate share rule, it is important to recognize that, under that rule, defendants settle for an amount equal to their expected liability had the case gone to trial against both defendants.³⁴ Thus, in contrast to the pro tanto rules, the incentive effects of the conditional proportionate share rule are similar to those of a world in which all cases went to trial and to those of trials involving only one defendant.³⁵ As a result, existing damage rules are more likely to give defendants proper incentives, and alternative damage rules can be more simply evaluated. This analysis of the conditional proportionate share rule applies equally to the unconditional proportionate share rule when the probabilities are perfectly correlated, which is the only time settlements will occur under the assumptions used in the model.

Law and economics scholars tend to downplay the importance of fairness, but since courts often consider fairness to be important,³⁶ and since economic models can predict the distributional consequences of legal rules, fairness is an appropriate subject for economic analysis. Although the criteria for fairness in multidefendant lawsuits are not immediately obvious and are probably contestable, there may be one relatively uncontroversial test: when both defendants are equally likely to be found liable (as assumed in the model), but one defendant's percentage of fault is

³² Spier, *supra* note 29, at 562–63.

³³ *Id.* at 560–61. See also Kahan, *supra* note 31, for discussion of additional policy implications.

³⁴ See *supra* at 452–53.

³⁵ The fact that plaintiffs will sometimes recover more than their damages (see *supra* at 448–49) does not undermine these conclusions. Even in single-defendant suits a plaintiff sometimes recovers more than he would have at trial, that is, when he settles with a defendant who would not have been found liable at trial. Instances of overcompensation in multidefendant settlements are analogous. When the plaintiff settles with a defendant who is found not liable at trial and litigates with one who is found liable, he receives a recovery in excess of damages. But from an ex ante perspective, his expected recovery given partial settlement is no higher than his expected recovery with no settlement. See *supra* at 453.

³⁶ See *McDermott v. AmClyde*, 114 S.Ct. 1461, at 1467–68.

higher, that defendant should pay more. Both versions of the pro tanto rule, however, flunk even this simple test. Under the pro tanto rule, when culpability is unequal, the plaintiff's optimal strategy is frequently a full settlement in which the more culpable defendant pays less than the less culpable one.³⁷ In contrast, under the conditional proportionate share rule, defendants settle for an amount equal to their expected liability had the case gone to trial against both defendants, so more culpable defendants settle for more than less culpable defendants. The most accurate yardstick for measuring fairness may be the allocation of liability if the case proceeded to trial against both defendants. Since trial outcomes are likely to be those most familiar to judges and legislators and since the complex distributional consequences of various setoff rules are only now being worked out, rules allocating liability at trial are likely to be those that most closely reflect thoughtful consideration of fairness. Under this measure of fairness, the conditional proportionate share rule would be the most fair since settlements under that rule equal each defendant's expected liability if the case had gone to trial against both defendants.

APPENDIX

The text on page 452 asserts that, when the probabilities are independent and a court applies the unconditional pro tanto rule, for any settlement that the plaintiff would be rational to offer, the holdout windfall is greater than the pro tanto penalty. This appendix proves that proposition by showing that any settlement for which the holdout windfall is not greater than the pro tanto penalty (that is, any settlement for which the pro tanto penalty is greater than or equal to the holdout windfall) would be less attractive to the plaintiff than litigation against both defendants.

Since each defendant is found solely liable with probability $p(1 - p)$, the value of the holdout windfall is $p(1 - p)(T)$, where T is the setoff. Under the unconditional pro tanto rule, the setoff equals the amount of the plaintiff's settlement with the other defendant, so if S is the amount of the settlement, the hold-out windfall is $p(1 - p)(S)$. Since both defendants are found liable with probability p^2 , the value of the pro tanto penalty is $p^2[(1 - S) - r]$ for Row and $p^2[(1 - S) - (1 - r)] = p^2(r - S)$ for Column.³⁸ Thus, for Row, the pro tanto penalty is

³⁷ For example, if $p = 0.5$, $r = 0.4$, and $\delta = 1/p$, the plaintiff would settle with Row for 0.35 and with Column for 0.3, in which case Column would settle for 17 percent less than Row, even though, had the case gone to trial, Column's expected liability would have been 50 percent larger—0.3 versus 0.2. Since this example assumed perfectly correlated probabilities, it is valid both for the conditional and unconditional pro tanto rules.

³⁸ If the settlement with Column is greater than or equal to $1 - r$, or if the settlement with Row is greater than or equal to r , then there will be no pro tanto penalty, but rather a windfall. See *supra* at 456. In the context assumed on pages 451–52 (independent probabilities under the unconditional pro tanto rule), it would not be rational for defendants to enter into such large settlements. Nevertheless, even if they did, the argument on pages 451–52 would remain valid because, if there were a pro tanto windfall, full settlement would be even less attractive to the plaintiff.

greater than or equal to the holdout windfall if and only if $p^2[(1 - S) - r] \geq (p)(1 - p)(S)$. That expression simplifies to $S \leq (1 - r)p$. Thus, for Row, the pro tanto penalty is greater than or equal to the holdout windfall if and only if the plaintiff settles with Column for less than or equal to $(1 - r)p$. Given that the plaintiff has settled with Column for S , the maximum the plaintiff can get from Row in settlement (or litigation) is $p(1 - S)$, so his expected recovery is $S + p(1 - S)$. Since $p < 1$, the plaintiff's expected recovery is an increasing function of S , so all settlements with Column for less than $(1 - r)p$ will give the plaintiff an expected recovery less than if he had settled with Column for $(1 - r)p$. A settlement with Column for $(1 - r)p$ would give the plaintiff an expected recovery of $(1 - r)p + p[1 - (1 - r)p] = p + (1 - p)(1 - r)p < p + p(1 - p) = p(2 - p)$. Since $p(2 - p)$ is the plaintiff's expected recovery if he litigates against both defendants, it is proved that any settlement with Column for which the pro tanto penalty is greater than or equal to the holdout windfall would be less attractive to the plaintiff than litigation against both defendants. A nearly identical proof establishes the corresponding proposition for settlements with Row.