

3-1-1991

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Recommended Citation

Marianne M. Jennings, *The Impact of Alternative Negligence Defense Rules on Litigation Behavior and Tort Claim Disposition*, 5 BYU J. Pub. L. 33 (1991).

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The Impact of Alternative Negligence Defense Rules on Litigation Behavior and Tort Claim Disposition

Marianne M. Jennings*

I. INTRODUCTION

All negligence rules impose an obligation to satisfy a legal standard of care. Alternative standards can generate very different incentives for taking precautions to avoid consequences of negligent behavior and for litigating in the event of an accident. The economic theory of tort law seeks to determine what legal rule will achieve efficiency goals in terms of the incentives created. In particular, Calabresi has urged that the rules of tort liability be structured so as to minimize the sum of precaution, accident, and administrative costs.¹ The sweeping changes in accident law over the past fifteen years provide a historical backdrop for analyzing whether particular legal changes are consistent with efficiency goals.

One of the more dramatic changes in accident law has been the abandonment by most states of the traditional tort defense of contributory negligence and the adoption of one of three forms of comparative negligence. Although empirical evidence on the impact of the policy shift is sparse, the changes were made in spite of the concern that comparative negligence might result in higher administrative costs and greater propensity for claims to be litigated.² The changes in the law appear to have been based on a belief that comparative negligence is a fairer system than negligence with contributory negligence as a defense and that the equity advantages outweigh the alleged adverse efficiency consequences.

This article examines new empirical evidence on the impact of alternative negligence rules on costs related to the administration and litigation of accident claims. The new evidence will provide policy makers with better information to help them balance the equity/efficiency

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1. For an elaboration of the work of Calabresi and others, see *infra* note 15.

2. The importance of resolution costs has been acknowledged in nearly every published discussion. See, e.g., S. SHAVELL, *THE ECONOMIC ANALYSIS OF ACCIDENT LAW* 94 (1987).

trade-off that underlies the changes in negligence rules.

Based on an extensive analysis of automobile accident claims arising across the nation, a state's liability standard does influence claimants' decisions to hire attorneys and pursue litigation. Further, the legal standard has a significant impact on the amount of claimant recovery as well as the time required to resolve an accident dispute. According to the study, plaintiffs are more likely to aggressively pursue claims under the comparative negligence standard, and they can generally expect to receive higher awards than under the contributory negligence standard. The study also provides original evidence on the differential impact of the two most popular forms of comparative negligence—the pure and modified forms—in terms of the differences in average dollar award, time to resolve a claim, and differences in litigation strategy.

The evidence indicates that litigation costs are significantly higher under the modified rule. The findings support the hypothesis that comparative negligence raises litigation costs relative to the more traditional rule of contributory negligence and suggests that the modified form of comparative negligence has higher administrative costs than the pure form. In addition, the findings indicate possible interest group motivations that underlie the adoption of particular standards and suggest possible modifications in liability standards to address the efficiency concerns.

Section II of this article provides a historical perspective on the dramatic emergence of the comparative negligence liability standard in the United States. Section III describes the forms of comparative negligence and provides an analysis of how the alternative liability standards affect individual litigation decisions and expected recovery. Based on this analysis, empirical implications are generated. Section IV contains a description of the data and results of statistical tests. Finally, section V provides a summary of the major findings and a discussion of policy issues.

II. HISTORICAL DEVELOPMENT AND BIRTH OF COMPARATIVE NEGLIGENCE

A. *Historical Development of Contributory Negligence*

From the time the defense of contributory negligence first appeared in England,³ its wisdom, fairness, and efficiency was questioned.

3. *Butterfield v. Forrester*, 11 East 60, 103 Eng. Rep. 926, 927 (K.B. 1809). In this case, the defendant, in the process of repairing his house, left a pole protruding onto the highway. The plaintiff, riding home from a pub at dusk, did not see the pole, ran into it, and was thrown from his horse and injured. The issue, from a contributory negligence perspective, was the appropriate

The rule created a bar to recovery by plaintiffs who had failed to use ordinary care.

The development of negligence defenses rested on varying legal theories⁴ and the defenses have been subject to modification, elimination, and reinstatement since their inception.⁵ Initially, the United States chose to follow the strict contributory negligence standard wherein any level of plaintiff negligence precluded recovery, but the harshness of the results created difficulties for jurors. For practical purposes, plaintiff negligence as a bar to recovery never existed in the absolute sense since jurors seemed to be weighing fault instead of applying the intended bar to recovery.⁶ In an effort to avoid the harsh

level of care to be exercised by the plaintiff while riding his horse. For more background and analysis on *Butterfield*, see generally Bohlen, *Contributory Negligence*, 21 HARV. L. REV. 233 (1908); Green, *Contributory Negligence and Proximate Cause*, 6 N.C.L. REV. 3 (1927); Lowndes, *Contributory Negligence*, 22 GEO. L.J. 674 (1934); Prosser, *Comparative Negligence*, 51 MICH. L. REV. 465 (1953).

4. In some instances, the use of the contributory negligence defense was justified as an extension of proximate cause—a required element of proof in a negligence case. The “proximate cause” element is one which requires the plaintiff to show that his negligence is not an intervening cause between the defendant’s negligence and his resulting injury. See, e.g., *Ware v. Saufley*, 194 Ky. 53, 237 S.W. 1060 (1922); *Gilman v. Central Vt. Ry.*, 93 Vt. 340, 107 A. 122 (1919); *Exum v. Atlantic Coast Line R.R.*, 154 N.C. 408, 70 S.E. 845, (1911); *Chesapeake & O. Ry. v. Wills*, 111 Va. 32, 68 S.E. 395, (1910). However, the analysis of proximate cause is a “but for” analysis which asks: “but for the negligence of the defendant, would the plaintiff still have been injured?” In most cases of contributory negligence, the plaintiff would still have been injured but, perhaps, less so.

In other cases, the defense developed around a penalty theory. Barring negligent plaintiffs’ recovery was justified by reasoning it would encourage them to use more caution. Whether this penalty theory has been an effective deterrent for negligent defendants remains an unanswered empirical question. Defendants, of course, have always been subject to such a penalty. See, e.g., *Davis v. Guarnieri*, 45 Ohio St. 470, 15 N.E. 350, (1887).

Other courts simply recognized that the realities of industrial development required some liability limitations and protection. The doctrine of contributory negligence precluded recovery even though the jury may have been moved to give something to the plaintiff if the jury found the plaintiff negligent. For a more complete discussion of this industrial protectionism rationale, see Malone, *The Formative Era of Contributory Negligence*, 41 ILL. L. REV. 151 (1946), and Malone, *Comparative Negligence—Louisiana’s Forgotten Heritage*, 6 LA. L. REV. 125 (1945); see also Turk, *Comparative Negligence on the March*, 28 CHI. KENT L. REV. 189, 201 (1950) (The swift and universal acceptance of contributory negligence was attributed to the industry’s need for protection “against the ravages which might have been wrought by over-sympathetic juries.”); H. WOODS, *THE NEGLIGENCE CASE: COMPARATIVE FAULT* 9 (2d ed. 1978) (The judiciary recognized that the “jury sympathy factor” could wreak financial disaster upon burgeoning industry without the check of contributory negligence since juries admit they view industry as “harmful entities with deep pockets.”)

5. For a more complete discussion of historical origins and modification of negligence defenses see Epstein, *The Historical Origins and Economic Structure of Workers’ Compensation Law*, 16 GA. L. REV. 775 (1982).

6. Scholars have made the point that juries may have largely ignored the true impact of a finding of contributory negligence and applied their own theories of comparative negligence without ever stating their processes for arriving at a decision. See ULMAN, *A JUDGE TAKES THE*

contributory negligence results, the judiciary initiated the last clear chance doctrine⁷ to give the plaintiff an opportunity to recover, even if the plaintiff was negligent, if the defendant could have eliminated the danger to plaintiff and failed to do so.⁸ Therefore, the defendant was the last one to be negligent. The ultimate effect of "last clear chance" may have been to cloud the issues surrounding responsibility, causing courts to become entangled in discussions of when the doctrine applied and, if so, how it effected recovery.⁹

STAND 30-34 (1933); see also *Haeg v. Sprague, Warner & Co.*, 202 Minn. 425, 281 N.W. 261, (1938).

7. The doctrine originated in 1842 in *Davies v. Mann*, 152 Eng. Rep. 588 (1842) and was readily accepted in the United States. See, e.g., *Fuller v. Illinois Cent. R.R.*, 100 Miss. 705, 56 So. 783 (1911). The *Davies* case involved a fettered donkey left in the road by the plaintiff, which was then run over by the defendant, who, if he had been driving reasonably, had the last clear chance to avoid the accident.

8. The "last clear chance" doctrine has been referred to as a "transitional doctrine" or "a way station on the road to apportionment of damages." See James, *Last Clear Chance: A Transitional Doctrine*, 47 YALE L.J. 704 (1938). The impact of this doctrine may also have been to prevent directed verdicts upon proof of contributory negligence and, hence, to allow juries the right to deliberate negligence levels.

9. The results of the debate were confusing. They provided a great deal of circumstantial evidence and no clear statement of how the doctrine really worked or when it was to be applied. For example, the following applications of the rule regarding "sighting of danger" developed:

a. It was a defense to contributory negligence only in cases where the plaintiff was helpless and the defendant *actually* discovered the helpless plaintiff. See *Storr v. New York Cent. R.R.*, 261 N.Y. 348, 185 N.E. 407 (1933); *Cleveland Ry. v. Masterson*, 126 Ohio St. 42, 183 N.E. 873 (1932).

b. It was a defense to contributory negligence if the defendant would have discovered the helpless plaintiff had the defendant been using reasonable care. See *Independent Lumber Co. v. Leatherwood*, 102 Colo. 460, 79 P.2d 1052 (1938); *Leinbach v. Pickwick-Greyhound Lines*, 138 Kan. 50, 23 P.2d 449 (1933); *St. Louis S.W. Ry. v. Watts*, 110 Tex. 106, 216 S.W. 391 (1919); *Nicol v. Oregon-Wash. R.R. & Navigation Co.*, 71 Wash. 409, 128 P. 628 (1912); *Teakle v. San Pedro, L.A. & S.L.R.R.*, 32 Utah 276, 90 P. 402 (1907); *Pickett v. Wilmington & W.R.R.*, 117 N.C. 616, 23 S.E. 264 (1895).

c. It was a defense to contributory negligence in cases where the plaintiff was not helpless but was negligent and the defendant discovered the negligence and the danger or peril but did nothing. See *Groves v. Webster City*, 222 Iowa 849, 270 N.W. 329 (1936); *Yazoo & M.V.R.R. Co. v. Lee*, 148 Miss. 809, 114 So. 866 (1927); *Darling v. Pacific Elec. Ry.*, 197 Cal. 702, 242 P. 703 (1925); *Tyrrell v. Boston & M.R.R.*, 77 N.H. 320, 91 A. 179 (1914); *Indianapolis Traction & Terminal Co. v. Croly*, 54 Ind. App. 96 N.E. 973 (1913).

d. It was a defense to contributory negligence in those cases where some negligence or lack of reasonable care on the part of the defendant prevented the defendant from stopping the chain of events he/she otherwise would have been able to stop (the "bad brakes" defense). See *Dent v. Bellows Falls & S.R. St. Ry.*, 95 Vt. 523, 116 A. 83 (1922); *Little Rock Traction & Elec. Co. v. Morrison*, 69 Ark. 289, 62 S.W. 1045 (1901); *Lloyd v. Albemarle & R.R.*, 118 N.C. 1010, 24 S.E. 805 (1896).

Prosser, has provided a more complete summary of the confusion of the doctrine's application. W. KEETON, D. DOBBS, R. KEETON & D. OWEN, *PROSSER & KEETON ON TORTS*, § 67, at 472-74 (5th ed. 1984). It is interesting to note that from the case titles alone, it is clear that the doctrine seems to have been created for the protection of railroads since nearly 90% of the cases applying the doctrine of last clear chance involved railroads.

The need for change became evident because of the lack of uniformity in the application of the negligence defense and the confusion surrounding the attempt at correction through the use of "last clear chance".¹⁰ Perhaps the greatest contribution of the early defenses and their inconsistent application was the establishment of a need for a negligence system that examines not only the parties' actions but also provides a clearer method for allocating responsibility.¹¹ The subsequent changes that were made in interpretation and application of negligence defenses were absorbed and institutionalized over nearly a 100-year period. The changes were judicial and developed slowly, as the nature of negligence cases and the impact on recovery levels were reviewed.

As noted in the following sections, the shift to the comparative negligence defenses was more sudden, done largely through legislative action.¹² The shift in defense theories appears to have been made

10. Prosser labeled the process "haphazard" and noted:

There are still juries which understand and respect the court's instructions on contributory negligence, just as there are other juries which throw them out of the window and refuse even to reduce the recovery by so much as a dime. Above all there are many directed verdict cases where the plaintiff's negligence, however slight it may be in comparison with that of the defendant, is still clear beyond dispute, and the court has no choice but to declare it as a matter of law.

PROSSER & KEETON ON TORTS, *supra* note 9, at 469.

11. Some attempts were made to eliminate, at least, directed verdicts in negligence cases in which contributory negligence was raised as a defense. For example, Arizona adopted a constitutional provision that required all issues of contributory negligence to be decided by a jury. ARIZ. CONST. art XVIII, § 5, provides: "The defense of contributory negligence or assumption of risk shall, in all cases whatsoever, be a question of fact and shall, at all times, be left to the jury." While the directed verdict problem was eliminated, the problem of jury inconsistency in the application of this defense to liability was exacerbated. Some states have always required that the issues of negligence (including defenses) be submitted to a jury. Presently, Arizona is a comparative negligence state (modified from the contributory standard in 1984), see ARIZ. REV. STAT. ANN. § 12-2505 (1984) and *infra* notes 36, 37, and 39-42; but the plaintiff's negligence still remains a jury question.

12. The vacillation may best be explained by historical and political factors. During the U.S. era of industrial growth and geographic and economic expansion, it was deemed important that railroads and other critical businesses enjoy some nurturing in the form of freedom from liability in all but the cases in which they were completely at fault. The strength (political and otherwise) of certain lobbies and interests has had great influence in the movement to comparative negligence defenses. See, e.g., Fleming, *Comparative Negligence At Last—By Judicial Choice*, 64 CAL. L. REV. 239 (1976); Krause, *No-fault's Alternative—The Case for Comparative Negligence and Compulsory Arbitration*, 44 N.Y. ST. B.J. 535 (1972). The Defense Research Institute's (DRI) report took the following position: "The determination of whether or not the rule of contributory negligence should be abandoned is a matter for local determination, but that the Wisconsin comparative negligence rule and procedures should be adopted if the contributory negligence is to be discarded." RESPONSIBLE REFORM—A PROGRAM TO IMPROVE THE LIABILITY REPARATIONS SYSTEM 23 (1969).

For an alternative explanation of the motivation for the shift toward comparative negligence, see R. Curran, *The Spread of the Comparative Negligence Rule Through the United States* (1989) (article on file with the BYU Journal of Public Law). Curran argues that adoption of

largely on the vague concept of fairness: that comparative negligence is more fair than contributory negligence.¹³ Those urging the shift have based their argument largely on the notion that a little bit of fault should not excuse a large amount of fault.¹⁴ While the efficiency implications of the comparative negligence shift have been considered in the law and economics literature,¹⁵ the means of analysis have been theoretical and have focused on differences in incentives to take precaution that are created by the various forms of negligence defenses.¹⁶ In con-

product liability rules affect the spread of comparative negligence. "By radically changing the interests of manufacturers, the adoption of products liability law enabled the lawyers to successfully push for the adoption of a tort law which clearly benefits their interests." *Id.* at 24.

13. See, e.g., Prosser, *Comparative Negligence*, 41 CALIF. L. REV. 1, 5 (1953). Prosser comments on the inherent unfairness of the contributory negligence defenses and notes: "Although the courts almost from the beginning have displayed an uneasy consciousness that something is wrong, they have been slow to move." *Id.*; see also R. KEETON, *VENTURING TO DO JUSTICE* 49-53 (1969); Schwartz, *Contributory and Comparative Negligence: A Reappraisal*, 87 YALE L. J. 697 (1978); Burrows & Velijanovski, *The Economic Theory of Tort Liability: Toward a Corrective Justice Approach*, in *ECONOMIC APPROACH TO LAW* 125, 142 (P. Burrows & C. Velijanovski eds. 1981) [hereinafter Velijanovski].

14. Prosser uses the following example:

Above all there are many directed verdict cases where the plaintiff's negligence, however slight it may be in comparison with that of the defendant, is still clear beyond dispute, and the court has no choice but to declare it as a matter of law. A striking illustration is the Minnesota case in which a motorist entering an intersection failed to yield the right of way on the mistaken assumption that the speeding defendant would slow down for him, and the supreme court uttered an almost pathetic appeal to a legislature, which still remains indifferent, to relieve it of the necessity of such decisions by adopting a "comparative negligence" act.

PROSSER & KEETON ON TORTS, *supra* note 9, at 470 (citing *Haeg v. Sprague*, Warner & Co., 202 Minn. 425, 281 N.W. 261 (1938)). In *Bradley v. Appalachian Power Co.*, 163 W. Va. 332, 256 S.E.2d 879, 882 (1979), the court noted: "There is an almost universal dissatisfaction among leading scholars of tort law with the harshness of the doctrine of contributory negligence. Neither intensive scholarship nor complex legal arguments need be advanced to demonstrate its strictness."

15. The earliest date on a scholarly economic analysis of the defenses is 1970 (G. CALABRESI, *THE COSTS OF ACCIDENTS: LEGAL AND ECONOMIC ANALYSIS* (1970)); followed by Brown, *Toward an Economic Theory of Liability*, 2 J. LEGAL STUD. 323, 346-47 (1973); and Posner's work including, Posner, *The Economic Approach to Law*, 53 TEX. L. REV. 757 (1975) and his treatise on law and economics first published in 1972 (R. POSNER, *ECONOMIC ANALYSIS OF LAW* (2d ed. 1977)). Most other literature appeared in the late 1970s and 1980s. See, e.g., Schwartz, *supra* note 13; Haddock & Curran, *An Economic Theory of Comparative Negligence*, 14 J. LEGAL STUD. 49 (1985); Rea, *The Economics of Comparative Negligence*, 7 INT'L REV. OF L. AND ECON. 149 (1978); Velijanovski, *supra* note 13; Cooter & Ulen, *An Economic Case for Comparative Negligence*, 61 N.Y.U. L. REV. 1067 (1986); W. LANDES & R. POSNER, *THE ECONOMIC STRUCTURE OF TORT LAW* (1987).

16. For example, Judge Learned Hand, in *United States v. Carroll Towing Co.*, 159 F.2d 169 (2d Cir. 1947), established what has become known as the "Hand formula" when he analyzed whether barge owners should be required to keep an employee on board when the barges were moored because the barges could break loose and damage other ships. Hand looked at three factors in determining the duty of barge owners:

- (1) the extent of the injury if a barge breaks away (L);
- (2) the burden of taking the precautions needed to prevent loose barges (B); and

trast, the impact of the comparative negligence on litigation behavior has not been considered in any systematic way.

B. *The Birth of Comparative Negligence*

In the middle of the nineteenth century, the English courts, in admiralty cases, developed the first simple method of comparing the negligence levels of the plaintiffs and assessing damages accordingly.¹⁷ The U.S. courts and lawmakers were somewhat slower in recognizing the method of comparing conduct and appeared to vacillate between adopting comparative negligence and retreating to contributory negligence.¹⁸ For example, in a very early case, *Galena & Chicago Union R.R. v. Jacobs*,¹⁹ the Illinois Supreme Court judicially rejected contributory negligence and adopted a form of comparative negligence,²⁰ but later appeared to reverse itself.²¹ In early cases, the courts, in an attempt to

(3) the probability the barge will break away,

A barge owner is negligent if the burden of precautions was less than the injury times probability or if $B < PL$ because it is more efficient to have the barge owner keep the barge tied than to pay for the consequences of or damages from a loose barge. *Id.* at 173.

17. Around 1700 (in a non-jury system), the English admiralty courts divided damages equally when all the parties were negligent. Though equal division may seem primitive, it did result in a distribution of damages among the parties as opposed to the complete bar to recovery result under contributory negligence. See R. MARSDEN, *A TREATISE ON THE LAW OF COLLISIONS AT SEA* 195 (8th ed. 1923).

18. Today, the U.S. is the only major country allowing contributory negligence. There are still a few states with the defense. Although it originated in England, the contributory negligence standard is no longer followed in the British Empire. See Law Reform Act of 1945, 8 (U.K.); N.Z. Stat. Repr. No. 3, 756 (1947); see also Shatwell, *Contributory Negligence and Apportionment Statutes*, 1 W. AUST. ANN. L. REV. 145 (1949); Williams, *The Law Reform (Contributory Negligence) Act, 1945*, 9 MOD. L. REV. 105 (1945).

19. 20 Ill. 478 (1858).

20. The court reached the conclusion that liability of the defendant is not dependent upon the complete absence of plaintiff's negligence:

[A]ll care or negligence is at best but relative, the absence of the highest possible degree of care showing the presence of some negligence, slight as it may be. The true doctrine, therefore, we think is, that in proportion to the negligence of the defendant, should be measured [against] the degree of care required of the plaintiff—that is to say, the more gross the negligence manifested by the defendant, the less degree of care will be required of the plaintiff to enable him to recover.

Id. at 496.

21. For example, in *Illinois Cent. R.R. v. Baches*, 55 Ill. 379 (1870), the court refined the *Galena* holding in reviewing an incorrect instruction given to the jury:

Under this instruction, the jury were required to find for the plaintiff, although deceased might have been guilty of negligence equal to that of appellants. Such has never been recognized as the rule of law in this class of cases. This instruction should have been refused, or modified so as to announce the rule of comparative negligence before it was given.

Id. at 389-90.

In a later case, *Illinois Cent. R.R. v. Hammer*, 72 Ill. 347 (1874) the court noted generically the difficulties with the doctrine:

define comparative fault, allowed negligent plaintiffs to recover only if their negligence was slight and defendant's was gross.²² Also, in the early decisions, plaintiffs were permitted to recover if the defendant's actions were "willful," "wanton," or "reckless,"²³ or if there was a statutory violation by the defendant when the statute was enacted to protect plaintiffs.²⁴ As noted earlier, the doctrine of last clear chance was, in part, a movement to the comparative standard;²⁵ some states refused to recognize the doctrine,²⁶ while others recognized it under another name.²⁷ Although widely discussed, the doctrine of last clear chance did not enjoy the universal appeal necessary for a modification of the contributory negligence defense.

The passage of the Federal Employers Liability Act²⁸ in 1908 established the necessary precedent for statutory comparative negligence and served as a model for state legislators to make the defense a permanent part of negligence liability determinations.²⁹ The Act was applicable to all negligence cases for injuries sustained by railroad employees engaged in interstate commerce and provided that the contributory negligence of the employee would not act as a bar to recovery, but the

The rule on this subject, it may be, has not at all times been accurately stated by this court. By inadvertence, it has been loosely and indefinitely stated in some of the cases, but what the court has held, and still holds, is, that a plaintiff free from all negligence may recover from a defendant who has failed to use such care as ordinarily prudent men generally employ; or, a plaintiff who is even guilty of slight negligence may recover from a defendant who has been grossly negligent, or whose conduct has been wanton or willful. Hence the doctrine of comparative negligence.

Id. at 351.

22. "[P]laintiff's action can not be defeated by his own negligence, unless such negligence be at least equal to that of defendant." *Indianapolis & St. L.R.R. v. Evans*, 88 Ill. 63, 65 (1878).

23. See Prosser, *supra* note 13, at 5; see also *Bradley v. Appalachian Power Co.*, 163 W. Va. 332, 256 S.E.2d 879 (1979); *Kirby v. Larson*, 400 Mich. 585, 256 N.W.2d 400 (1977).

24. See Prosser, *supra* note 13, at 5-6.

25. See *supra* notes 3, 17, and 20. Again, in the interest of fairness, the only true consistency in the application of the doctrine appears to be its use in cases where the application of contributory negligence as a bar to recovery would be a true hardship for the plaintiff. Prosser, *supra* note 13, at 8.

26. Illinois courts have expressly found the doctrine of "last clear chance" not to be the law of the state. *Alvis v. Ribar*, 85 Ill. 2d 1, 421 N.E.2d 886 (1981).

27. See *Walldren Express & Van Co. v. Krug*, 291 Ill. 472, 126 N.E. 97, 98 (1920) (The phrase "conscious indifference to consequences," was employed to hold a defendant liable in a case in which the plaintiff was negligent.); Prosser, *supra* note 13, at 8.

28. Federal Employers Liability Act of 1908, ch. 149, § 1, 35 Stat. 65 (codified as amended at 45 U.S.C. §§ 51-60 (1981)).

29. The federal statute opened the door for state application of the principle to generic accident cases. Prior to the time of the federal statute, some comparative negligence theory had been applied in industrial accident cases. *E.g.*, *Galena & C. Union R.R. v. Jacobs*, 20 Ill. 478, 496; see also Act of Jan. 1, 1863, GA. CODE § 2979 (1863) (codified at GA. CODE ANN. § 46-8-291 (1986)). However, after workers' compensation systems developed, both negligence and comparative negligence as issues in industrial accident cases became irrelevant.

employee's recovery would be reduced proportionately according to the amount of his negligence. Shortly thereafter, Congress incorporated the doctrine of comparative negligence into several other areas of federal law.³⁰

Within as little as five years, a trend emerged in which states followed the federal examples and enacted legislation adopting the doctrine of comparative negligence in industrial accident cases.³¹ Mississippi's 1910 statute was the first comparative negligence standard which was applicable to all negligence cases.³² However, between the enactment of the 1910 Mississippi statute and 1950, only four additional states adopted statutory comparative negligence standards.³³ During this time, several states did adopt the standard for cases involving hazardous activities,³⁴ and other states made the Federal Employee Liability Act applicable to employees engaged in interstate commerce.³⁵ The comparative negligence defense remained a controversial and debated, albeit defeated, issue in state legislatures for forty years.³⁶ After

30. The standard was adopted for cases arising under the Jones Act (Maritime Cases), Act of June 5, 1920, ch. 250, sec. 33, 41 Stat. 1007 (codified as amended at 46 U.S.C. app. § 688 (1987)), and under the Death on the High Seas Act, Act of Mar. 30, 1920, Ch. 111, sec. 6, 41 Stat. 537 (codified as amended at 46 U.S.C. § 766 (1987)).

31. See ARK. STAT. ANN. § 11-8-104 (Supp. 1987) (originally enacted as Act of Mar. 13, 1913, ch. 175, § 2, 1913 Ark. Acts); COLO. REV. STAT. § 40-33-102 (1984) (originally enacted as Act of Feb. 25, 1939, ch. 139, § 2, 1937 Colo. Sess. Laws 512-13); and VA. CODE ANN. § 8.01-58 (1950) (originally enacted as Act of Mar. 21, 1916, ch. 444, § 2, 1916 Va. Acts 762-63). The acts, respectively, covered employees of intrastate corporations and railroad employees.

32. Act of Apr. 16, 1910, ch. 135, 1910 Miss. Laws 125 (codified at MISS. CODE ANN. § 11-7-15 (1986)). As originally passed, the standard was adopted for all personal injury accidents but was later made applicable to property damages cases. See Act of Mar. 25, 1920, ch. 312, 1920 Miss. Laws 441 (codified at MISS. CODE ANN. § 11-7-15 (Supp. 1988)).

33. E.g., Nebraska (Act of Apr. 16, 1913, ch. 124, § 1, 1913 Neb. Laws 311-12 (codified at NEB. REV. STAT. § 25-21, 185 (1985))); South Dakota (Act of Mar. 13, 1941, ch. 160, § 1, 1941 S.D. Laws 184 (codified at S.D. CODIFIED LAWS ANN. § 20-9-2 (Rev. 1987))). Georgia's adoption was somewhat less generic but was certainly an adoption in spirit: "If the plaintiff by ordinary care could have avoided the consequences to himself caused by the defendant's negligence, he is not entitled to recover. In other cases the defendant is not relieved, although the plaintiff may in some way have contributed to the injury sustained." Act of Jan. 1, 1863, GA. CODE § 2914 (1863) (codified at GA. CODE ANN. § 51-11-7 (1987)). Cases following the Georgia statute (which was limited to railroad accidents) expanded the application of the comparative negligence standard, which remains as the Georgia standard today. For application to industrial accidents, see, e.g., *Smith v. American Oil Co.*, 77 Ga. App. 463, 49 S.E.2d 90 (1948); *Elk Cotton Mills v. Grant*, 140 Ga. 727, 79 S.E. 836 (1913).

34. For hazardous activities, including mining, see, e.g., *United Verde Extension Mining Co. v. Koso*, 273 F. 369 (D.C. Cir. 1921); see also FLA. STAT. § 769.03 (1941); IOWA CODE ANN. §§ 479-124, 429-125 (West 1949).

35. Colorado, Iowa, Kansas, Kentucky, Minnesota, Montana, North Carolina, North Dakota, South Carolina, South Dakota, Texas, Virginia, and Wyoming. See PROSSER & KEETON ON TORTS, *supra* note 9, at 479.

36. During the two decades between 1940 and 1960, 21 state legislatures debated but rejected the standard of comparative negligence. See V. SCHWARTZ, COMPARATIVE NEGLIGENCE §

1970 and the introduction of no-fault laws, the standard of comparative negligence gained ground both legislatively and judicially.³⁷ By 1986,

1.4 (B), at 12-13 (2d ed. 1986). The reason for the lack of motivation to change may have been the strength of the insurance industry lobby. However, when no-fault legislation gained momentum, those opposing no-fault plans began to propose elimination of contributory negligence as a means for retaining some part of the common law. For additional background on the insurance lobby, see *supra* note 12. The following comparative negligence states also have no-fault provisions:

Arkansas	(ARK. STAT. ANN. §§ 23-89-202 to -204 (1987)).
Colorado	(COLO. REV. STAT. § 13-21-111 (1987)).
Connecticut	(CONN. GEN. STAT. ANN. § 52-572 (West Supp. 1989)).
Florida	(FLA. STAT. ANN. §§ 627.730-741 (West Supp. 1984)).
Georgia	(GA. CODE ANN. tit. 56-34015 to -34136 (Supp. 1987)).
Hawaii	(HAW. REV. STAT. § 663-31 (1985), § 431:10C-102(A) (1987)).
Idaho	(IDAHO CODE § 6-801 (Supp. 1989)).
Kansas	(KAN. STAT. ANN. § 60-258(a) (Supp. 1988)).
Massachusetts	(MASS. GEN. LAWS ANN. ch. 231, § 85 (West 1985)).
Minnesota	(MINN. STAT. ANN. § 604.01 (West Supp. 1988)).
Montana	(MONT. CODE ANN. § 27-1-702 (1987)).
Nevada	(NEV. REV. STAT. § 41.141 (1987)).
New Hampshire	(N.H. REV. STAT. ANN. § 507(d) to (i) (Supp. 1988)).
New Jersey	(N.J. STAT. ANN. § 2A:15-5.1 to -5.3 (West Supp. 1987)).
New York	(N.Y. CIV. PRAC. L. & R. § 1411 (McKinney 1976)).
North Dakota	(N.D. CENT. CODE § 9-10-07 (1987)).
Oklahoma	(OKLA. STAT. ANN. tit. 23, §§ 13, 14 (West 1987)).
Oregon	(OR. REV. STAT. § 18.470 (1987)).
Rhode Island	(R.I. GEN. LAWS § 9-20-4 (1985)).
South Dakota	(S.D. CODIFIED LAWS ANN. §§ 58-23-6 to -8 (1978)).
Texas	(TEX. CIV. PRAC. & REM. CODE § 33-001 (Vernon Supp. 1989)).
Utah	(UTAH CODE ANN. § 78-27-38 (1987)).
Vermont	(VT. STAT. ANN. tit. 12, § 1036 (Supp. 1979)).
Washington	(WASH. REV. CODE ANN. § 4.22.005 (1987)).
Wyoming	(WYO. STAT. § 1-1-109 (Supp. 1988)).

For a more complete discussion of legislative history, see Krause, *supra* note 12.

37. The following table from W. LANDES & R. POSNER, *supra* note 15, at 83, shows the movement to comparative negligence. The notes have been inserted for explanatory purposes.

<u>STATE</u>	<u>DECISION</u>	<u>STATUTE</u>
Alabama		
Alaska	1975	
Arizona		1984
Arkansas		1955
California	1975	
Colorado		1973
Connecticut		1973
Delaware		1984
District of Columbia		1984
Florida	1973	
Georgia		1855 ^a
Hawaii		1969
Idaho		1971
Illinois	1981 ^b	
Indiana		1984

all but nine states had adopted the standard, primarily through legisla-

Iowa		1984
Kansas		1974
Kentucky ^c		
Louisiana		1979
Maine		1965
Maryland		
Massachusetts		1969
Michigan	1979	
Minnesota		1969
Mississippi		1919 ^d
Missouri ^e		
Montana		1975
Nebraska		1913
Nevada		1973
New Hampshire		1969
New Jersey		1973
New Mexico	1981	
New York		1975
North Carolina		
North Dakota		1973
Ohio		1980
Oklahoma		1973
Oregon		1971
Pennsylvania		1976
Rhode Island		1971
South Carolina		
South Dakota		1941
Tennessee		
Texas		1973
Utah		1973
Vermont		1970
Virginia ^f		
Washington		1973
West Virginia	1982	
Wisconsin		1931
Wyoming		1973

^aThe Georgia statute enacted in 1855 (1863) was applicable to railroad accidents only but was applied generically in spite of the statutory restriction.

^bAs noted in *supra* note 21, Illinois judicially adopted the doctrine in 1863.

^cIn *Hilen v. Hays*, 673 S.W.2d 713, 720 (Ky. 1984), the Kentucky Supreme Court declined to wait for legislative action and adopted the jury instructions from the Uniform Comparative Fault Act: "Henceforth, where contributory negligence has previously been a complete defense, it was supplanted by the doctrine of comparative negligence. . . ." *Id.*

^dAs noted in *supra* note 32, the date of the original statute was 1910 and was made applicable to property in 1920.

^eIn *Gustafson v. Benda*, 661 S.W.2d 11 (Mo. 1983), the Missouri Supreme Court also adopted the Uniform Comparative Fault Act: "Insofar as possible this and future cases shall apply the doctrine of pure comparative fault in accordance with the Uniform Comparative Fault Act. . . ." *Id.* at 15.

^fIn *Virginia Elec. & Power Co. v. Winesett*, 225 Va. 459, 303 S.E.2d 868, 876 (1983) (Compton, J., dissenting), the court found that the decedent, "an adult of average intelligence who was perched on a metal ladder . . . [who] undertook to cut with an electric saw a limb overhanging

tive action.³⁸ The cautious resistance to a different standard during the period from 1910 through 1970 was largely the result of dealing with the unknown impact of these new defense standards on the amount of litigation, the size of verdicts, and whether the existence of the defense had optimal deterrent effects. Interestingly, once the movement took hold, it progressed rapidly and continued in spite of limited analysis of any quantitative impact.

III. CURRENT FORMS OF COMPARATIVE NEGLIGENCE: AN ANALYSIS OF THEIR IMPACT ON EXPECTED RECOVERY AND LITIGATION DECISIONS

Currently, there are four forms of comparative negligence standards in use. These are the pure form, under which each party may recover from the other based on respective degrees of negligence; two versions of modified comparative negligence, referred to as the fifty-percent rule and the fifty-percent plus rule; and finally, the slight-gross rule, under which a plaintiff's contributory negligence bars recovery, unless his negligence is "slight" and the defendant's is "gross." The two modified rules are identical in effect when the parties' degrees of negligence are different, such as when the plaintiff is twenty-five percent at fault and the defendant is seventy-five percent at fault, but can yield different outcomes when negligence levels are equal.

To illustrate the basic differences between the pure and modified rules in terms of expected net recovery, consider the following hypothetical example. Parties A and B have an accident in which A's car is destroyed (\$15,000) and B's truck is destroyed (\$35,000). A sues B for negligence, and B counterclaims on the basis of A's negligence. Suppose, initially that a jury determines that A is twenty-five percent at fault and B is seventy-five percent at fault. For the purpose of illustration, attorney fees and any other costs associated with the litigation are not considered.

Under pure comparative negligence, damages are apportioned according to the parties' respective levels of negligence. Thus, A would recover seventy-five percent of the \$15,000 loss (the percent to which B is at fault for damages to A's vehicle) but would be liable for twenty-five percent of B's loss. The expected net return to A is \$2,500, deter-

[an] exposed wire," was not contributorily negligent. By holding there was no contributory negligence in this case, the majority decision indicates some tendency to avoid the harshness of a contributory negligence rule.

38. However, three of the nine states have judicial decisions which have adopted the standard of comparative negligence. See *supra* note 37, at subnotes c, e, and f, for reference to the decisions. The states remain unchanged from the chart above, *supra* note 37, with the exceptions noted.

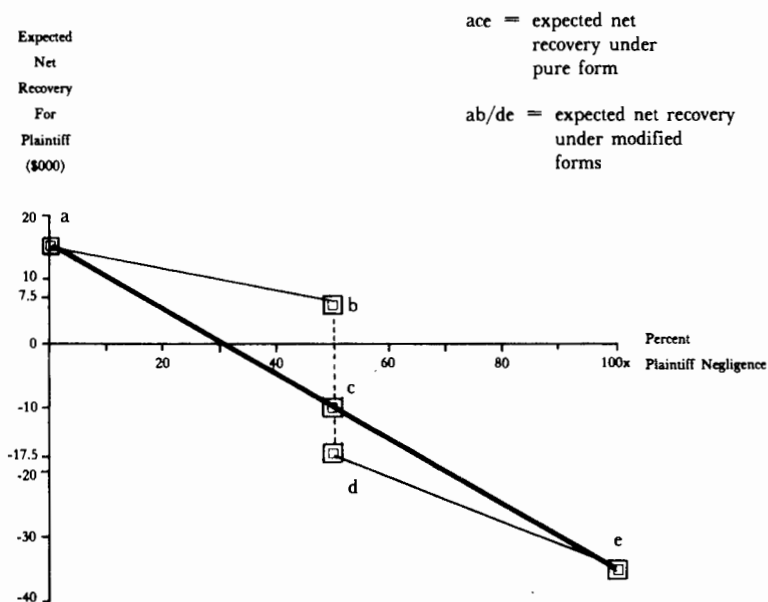
mined as follows:

\$11,250	Amount owed A by B (75% of \$15,000)
<u>- 8,750</u>	Amount owed B by A (25% of \$35,000)
\$ 2,500	Expected net recovery to A

Figure 1 illustrates how the expected net recovery for A changes under the pure form of comparative negligence as relative negligence levels vary. At zero percent negligence, A expects to recover her full loss (\$15,000) as indicated by point "a" on the graph. In this example, the point at which she expects to net zero dollars is at a thirty-percent negligence level. Beyond that negligence level, she expects to owe B more than B owes her. At point "c", both parties are equally at fault and A expects to owe B \$10,000, which is determined as A's share of B's loss (50% of \$35,000) less B's share of A's loss (50% of \$15,000). The entire schedule of net recovery amounts for Party A under pure comparative negligence is represented by the straight line "a-c-e."

Figure 1

Expected Net Recovery Levels As A Function of Plaintiff Negligence
Under Modified and Pure Comparative Negligence¹



¹ The expected net recovery amounts are calculated as Party A's recovery net of any payment due Party B. The calculations assume no attorneys' fees and are based on assumed facts presented in text.

A majority of states have adopted one of two modified forms of comparative negligence.³⁹ The fifty-percent rule retains contributory negligence as a bar to recovery when the plaintiff's negligence is equal to or greater than the defendant's.⁴⁰ When the parties meet half-way on fault, each bears his or her own loss and neither recovers. Under the fifty percent plus rule, a party who is more at fault than the other is precluded from recovery.⁴¹ The two rules vary only in how damages are calculated in cases of equal fault.

The above example illustrates that a party who is less than fifty percent at fault will always expect to do better in terms of net recovery under a modified comparative negligence rule than under the pure form. This is because, as under contributory negligence, a party more than fifty percent at fault is barred from recovery under modified comparative negligence so there can be no effective counterclaim. In contrast, such a defendant is not so barred under the pure form, thus facilitating an effective counterclaim and possible recovery.

Given the example, under the modified rules, A expects to be compensated for seventy-five percent of her losses, or \$11,250, with no offsetting recovery to B. Referring to Figure 1, at twenty-five percent negligence, the vertical distance between expected net recovery under the

39. According to Cooter and Ulen, *supra* note 15, at 1077, the pure form has been adopted in 7 of the 44 states that have adopted some form of comparative negligence. These include: Arizona (ARIZ. REV. STAT. §§ 12-2503 to -2509 (Supp. 1986)); Iowa (IOWA CODE ANN. § 668 (West Supp. 1986)); Louisiana (LA. CIV. CODE ANN. art. 2323 (West Supp. 1987)); Mississippi (MISS. CODE ANN. § 11-7-15 (1972)); New York (N.Y. CIV. PROC. L. R. § 1411 (McKinny 1976)); Rhode Island (R.I. GEN. LAWS § 9-20-4 (1985)); and Washington (WASH. PREV. CODE ANN. § 4.22.005 (Supp. 1987)). Cooter and Ulen also interpret application of the rules differently, *supra* note 15, at 1075-78.

40. The 50% rule has been adopted in the following states: Arkansas (ARK. STAT. ANN. §§ 27-1763 to -1765 (1979)); Colorado (COLO. REV. STAT. § 13-21-111 (Supp. 1986)); Idaho (IDAHO CODE §§ 6-801 to -806 (1979)); Kansas (KAN. STAT. ANN. § 60-258a (1984)); Maine (ME. REV. STAT. ANN. tit. 14, § 156 (1980)); North Dakota (N.D. CENT. CODE § 9-10-07 (1975)); and Utah (UTAH CODE ANN. § 78-27-38 (Supp. 1986)).

41. Under this form, the contributory negligence rule takes effect as in the 50% rule but does so at 50.001% as opposed to the even split. Again, many fail to see the rationale for drawing the line at different percentages. The 50% plus rule has been adopted in these states: Connecticut (CONN. GEN. STAT. ANN. § 52-572(h) (West 1989)); Delaware (DEL. CODE ANN. tit. 10, § 8132 (Supp. 1988)); Hawaii (HAW. REV. STAT. § 663-31 (1985)); Indiana (IND. CODE ANN. § 34-4-33-4 (Burns (1986)); Massachusetts (MASS. GEN. LAWS ANN. ch. 231, § 85 (West 1985)); Minnesota (MINN. STAT. ANN. § 604.01 (West Supp. 1988)); Montana (MONT. CODE ANN. § 27-1-702 (1987)); Nevada (NEV. REV. STAT. § 41-141 (1987)); New Hampshire (N.H. REV. STAT. ANN. § 507:7(d) (Supp. 1988)); New Jersey (N.J. STAT. ANN. § 2A:15-5.1 (West Supp. 1989)); Ohio (OHIO REV. CODE ANN. § 2315.19 (Anderson 1988)); Oklahoma (OKLA. STAT. ANN. tit. 23, § 13 (West 1987)); Oregon (OR. REV. STAT. § 18.470 (1987)); Pennsylvania (PA. CONS. STAT. ANN. § 7102 (Purdon Supp. 1989)); Texas (TEX. CIV. PROC. & REM. CODE ANN. § 33.001 (Vernon Supp. 1989)); Vermont (VT. STAT. ANN. tit. 12, § 1036 (1985)); Wisconsin (WIS. STAT. ANN. § 895.045 (West 1983)); and Wyoming (WYO. STAT. § 1-1-109 (Supp. 1988)).

modified versions of comparative negligence (\$11,250) and under pure comparative negligence (\$2,500) equals \$8,750. Since, in this situation B does not recover anything under modified comparative negligence, A's recovery is higher by \$8,750 under the modified rules.

The schedule of recovery amounts, under modified comparative negligence, as A's negligence level varies is denoted by line segment "a-b-d-e". The discontinuity in the graph arises because cases of equal fault are treated differently. Under the fifty percent rule, contributory negligence is equal to or greater than the defendant's; hence, A expects to recover zero dollars from B because each party bears his or her own loss. Under the fifty percent plus rule, a party is precluded from recovery only if the party is more at fault than the other. Hence, at the fifty-fifty point, both parties can recover, and in the example, this amount is denoted at point "c"—the same amount as under pure comparative negligence. Beyond the fifty-fifty level, the points plotted on line segment "d-e" represent expected net recovery amounts for A under the two modified versions as plaintiff negligence increases to 100 percent.

A final version of comparative negligence is the slight-gross rule, currently in effect in only two states.⁴² The effect of this rule is difficult to quantify graphically, since the meanings of "slight" and "gross" are not defined in terms of percentage fault. The rule retains the recovery bar of contributory negligence, unless the plaintiff can show that her negligence was slight and the defendant's was gross. Ostensibly, the level of plaintiff's negligence that bars recovery need not be much greater than slight and therefore allows the plaintiff only a small margin of error before risking a complete bar to recovery. Because this rule is of little practical importance, the empirical analysis of the negligence rules is limited to forms other than the slight-gross rule. However, sample statistics for this rule are offered in Table II.

In summary, the above example provides testable implications concerning negligence rules. First, it is possible to rank the rules of contributory negligence, as well as the modified and pure forms of comparative negligence, according to expected net recovery for a plaintiff who

42. The slight-gross rule is used in only Nebraska (NEB. REV. STAT. § 25-21, 185 (1985)) and South Dakota (S.D. CODIFIED LAWS ANN. § 20-9-2 (1987)). The South Dakota version only requires the plaintiff to establish that the defendant's negligence was gross:

In all actions brought to recover damages for injuries to a person or to his property caused by the negligence of another, the fact that the plaintiff may have been guilty of contributory negligence shall not bar a recovery when the contributory negligence of the plaintiff was slight in comparison with the negligence of the defendant, but in such case, the damages shall be reduced in proportion to the amount of plaintiff's contributory negligence.

S.D. CODIFIED LAWS ANN. § 20-9-2 (1987).

is contributorily negligent but less than fifty percent at fault. This ranking is based on the accident described in the example.

Party A's Expected Net Recovery
(0% < negligence level < 50%)

Lowest		Highest
Contributory negligence	Pure form comparative negligence	Modified forms of comparative negligence

To the extent the likelihood of involving an attorney in a dispute increases with the "stakes" (expected net recovery), the negligence standards can be ranked according to the incentives they create to retain counsel. The above ranking illustrates that the strongest incentives to retain counsel are associated with the modified forms of comparative negligence followed by the pure form. Contributory negligence should result in the weakest incentives to retain counsel.

There are differences in incentives to litigate versus those to settle law suits. The settlement decision is a classic problem of decision-making under uncertainty. The plaintiff demands a payment, P_p , in exchange for the termination of the lawsuit. The defendant must then choose between the uncertain monetary liability associated with litigation and the certainty of payment in settlement. The decision must be made based on perceptions of the probability distribution⁴³ of awards and the costs of continued litigation and settlement negotiation. The defendant selects a reservation price, P_d , which represents the maximum payment he is willing to make in exchange for termination of the litigation. If P_p exceeds P_d , the litigation continues. This simple decision rule is common to most models of the settlement process.⁴⁴

Parties to a lawsuit may fail to agree on a settlement price for several reasons. First, there may be asymmetries in the information available to them so that one party is in a better position to assess the likelihood of winning; second, there may be differences in the risk pref-

43. Probability distribution is a statistical term that describes, in this case, the likelihood of obtaining an award level. The distribution will show a plaintiff the likelihood of recovering a certain amount. The probability may be empirical or based simply on retained counsel's settlement and litigation experience.

44. The seminal paper is by Landes, *An Economic Analysis of the Courts*, 14 J.L. & ECON. 61 (1971). Further refinements and extensions are made by Bebchuk, *Litigation and Settlement Under Imperfect Information*, 15 RAND J. ECON. 404 (1984); I. P'ng, *Strategic Behavior and Suit, Settlement and Trial*, 14 BELL J. ECON. 539 (1983); Reinganum and Wilde, *Settlement, Litigation and the Allocation of Litigation Costs*, 17 RAND J. ECON. 557 (1986); Shavell, *Suit, Settlement, and Trial: A Theoretical Analysis Under Alternative Methods for the Allocation of Legal Costs*, 11 J. LEGAL STUD. 55 (1982).

erences of the parties, such that the more risk-averse party is willing to make greater sacrifices than the less risk-averse party to avoid litigation; finally, even if the parties have access to the same information and are risk neutral, they may evaluate this information differently. A general proposition arising from this simple litigation model is that the wider apart the parties' assessments of the outcome are, the more likely the case will be litigated.⁴⁵

It is possible to examine the litigation incentives created by negligence rules, based on the analysis above, in terms of their impact on variances in expected awards. As Figure 1 depicts, claims in which the level of plaintiff negligence range from zero to less than fifty percent result in judgments which display more variability than judgments under the modified rules. Over this range, the expected net recovery schedule under the pure form displays more vertical dispersion. However, when the negligence level reaches fifty percent, the modified rules are associated with more variable outcomes. The figure illustrates that in disputes where plaintiff and defendant negligence levels are close to the fifty-fifty threshold, the variability in expected outcomes is considerably higher in a modified rule jurisdiction. This implies that P_d and P_p are wider apart *ex ante* under the modified rule; therefore, settlement is less likely when negligence percentages are close to an even split. The hypothesis tested was that claims arising under the modified rule are more likely to be litigated to verdict than claims arising under the pure form, and this result is more likely when the parties' negligence percentages are closely situated.

IV. THE EMPIRICAL EVIDENCE

As noted above, previous economic analysis of comparative negligence has been primarily theoretical and focused on how alternative negligence standards affect incentives to exercise care when engaging in activities that can result in accidents.⁴⁶ The early work (by Calabresi,⁴⁷ Posner,⁴⁸ Brown,⁴⁹ and Schwartz⁵⁰) indicated that the use of the com-

45. See Bebchuk, *supra* note 44. Bebchuk presents an economic model of parties' litigation and settlement decisions under imperfect information. The model is used to identify how the likelihood of the settlement is affected by various factors: the size of the stakes, the magnitude of litigation costs, and the nature of the parties' information.

46. See Cooter & Ulen, *supra* note 15, at 1079-1110; Haddock and Curran, *supra* note 15; Rea, *supra* note 15; Rubinfeld, *The Efficiency of Comparative Negligence*, 16 J. LEGAL STUD. 375 (1987).

47. G. CALABRESI, *supra* note 15.

48. R. POSNER, *supra* note 15.

49. Brown, *supra* note 15.

50. Schwartz, *supra* note 13.

parative negligence defense provides the "wrong" precaution incentives relative to traditional negligence rules. These early studies are based on models that assumed efficient precaution is unilateral (only one party can affect the likelihood of an accident).⁵¹ More recent work has focused on the possibility that an efficient comparative negligence standard can be designed.⁵²

The common thread in the literature on development of the optimal liability rule focuses on incentives for caretaking. Scholars working in the area, however, invariably acknowledge the critical dependence of a rule's overall efficiency on associated litigation and administrative costs.⁵³ Although recognized as critical, little evidence on the magnitude or impact of these costs has been forthcoming. Indeed, the possibility

51. Brown's conclusions are based on a comparative caution model. Accident costs are allocated according to the degree of efficiency any precautions taken by either party would have in preventing the accidents. Under Brown's model, which goes beyond the legal liability standard of ordinary care, both parties could be held liable in spite of meeting the standard of care. Cooter and Ulen refer to Brown's model as one of "comparative precaution" as opposed to comparative negligence. Cooter & Ulen, *supra* note 15, at 1080.

Calabresi notes that a comparative negligence standard requires both parties to take precautions to prevent an accident when only one need do so. Further, the division of accident costs fails to provide both parties with adequate precaution incentives. G. CALABRESI, *supra* note 15, at 158.

Posner's analysis is that comparative negligence gives incentives for parties to take precautions when only one party needs to take action; as a result, comparative negligence is inefficient. Schwartz reaches the same conclusion as Posner and Brown. "The risk of treating basically equal litigants in a dramatically unequal manner is simply too great. Moreover, the break point creates a certain prospect of inefficient accident prevention." Schwartz, *supra* note 13, at 727.

52. In his piece, as an alternative to the comparative standards, Schwartz suggested the development of an optimal contributory negligence rule as follows:

$$\text{Party's share of liability} = \frac{(\text{total prevention costs}) - (\text{party's prevention costs})}{\text{total prevention costs}}$$

Alternately, one could compare the net losses that the parties incurred by their failure to take preventive measures, that is, the differences between each party's prevention costs and the expected value of the risk that each allowed to materialize. Thus, if the expected value of the risk is \$100 and the respective prevention costs are . . . \$40 and \$10, those differences are \$60 and \$90 respectively. The \$40 party and \$10 party would then bear liability in the ratio of 60/90. The liability of each party would be determined by the formula:

$$\text{Party's share of liability} = \frac{(\text{expected value of risk}) - (\text{party's prevention costs})}{2 \times (\text{expected value of risk}) - (\text{Total prevention costs})}$$

Schwartz, *supra* note 13, at 705-06 n.44.

53. Cooter and Ulen also raise the issue of evidentiary uncertainties:

In reality, the level of care that a "reasonable" person would take is a vague standard. Moreover, courts decide cases based upon the preponderance of evidence, which is substantially less than full information. For example, the court may have limited information about the precautionary technology of the parties. Individuals, therefore, cannot predict with complete accuracy whether a court will conclude that a given level of precaution constitutes "due care". Instead, parties operate under conditions of evidentiary uncertainty.

Cooter & Ulen, *supra* note 15, at 1086 (footnote omitted).

exists that litigation costs may be of much greater social significance than differences in caretaking induced by alternative negligence rules. Newer theories suggest circumstances when comparative negligence may lead to a more optimal degree of precaution but fail to provide empirical evidence that any induced difference in caretaking impacts significantly on accident volume. This shortcoming in the literature is especially surprising, since the majority of jurisdictions have moved toward some comparative negligence form. Apparently, they have done so with little understanding of how comparative negligence impacts litigation and associated litigation costs. Indeed, arguments have been made that adoption and application of comparative negligence results in more attorney involvement, more litigation,⁵⁴ and higher verdict amounts.⁵⁵ However the only evidence provided to date is specific to one state's experience.⁵⁶

The database used allowed a cross-state comparison of the alternative versions of pure and modified comparative negligence and contributory negligence. Results show that the type of negligence defense impacts realized award amounts and accident victims' incentives to hire attorneys and file lawsuits and propensities to litigate rather than settle

54. Posner has argued that even if incentives to exercise due care are efficient, comparative negligence is less desirable in that it adds a new dimension to the determination of fault and makes litigation more costly. K. POSNER, *supra* note 15 (3d ed. 1986). Posner also notes that comparative negligence may increase the probability of litigation, since use of the comparative standard makes it more difficult to predict outcomes.

55. In *Alvis v. Ribar*, 85 Ill. 2d 1, 421 N.E.2d 886 (1981), the court discussed the issue of increased litigation:

Opponents of the "pure" form of comparative negligence claim that the "modified" form is superior in that it will increase the likelihood of settlement and will keep down insurance costs. However, studies done comparing the effects of the "pure" versus the "modified" forms show the differences in insurance rates to be inconsequential.

85 Ill. 2d at 26, 421 N.E.2d at 897 (citing SCHWARTZ, *COMPARATIVE NEGLIGENCE* 346 (1974)). The *Alvis* court also noted:

Fears as to the likelihood of settlement are not supported in fact or logic. It was argued that the negligent plaintiff will refuse to settle knowing that, under the "pure" system he will be able to recover "something" in court. The converse can as easily apply: the defendant may be encouraged to settle knowing that he cannot rely on the "modified" 50% cut-off point to relieve him of liability. A comparison of results under both the "pure" and "modified" forms showed that in Arkansas there was only a slight decrease in number of settlements when the state changed from "pure" to "modified".

Id. See Rosenberg, *Comparative Negligence in Arkansas: A "Before and After" Survey*, 13 ARK. L. REV. 89 (1959).

56. The Arkansas study was one that examined subjective views of judges and lawyers before and after the passage of Arkansas' 1955 comparative negligence statute. The study surveyed Arkansas judges and attorneys regarding their perceptions of the statute's impact. Data on actual cases was limited to a survey of 98 lawyers and 19 judges. Size of verdicts, proportion of plaintiff victories, and number of settlements were all examined but based only on survey responses and not actual case reviews. The study suffers from a poor response rate as well as its second-hand data and perceptual input from respondents.

during the claim process. Figure 2 illustrates various factors reviewed by an injured claimant as he or she progresses from hiring an attorney to litigating. There are three general categories of factors expected to affect these decisions: (1) the characteristics of the individual and the accident causing the injury (e.g., degrees of fault of the parties to the accident); (2) the type of negligence defense available; and (3) other regulatory constraints such as the no-fault statutes, liability limitations, and/or caps on attorneys' fees.⁵⁷

57. There are additional variables that can impact the decision-making of the claimants. For example, whether the jury is a blind jury (one that does not deal with the damage issue) or an informed jury (one that *does* deal with the damage issue) may affect the negotiation strength of the claimant. The following table summarizes the various states according to the role of their juries:

ROLE OF JURY BY STATE AND NEGLIGENCE DEFENSE STANDARD*

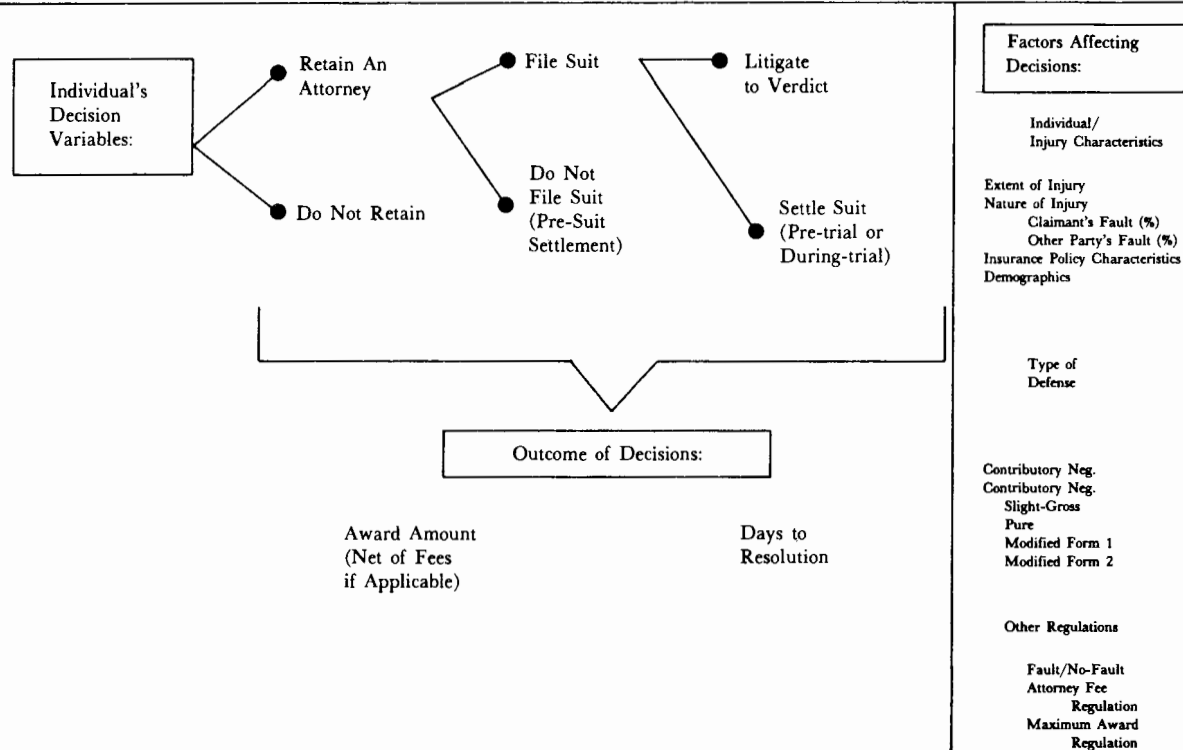
(as of 1977)

STATE	DEFENSE STANDARD	BLIND JURY	INFORMED JURY
Arkansas	50% rule	x	x
Colorado	50% rule		x
Connecticut	50% plus rule		x
Georgia	50% rule		x
Hawaii	50% rule	x	
Idaho	50% rule		x
Kansas	50% rule		x
Maine	50% rule		x
Massachusetts	50% plus rule	x	
Minnesota	50% plus rule		x
Montana	50% plus rule		x
Nebraska	slight/gross		x
Nevada	50% plus rule		x
New Hampshire	50% plus rule		x
New Jersey	50% plus rule		x
North Dakota	50% rule		x
Oklahoma	50% rule		x
Oregon	50% plus rule		x
Pennsylvania	50% plus rule		x
South Dakota	slight/gross		x
Texas	50% plus rule		x
Utah	50% rule	x	
Vermont	50% plus rule		x
Wisconsin	50% plus rule	x	
Wyoming	50% rule		x

* Only comparative states are included since this is not an issue in contributory states.

Figure 2

Decision Model for Claim Resolution:
Injury Producing Auto Accidents



The focus of this study is the impact of the negligence standard on the decisions illustrated in Figure 2. While other factors can affect these decisions, the highly aggregated nature of the data used in this study permits examination of statistical impact without explicitly controlling individual claimant and injury attributes. The no-fault status of the relevant jurisdiction is controlled by including only claims arising in "fault" or tort states. Due to insufficient data on accidents involving fatalities and permanent total disabilities, this sample includes only non-fatal accidents and accidents producing less than permanent total disability.

A. *The Study Data Source*

The data were drawn from the *Insurer Study of Auto Injury Closed Claims*, which reports survey results from twenty-nine major U.S. insurance companies.⁵⁸ The study reports information on all private auto passenger insurance claims, arising in all areas of the country, which were "closed" with payment during a two-week period in 1977. The survey time-frame is appropriate for our study, since the differential impact of negligence standards on attorney involvement and related litigation decisions and outcomes was examined.⁵⁹ In 1977, states' use of liability standards varied (as noted in Table I).⁶⁰ The survey data were supplemented with information from state statutes and judicial decisions to determine the prevailing liability standard at the time the claim was closed and whether the state was classified as a

58. The study was performed by the All-Industry Research Advisory Committee (AIRAC) and is entitled *AUTOMOBILE INJURIES AND THEIR COMPENSATION IN THE UNITED STATES* (1979).

59. To date, the data used is the only comprehensive study available and hence the only data that can be used. Future work can be done if another similar study is funded by insurers.

60. The state groupings for purposes of computing the means under 1977 standards are listed in Table I. The following chart shows the method of adoption. Thirty-two states were using forms of comparative negligence and 18 states plus Washington, D.C. were using the contributory negligence standard.

comparative or contributory negligence state.⁶¹ In the analysis below, claims arising from bodily injury insurance coverage which arise in states classified as tort states (states without no-fault legislation) are examined. The sample includes data on 12,866 paid claims arising from injury-producing accidents.⁶²

DATES AND FORM OF MOVEMENT IN NEGLIGENCE DEFENSE STANDARDS*

<u>STATE</u>	<u>STATUTE</u>	<u>DECISION</u>	<u>DATE</u>
Alaska	x		1975
Arkansas	x		1955
California		x	1975
Colorado	x		1973
Connecticut	x		1973
Florida		x	1973
Georgia	x		1955
Hawaii	x		1969
Idaho	x		1971
Kansas	x		1974
Maine	x		1965
Massachusetts	x		1969
Minnesota	x		1969
Mississippi	x		1919
Montana	x		1975
Nebraska	x		1913
Nevada	x		1973
New Hampshire	x		1969
New Jersey	x		1973
New York	x		1975
North Dakota	x		1973
Oklahoma	x		1973
Oregon	x		1971
Pennsylvania	x		1976
Rhode Island	x		1971
South Dakota	x		1941
Texas	x		1973
Vermont	x		1870
Washington	x		1873
Wisconsin	x		1931
Wyoming	x		1973

*As of 1977

61. Again, the study used 1977 standards; the number of contributory negligence states is now less than half the number in the study.

62. Fatalities and permanent total disabilities are not included in the data set because of their infrequent occurrence in the data and their nearly universal use of attorney representation in pursuing claims. Only observations with complete information on all variables in the model are included.

Table I

 LIABILITY STANDARDS
 (for purposes of 1977 Data)

Comparative (Pure)	Comparative (Modified)	Comparative (Slight/Gross)	Contributory
Alaska	Colorado	Nebraska	Alabama
California	Connecticut	South Dakota	Arizona
Florida	Georgia		Delaware
Mississippi	Hawaii		Washington DC
Rhode Island	Idaho		Illinois
Washington	Kansas		Indiana
	Maine		Iowa
	Massachusetts		Kentucky
	Minnesota		Louisiana
	Montana		Maryland
	Nevada		Michigan
	New Jersey		Missouri
	New Hampshire		New Mexico
	North Dakota		North Carolina
	Oklahoma		Ohio
	Oregon		Puerto Rico
	Pennsylvania		South Carolina
	Texas		Tennessee
	Utah		Virginia
	Vermont		West Virginia
	Wisconsin		
	Wyoming		

Several limitations should be borne in mind when assessing any policy proposals based on the empirical results. First, the data are only for "fault" or tort states. Second, the most serious, i.e., fatal accidents are excluded. Third, the data are limited to claims that were closed with payment. Data are not available on those claims that were closed without payment. This attribute of the data is not as significant as may initially appear since, for claimants who are not negligent at all, the liability standard should not impact on incentives to hire an attorney or to file or litigate a law suit, nor should the standard impact on award amount. Theoretically, a non-negligent claimant will be treated in the same manner by all negligence rules considered here (refer to Figure 1 at zero percent negligence). For claimants who are partially at fault (provided fault is less than the bench mark in the modified form jurisdictions), such negligence ostensibly would bar recovery of plaintiffs only in contributory negligence states. It is possible that claims arising in contributory negligence states, which result in no recovery, are de-

leted from the sample. Therefore, if the data contain a selection bias, it is a bias against finding a statistically significant difference in claim outcomes between contributory and comparative negligence states. As shown below, such differences exist in spite of this possible bias.

Fourth, the focus in this study is to provide evidence regarding the differential in social costs of dispute resolution. The analysis is limited to measurement of observable behavior in terms of claimants' decisions and the outcomes of those decisions. Outcome is measured by two variables: realized award and payment timing.⁶³ There may well be differences in claimants' incentives to take precaution that are induced by a particular liability rule as is suggested by previously cited theoretical literature. It is reasonable to expect that precautionary behavior is a determinant of the extent of accidents that do occur. However, without corresponding time series data on accident volume, it is not possible to determine the total empirical impact of the comparative negligence standard. Future empirical work is needed to assess the importance of the caretaking issue. To the extent it is believed the accident volume is not significantly affected by negligence standards, the state's decision as to which particular standard to adopt appears to rest primarily with associated litigation and administration cost differentials addressed here.

B. The Degree of Claimant Negligence

The first column of Table II shows data on the reported level of claimant negligence for the sample of accident victims. The negligence levels are those reported by the insurance companies responding to the survey. The mean level of claimant negligence is shown for the four categories of negligence rules adopted by the states. It is expected that the claimant's negligence will be evaluated by the plaintiff in determining whether or not to hire an attorney and/or settle or litigate a claim. For example, under strict contributory negligence, any amount of claimant negligence bars recovery. Claimant negligence in this situation is a more negative factor from the claimant's perspective in award negotiations than it would be under a comparative negligence standard. It should follow then, other things remaining the same, that a negligent claimant will be less successful in securing a settlement payment under a contributory negligence standard than under a comparative negligence standard. Since claimants represented in the data are "successful" in

63. The variable of timing was chosen because time expended on claim processing is an administrative cost. The level of award variable is the thrust of the study hypothesis—that actual costs (i.e., awards) vary according to the types of negligence defenses.

the sense that each secured a positive dollar payment, it is expected that, for this sample, the mean level of reported negligence will be lower where contributory negligence is the applicable standard. Further, since negligent claimants are expected to extract higher awards under modified as opposed to pure comparative negligence, negligence levels of successful claimants were hypothesized to be higher in modified negligence states than in pure comparative negligence states.

Table II

STATE COMPARISON STATISTICS OF ACCIDENT CLAIM DISPOSITION					
Type of State (Negligence Rule)	(1) Percentage Claimant Negligence ^a	(2) Percentage of Claimants who Retained Counsel ^b	(3) Realized Award Amount ^c	(4) No. of Days From Accident to First Payment ^d	(5) No. of Observations
Contributory Negligence	4.02% (14.37)	37.2% (48.3)	\$1747.3 (11370.6)	223.6 (363.5)	6,813
Slight/Gross Comparative Negligence	4.42% (15.12)	29.5% (49.5)	\$1802.2 (3397.7)	201.7 (323.7)	78
Pure Form Comparative Negligence	7.27% (18.97)	48.6% (50.0)	\$2014.7 (5296.7)	303.2 (480.0)	4,530
Modified Comparative Negligence	8.73% (19.09)	45.6% (49.8)	\$2090.9 (4989.7)	398.0 (603.7)	1,445
All States	5.70% (16.78)	42.1% (49.4)	\$1880.4 (9012.2)	271.1 (442.7)	12,866

Notes--Statistics in columns (1)-(4) are mean statistics followed by the standard deviation in parentheses. The state groupings for purposes of computing the statistics are listed in Table I.

The statistical significance of differences in means for the various negligence defenses was evaluated by computing a Z statistic defined as

$$Z = (X_1 - X_2) / \sqrt{S_1^2/M_1 + S_2^2/M_2}$$

which assumes independent variables drawn from normal populations. Critical values for the standard normal statistics are: $Z^c_{.9} = \pm 1.645$; $Z^c_{.95} = \pm 1.96$; $Z^c_{.99} = \pm 2.56$.

^aAll pairwise comparisons of mean percentage claimant negligence across negligence rules produce Z statistics that are significant at the .95 level or .99 level with the exceptions of: the contributory negligence and slight/gross comparison and the slight/gross and pure form of comparative negligence comparison ($Z = -1.64$).

^bAll pairwise comparisons of mean percentage of claimants who retain counsel produce Z statistics that are significant at the .95 level or .99 level with the exception of the contributory negligence and slight/gross comparison.

^cAward levels are significantly different from each other when comparing contributory and pure form ($Z = -1.69$) and contributory and modified ($Z = -1.81$). These differences are significant at the .90 level. The award amounts were reduced by 35.5 percent in cases where an attorney was retained by the claimant.

^dAll pairwise comparisons of mean days to payment produce Z statistics that are significant at the .99 level with the exception of the contributory negligence and slight/gross comparison.

The results are consistent with this hypothesis as shown in column (1). The lowest level of negligence reported is for the contributory negligence standard (4.02%), followed by the slight-gross standard (4.42%), and pure comparative negligence standard (7.27%), and, finally, modified comparative negligence standard (8.73%). Except for comparisons involving the slight-gross rule, these differences are statistically significant (each from the other) at a ninety-five percent level of confidence or better.

As discussed above, these findings do not necessarily indicate that caretaking is at a lower level in modified states, but rather may indicate that higher expected awards for negligent claimants attract, on average, more negligent claimants.

C. *Differences in Claimants' Incentives to Retain Counsel*

Consistent with empirical predictions presented in section III, a recent study by Low and Smith indicates that under a comparative negligence standard, in contrast to contributory negligence, there is a higher probability that a claimant will retain an attorney.⁶⁴ The study further finds that there will be higher award levels for those contributorily negligent claimants who do retain counsel. Table II supports these findings and offers further refinement by examining retention incentives across the three types of comparative negligence standards as well.

An accident victim rationally will choose to hire an attorney if the expected benefit (a higher expected monetary award) exceeds the expected cost (attorney fees). As the analysis in section III shows, the expected net award is higher, given a similar accident, under comparative versus contributory negligence. Hence, it is more likely a claimant will involve an attorney under the modified, pure, and slight-gross standards than under the contributory negligence standard. The percentages in column (2) of Table II generally are consistent with this expectation as indicated by statistical comparisons of pairwise comparisons in

64. See S. Low & J. Smith, *The Effect of Alternative Negligence Rules of Attorney Involvement in Accident Disputes* (1989) (unpublished manuscript). Here the authors conclude:

In both types of states the driver's (potential defendant's) degree of negligence has a significantly negative impact on the likelihood of representation. In contributory negligence states the rate of change in likelihood of representation is more than that in comparative negligence states. . . . As claimant degree of negligence rises from 10% to 30% to 50% in contributory negligence states (driver negligence falls from 90% to 70% to 50%) the probability of representation rises from 50% to 55% to 60%, respectively. The comparable values for an individual in a comparative negligence state are 59%, 63%, and 67%.

Id. at 16.

retention percentages. While it cannot be determined whether the level of litigation rises as a result of adopting comparative negligence, the evidence strongly indicates attorneys are more likely to be involved in the claims process.

D. Award Amounts: Differences Across Liability Standards

The numerical example presented above on expected recovery, under various defenses, demonstrates that for an identical accident, the expected net award under the most popular form of comparative negligence (modified versions 1 and 2) is higher than the award associated with the pure form. All forms of the comparative negligence standard yield higher expected net awards than under a contributory negligence standard. As shown in Figure 1, this proposition holds as long as a claimant is less than fifty percent at fault. The data are consistent with the economic principle that plaintiffs and defendants act as rational decision-makers by factoring in the relevant liability standards when negotiating claims. Column (3) of Table II provides a summary of the award amounts (mean figures) classified according to the state negligence standards. In cases where the claimant was represented by counsel, these award amounts were reduced to reflect attorneys fees, estimated at 35.5%.⁶⁵

Column (3) further demonstrates that the resulting mean award to a representative claimant is highest for the modified states, where the mean award is \$2,091; followed by the pure form (\$2,015) and the slight-gross form (\$1,802).⁶⁶ The lowest mean award figure is associated with the contributory standard of \$1,747. The award level difference between contributory negligence and pure comparative negligence and between contributory and modified are significant at the .90 level of confidence.

The dollar difference, in award levels between the pure form and the modified form, is in the expected direction (\$76 higher recovery in modified comparative negligence states), but the difference is not statistically significant. However, there is evidence that the award differential between the modified and pure form does increase (as suggested by Figure 1) as the negligence level approaches fifty percent. For example, if claims are selected that are comparable in terms of attorneys being involved and the claims being disposed of before filing suit, awards on

65. The 35.5% figure is the one used by AIRAC in their study, *supra* note 58.

66. It is also of interest to note that the average award amount in modified standard states is significantly higher than the universal average award. Although the category of slight/gross is included, the small size of the sample (attributable to its limited adoption) may preclude any meaningful observations.

average are higher by \$732 when in the 0-20% range; the differential rises in the 21-40% range to \$2,250.

E. Differences in Claim Delay: The Number of Days from Accident to Payment

It appears that not only are the monetary costs to dispose of claims under comparative negligence standards higher, there are also significantly more delays (time costs) associated with claim disposition. Column (4) of Table II indicates that delay in securing claim payment is significantly higher under the modified and pure forms than under the contributory negligence standard—on average 80 to 174 additional days for payment. Delay can be considered a social cost associated with a liability standard, although it is not possible to determine whether the causality runs from the liability standard to delay directly or whether the comparative negligence claims take longer to negotiate because attorneys are more likely to be involved. The results may be driven by a difference in the injuries involved, but there is no direct evidence of any systematic difference across the states in terms of severity of the injuries suffered by claimants.

F. The Impact of Attorney Involvement

More details concerning relationships between attorney involvement and award amount, negligence levels, and delays resulting from the liability standard are presented in Table III. The table shows differences between claims that are and are not associated with attorney involvement. Since it can be presumed that a more negligent claimant has a more difficult case to make, it is not surprising, as indicated in column (2), that claimants who are represented have higher mean negligence levels than claimants who negotiate their own claims. This result holds across all liability standards: negligence levels are consistently higher for those claims associated with attorney involvement.

Table III

CLAIM DISPOSITION AND ATTORNEY INVOLVEMENT:
STATE COMPARISON STATISTICS

(1) Type of State (Negligence Rule)	(2) Percent Claimant Negligence		(3) Realized Award ^a		(4) No. of Days from Accident to first Payment ^a		(5) No. of Observations	
	<u>Attorney^b</u>	<u>No Attorney^c</u>	<u>Attorney^b</u> (Net of fees)	<u>No Attorney^c</u>	<u>Attorney^b</u>	<u>No Attorney^c</u>	<u>Attorney</u>	<u>No Attorney</u>
Contributory Negligence	5.66% (16.64)	3.04% (12.73)	\$2957.5 (9461.5)	\$1031.1 (12307.5)	463.5 (474.6)	81.5 (151.2)	2533	4280
Pure Form Comparative Negligence	9.15% (21.01)	5.49% (16.63)	\$3168.8 (7096.8)	\$923.1 (2124.4)	532.3 (591.7)	86.6 (143.6)	2202	2328
Modified Comparative Negligence	8.99% (19.04)	8.51% (19.14)	\$3457.6 (6551.6)	\$945.0 (2634.9)	751.8 (732.1)	101.3 (166.9)	659	786

Notes--Statistics in columns (1)-(4) are mean statistics followed by the standard deviation in parentheses. The state groupings for purposes of computing the statistics are listed in Table 1. The slight/gross grouping is excluded from this Table due to lack of sufficient data to make statistical comparisons. Critical values for the standard normal statistics are as indicated in notes to Table II.

^aWith one exception, all pairwise comparisons across the three types of states produce Z statistics that are significant at the .99 level when comparing the results for those claimants who involved an attorney and those who did not involve an attorney in terms of difference in: percent claimant negligence, award amount and payment delay. The exception is that there is no statistically significant difference in percent claimant negligence for represented and unrepresented claimants in modified comparative negligence states.

^bFor those claims involving attorneys: all pairwise comparisons of percent claimant negligence are significant at the .99 level except for the pure and modified comparison; the award level differences are not statistically significant; all pairwise comparisons of payment delay are significant at the .99 level.

^cFor those claims not involving attorneys: all pairwise comparisons in claimant negligence are significant at the .99 level; the award level differences are not statistically significant; all comparisons in payment delay are significant except for the contributory negligence-pure form comparison.

Column (3) shows that attorneys generally are utilized when the "stakes" associated with the claim (as measured by realized award amount) are higher. The differences in award amounts between claims negotiated with an attorney and those negotiated without are statistically significant across all liability standards. The higher standard deviation (noted also in Table II) in award amount, in contributory negligence states, is associated with claims involving attorneys as well as claims not involving attorneys. For comparative negligence states, it appears that attorney involvement is associated with a higher variance of award levels, in contrast to contributory negligence states where the variance is relatively lower for represented as opposed to unrepresented claimants.

It is clear that regardless of the liability standard, attorney involvement is associated with a significantly longer delay between date of injury and date of initial payment as shown in column (4). All differences in column (4) are statistically significant. The claims negotiated under modified comparative negligence are associated with significantly longer delays than either the pure or the contributory negligence rule.

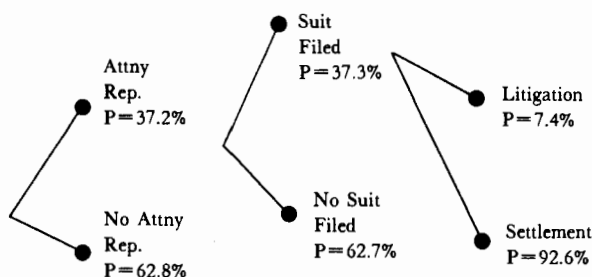
G. The Incentive to Litigate Versus Settle Under the Various Negligence Standards

As shown in the decision tree diagram in Figure 2, there is a series of sequential decisions that claimants make in the process of resolving a claim (i.e., securing a payment). Results of the decision process for claims arising under the three primary liability standards appear in Figure 3. Since it was previously shown that claimants are more likely to involve attorneys if comparative negligence is the prevailing standard, it is not surprising to find that the probability of an attorney filing a suit is significantly higher under pure and modified comparative negligence than under contributory negligence. Only 37% of the claimants in contributory negligence states that involved attorneys filed suit, compared to 48.7% and 46.4% under pure and modified standards, respectively.

Figure 3
Claim Disposition By Negligence Standard

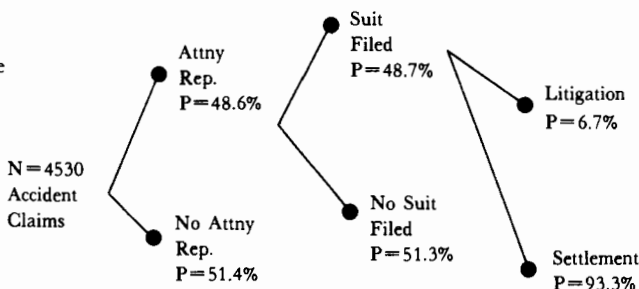
Contributory
Negligence:

N=6813
Accident
Claims



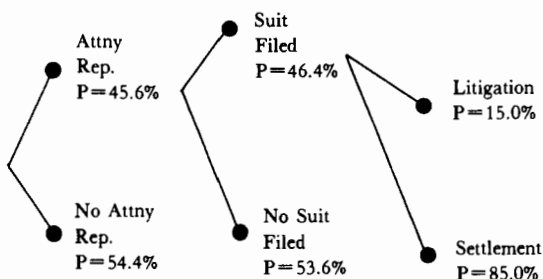
Pure Form
Comparative
Negligence:

N=4530
Accident
Claims



Modified
Contributory
Negligence:

N=1445
Accident
Claims



Notes: N=Number of claims arising in the decision category, P=Percentage of claims arising in the decision category.

The decision to retain: all differences in probabilities across standards are significant at the .95 level or higher.

The decision to file: all differences in probabilities are significant at the .99 level with the exception of the pure-modified comparison.

The decision to litigate: all differences in probabilities are significant at the .99 level with the exception of the contributory pure comparison.

Results in Figure 3 also illustrate a difference across comparative negligence standards in the percentage of suits filed that resulted in litigation. Although very few cases ever result in litigation, the percentage of suits filed that are litigated is 15% under the modified standard as opposed to only 7.4% and 6.9% under the contributory and pure comparative forms of negligence defenses, respectively. These percentages of litigated suits are statistically different from one another at a .99 level of confidence. The higher litigation probability for the modified form is disturbing because of the modified form's added social cost.

To gain a better understanding of the apparently stronger incentive to litigate under the modified rule, decisions to litigate versus decisions to settle were examined as a function of negligence level. The finding was that as the claimant's negligence level increases, a lower percentage of cases are litigated under both pure and modified standards. However, claimants demonstrate a significantly increased propensity to litigate in the twenty-one to fifty percent negligence range under modified versus pure form comparative negligence. The data here is limited and significance could not be determined. However, these figures are consistent with the proposition that modified comparative negligence is associated with higher litigation and administrative costs than pure comparative negligence.

V. SUMMARY OF FINDINGS AND POLICY CONCERNS

The dramatic shift in basic tort law from negligence with a defense of contributory negligence to comparative negligence has sparked considerable literature on the motivation and efficiency of the policy changes. Surprisingly, these changes were enacted with little analysis of the likely impact on litigation behavior or the social costs that arise in the form of increased litigation, recovery amounts, and delay in securing payment. The evidence provided in this article indicates that comparative negligence is accompanied by distinctly different incentives affecting key litigation decisions of accident victims. Furthermore, there are striking differences in the resolution processes which are associated with differences in the major forms of comparative negligence. In particular, the popular modified forms appear to be associated with significantly higher costs than the pure form in terms of increased likelihood of attorney involvement, higher recovery at higher levels of claimant negligence, more time delay, and greater incentives to litigate rather than settle lawsuits.

A. Award Levels, Negligence Levels, and Delays in Payment

On average, claimants receiving payment for injuries in pure and modified comparative negligence states are approximately twice as negligent as claimants receiving payment in contributory negligence states. In spite of this, when compared to other negligence rules, the modified form of comparative negligence results in higher dollar award amounts and longer payment delays. The modified (pure) form is associated, on average, with \$376 (\$267) more per claim and 174 (79) additional days of delay in securing payment than claims resolved in a state using the contributory negligence defense. Generally, in contrast to contributory negligence, either form of comparative negligence results in higher costs due to higher award levels and delay in securing payment.

B. Attorney Involvement

On average, the probability of involving an attorney in claim resolution is statistically higher in comparative negligence settings. In pure form comparative negligence states, the mean percentage of claimants selecting representation is 48.6%, compared to 45.6% in modified states and 37.2% in contributory negligence states.

C. Suit Filings, Litigation, and Settlement

In all negligence rule settings, attorney involvement is associated with higher awards and longer payment delays. Only 37% of accident claims involving attorneys in contributory negligence states result in a suit being filed, compared to 48.7% and 46.6%, respectively, in pure and modified states. This finding indicates that the administrative costs under a comparative negligence standard are substantial. The number of automobile tort suits that are litigated versus the number that are settled is very low, regardless of the applicable liability standard. Nevertheless, the results indicate that the modified form of comparative negligence is associated with significantly more litigation than either the pure form or contributory negligence. In states adopting the modified form, fifteen percent of all lawsuits resulted in litigation compared to approximately seven percent in states adopting alternative negligence standards.

D. Policy Issues

These findings raise significant policy concerns, particularly for states adopting the modified form of comparative negligence. While contributory negligence as a defense has been abandoned and comparative negligence has been adopted for what may best be described as

"equity" reasons, it is difficult to identify any compelling equity advantages in the modified form relative to the pure form of comparative negligence. Furthermore, the results here indicate that even if such equity advantages exist, they must be compelling, in the form of greater incentives to litigate versus settle and significantly longer delays in securing payment, to justify the higher costs of dispute resolution under modified standards.

As previously noted, efficiency had little to do with the shift to comparative negligence and the same may be true as to factors affecting which form of comparative negligence states selected. The choice may indeed reflect, as others have suggested, changing opportunities for interest groups, such as lawyers or their clients or insurance companies.⁶⁷ The results of this study indicate that attorneys "do better" under comparative negligence: the probability of attorney involvement is higher, recovery amounts are higher, and attorneys' fees based on paid claims are higher when calculated on a percentage basis.

An implicit assumption of previous analysis of tort liability rules is that litigation behavior and resulting administrative costs do not vary across liability rules. With that assumption now shown to be an incorrect one, efficiency analysis must be revisited and the endorsement of any one form of comparative negligence as the "best" rule must be reexamined.

67. R. Curran, *supra* note 12, at 24. "Because so many of the states adopting the pure form of comparative negligence did so through court decisions, one cannot help but suspect there is a relationship between the method of adoption and the form of the rule adopted." *Id.*

Clearly, additional analysis is needed to ascertain the nature of such a relationship.