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Torts: Understanding the Patterns in the Courts

So the Verdict Is in—What Happens Next? The Continuing Story of Tort Awards in the State Courts[1]

Brian Ostrom, Roger Hanson, and Henry Daley[2]

For both scholars who seek to understand the civil litigation process and reformers who seek to change the civil justice system, decisions by juries are a central focus of attention. Juries have assumed a special significance because they often are viewed as the ultimate arbiters of civil disputes. Yet, this conceptualization is but one chapter in the continuing story. Posttrial negotiation and litigation offer clear means to challenge the trial court verdict and are pursued in a sizable number of cases. This article expands our knowledge of the litigation process by clarifying the relationship between cases that end following the trial court verdict and those that undertake some form of posttrial activity. Using data on bench and jury trials from 27 state trial courts of general jurisdiction, quantitative methods are used to distinguish the characteristics of cases that accept the trial court judgment from those cases that settle following the verdict and from those cases that initiate appeals. In the area of tort litigation, a complete understanding of what happens to cases tried to judgment in trial courts is especially important given the focus on verdicts and awards both in the literature and in the national policy debate.

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2 Brian Ostrom is a staff associate with the research division of the National Center for State Courts. He holds a Ph.D. in economics from the University of Washington. His research interests include assessing the need for reform of the civil justice system, the criminal-sentencing process, and the quality of indigent defense services.

Tort cases decided through a full-blown jury trial assume a special significance for legal scholars. Through close scrutiny and study, jury trial verdicts form the basis of what we think we know about tort litigation.[3] The metaphor commonly used to depict the role of the trial verdict is that of the apex of the litigation pyramid (Galanter, 1983). Yet, to contend that the trial is the top of the pyramid overlooks the availability of further negotiation, posttrial motions, and appeals, all of which offer an essential challenge to the trial verdict.[4] For a sizable number of tort cases, the posttrial process casts a shadow on the assumed finality of the trial verdict.[5]

Roger A. Hanson is a senior staff associate at the National Center for State Courts. His current research focus concerns appellate court performance and the quality of the adversary system. In addition to court-related studies, his previous policy analyses have included welfare reform, public school finance, and crime prevention.

Henry W. K. Daley is a staff associate with the National Center for State Courts. Alternative dispute resolution, civil motions practice, and postconviction litigation are among his current research interests. He is a graduate of the College of William and Mary in political science.

3 The vast majority of research on tort awards uses data collected and published by independent jury verdict-reporting services (e.g., Hensler et al., 1987; Daniels and Martin, 1986; Daniels, 1990; Danzon and Lillard, 1983; Danzon, 1988, 1990; and Viscusi, 1986). Dependence on these data raises some concern because, as the name implies, these services tend to report verdicts—not judgments—and the amount entered in the final judgment often differs from the jury award. The better jury verdict services attempt to report both verdicts and judgments, but this procedure is not employed by all services. Questions have also been raised about the representativeness of the data reported by jury verdict services (e.g., they tend to oversample large verdicts and they tend to focus on particular types of "high visibility" torts, such as medical malpractice and products liability). See, for example, Chin and Peterson (1985), Daniels (1990), Daniels and Martin (1986), and Sloan and Hsieh (1990) for discussion of the quality of the jury verdict data used in their analyses. Finally, the unswerving reliance on jury trials overlooks the elemental fact that bench trials, or trials strictly before a judge, decide verdicts in many instances. Because there is the strong possibility that jury and bench trials handle different types of disputes, the omission of bench trials from the analysis of trial outcomes results in an incomplete picture of trial verdicts (see, for example, Eisenberg, 1990). In response to this issue, the current research includes both bench and jury trials and examines what role they play in affecting posttrial decisions to negotiate a settlement or to appeal.

4 The fundamental means of challenging the trial court verdict is through a direct appeal, but alterations also may occur through posttrial motions. The judge can set the jury's verdict aside and order that a new trial be held. Likewise, the judge can reverse the judgment completely. Even the amount of the award is subject to judicial control: the trial judge may reduce the amount on remittitur or increase it on additur. Finally, verdicts may be modified outside the formalities of motions and appeals through posttrial negotiation and settlement.

5 For a full understanding of the trial process, it is critical to take the appellate process into account. If the two processes are not both included in the analysis, the result is a lack of analytical clarity. The economic analysis of trial court decision making, for example, portrays the litigation process as a bargaining game where the cooperative solution corresponds to a settlement and the noncooperative solution corresponds to an adversarial trial. In discussing settlement, a useful yardstick is the expected judgment at trial, which is the stakes in the trial discounted by the probability of the plaintiff's victory. For example, if the amount in controversy is $100 and the probability of the plaintiff winning is 60 percent, the expected judgment is $60. It is reasonable, under certain circumstances (see Rubinfeld and Sappington (1987)), for the defendant to offer and the plaintiff to accept the expected judgment. "Reasonable settlement" yields the expected judgment without the costs of trial. Litigation, however, turns these "cooperative" rivals into enemies; all pretext of compromise is abandoned and the winner takes all. In this analysis, settlement bargaining is a positive-sum game and litigation is generally viewed as a zero-sum game. But the existence of a posttrial process means that a trial is not necessarily a zero-sum game where the winner takes all. The actual amount to be awarded or paid continues to be subject to change. The focus on trial as a zero-sum game is one reason that the trial process has never been thoroughly modeled by economists.

Recognizing that verdicts represent only a step, albeit a prominent one, on the litigation pyramid underscores the complexity of the legal process. Trial verdicts have a high profile, but they lack finality until the posttrial process is complete. The objective of this paper is twofold. First, it is intended to clarify the linkage between the trial and appellate court processes. How many cases leap into the posttrial realm and with what relative frequency are the different posttrial options used? Second, the objective is to determine whether the factors found to influence the likelihood of a plaintiff's victory and the size of the award at trial account for why some cases either settle after the trial verdict or challenge the trial court judgment. Do the same factors influence the decision to proceed with the posttrial process? If that is true, do some of these factors have a greater effect in shaping which cases choose to settle following the trial court verdict while others have a greater effect in shaping which cases choose to appeal?

For the trial outcome, a primary question is whether particular types of parties (e.g., repeat players) enjoy a strategic advantage and whether particular types of cases are more likely to be tried. Whether party and case characteristics influence the decision to pursue posttrial activity is a natural extension of the trial court literature. However, the hypotheses advanced to explain strategies and verdicts in the trial court may be inadequate to comprehend what is happening at the posttrial level for several reasons. To begin with, the amount of the award, which is the dependent variable in many trial court inquiries, is no longer an expected value, but known with certainty, and takes on a new posture as a key variable in posttrial decision making. In addition, while the ultimate award size at trial is left to the judge or jury, posttrial activity is the choice of the parties and their attorneys. And, in the case of a plaintiff trial victory and a posttrial challenge by the defendant, the roles of the parties abruptly reverse, and the burden of proof falls to the original defendant. Finally, the assertion of judicial error motivates many motions and appeals, thereby weaving the actions of the judge and the complexity of the trial into the overall definition of the case.

This article first highlights the essential findings from a previously examined sample of trial verdicts and then identifies what the posttrial options are as well as their relative use. Next we hypothesize how key litigant and other case characteristics affect the decision to pursue posttrial activity and use a statistical model to test the veracity of these propositions. Finally, we offer some comments on enhancing our knowledge of torts on appeal.

What Are Trial Verdicts Like and What Influences the Size of Awards?

This article builds on a previous study that describes patterns and outcomes for a sample of 744 tort cases tried to verdict in 27 state trial courts (Ostrom et al., 1992). The data cover a wide range of tort types reaching either a jury or a bench trial verdict during a three-month period in 1989. Examining this data set provides insight into the landscape of torts decided at trial—the typical configurations of the contending litigants, the composition of torts by area of law, the types of trials, verdict patterns, and the average size of awards. Basic contours of the tort landscape reflect that individuals generally are plaintiffs in these cases and that corporations, insurance companies, and governments tend to appear as defendants. Litigation over automobile accidents forms the largest proportion of torts (42 percent). Jury

trials are the forum of choice in most of the cases (85 percent), but institutions prefer bench trials. The median size of awards fits an expected pattern with $200,000 in medical malpractice cases, $48,300 in personal injury cases, and $19,157 in automobile torts.

The main conclusion is that party configuration (e.g., individual plaintiff vs. corporate defendant) affects verdicts and awards for tort cases to a greater extent than factors such as the type of trial (jury or bench), the area of tort law (e.g., medical malpractice, personal injury, automobile tort), or the length of time from filing to disposition. Corporations and government defendants are more likely than individual defendants to receive a verdict in their favor. Against an individual plaintiff, government defendants were successful 60 percent of the time, corporate defendants 50 percent of the time, and individual defendants 40 percent of the time. Individuals usually experience difficulty in obtaining verdicts against institutional defendants.

By contrast, the effect of party type on the amount awarded is to the detriment of those institutional defendants who lose at trial. Jury awards (and, to a lesser extent, bench trial awards) are lower for individuals than for other categories of defendants. Party configuration is a more powerful predictor of award levels than the type of tort action, and its effect holds true even when controlling for the fact that types of litigants are distributed differently across the various types of torts.[6]

Systematic differences in the stakes facing the parties involved in litigation are one explanation for the difficulty that individuals experience in establishing the liability of corporate and governmental defendants at trial.[7] Institutional litigants may have very different goals and particular strategic advantages in litigation relative to individuals. This notion that institutions play the litigation game differently from individuals underlies the well-known dichotomy of repeat players and one-shotters (Galanter, 1974, 1975).[8] Repeat players may select particular types of cases for trial based on interests beyond the stakes of a given case, for example, a concern with long-term reputation or legal precedent. Corporate defendants may settle the cases where the stakes are small and liability is clear. If so, such a strategy will lead to the prediction that, all else equal, corporations will lose less frequently than other defendants, but that when they do lose damages will be higher.

However, these explanations for trial strategies and outcomes may not extend to the posttrial arena because of the new complexities arising from the effects of a known jury award, a switch in the burden of proof from plaintiff to defendant in cases involving the plaintiff's awards, the decision-making role of parties and their attorneys instead of juries,

6 Similar evidence of low plaintiff success rates at trial, but greater damage awards when there are corporate or government (i.e., repeat player) defendants, can be identified for products liability cases (Chin and Peterson, 1985 and Henderson and Eisenberg, 1990). This pattern is less clear for medical malpractice cases in a cross-section of state courts (Daniels and Martin, 1986).

7 This idea is consistent with a refined version of the Priest and Klein (1984) selection hypothesis taking into account asymmetric payoffs from litigation.

8 Galanter (1975: 347) notes that repeat players will enjoy a number of advantages in the litigation process. "Briefly, these advantages include: ability to structure the transaction; expertise; economies of scale; low start-up costs; informal relations with institutional incumbents; bargaining credibility; ability to adopt optimal strategies; ability to play for rules in both political forums and in litigation itself by litigation strategy and settlement policy; and ability to invest to secure penetration of favorable rules."

and the opportunity of the litigants to define the issues in terms of reversible error. It is an open question whether there are identifiable factors that account for the posttrial decisions to settle or to appeal. If there are such factors, what are they? Are there particular factors for each decision? And are they similar or different from the factors that account for the initial verdict?

Posttrial Alternatives

Responses to the trial verdict can take many different paths. The most obvious route is through a direct appeal. However, if either party wishes to dispute the trial verdict, the first step is usually the filing of a motion arguing that the verdict went against the weight of the evidence. Motions for a new trial or for judgments notwithstanding the verdict (JNOV) provide a means for the litigants to ask the trial judge to review the validity of the trial verdict. Having presided over the trial, the judge is in a unique position to gauge whether the verdict went against the weight of the evidence. Additionally, if the trial judge finds the verdict to be unwarranted, he or she is empowered to alter it.

Measuring the extent to which the verdict is against the weight of the evidence is the determining factor in assessing the appropriateness of either motion. To grant a JNOV, the judge must be willing to assert not only that a jury's verdict is incorrect, but also that the other side enjoyed the overwhelming support of the evidence. A JNOV results in an immediate reversal and an entry in favor of the party that originally lost. Essentially, the granting of a JNOV requires the judge to make an independent finding contrary to the jury's verdict.

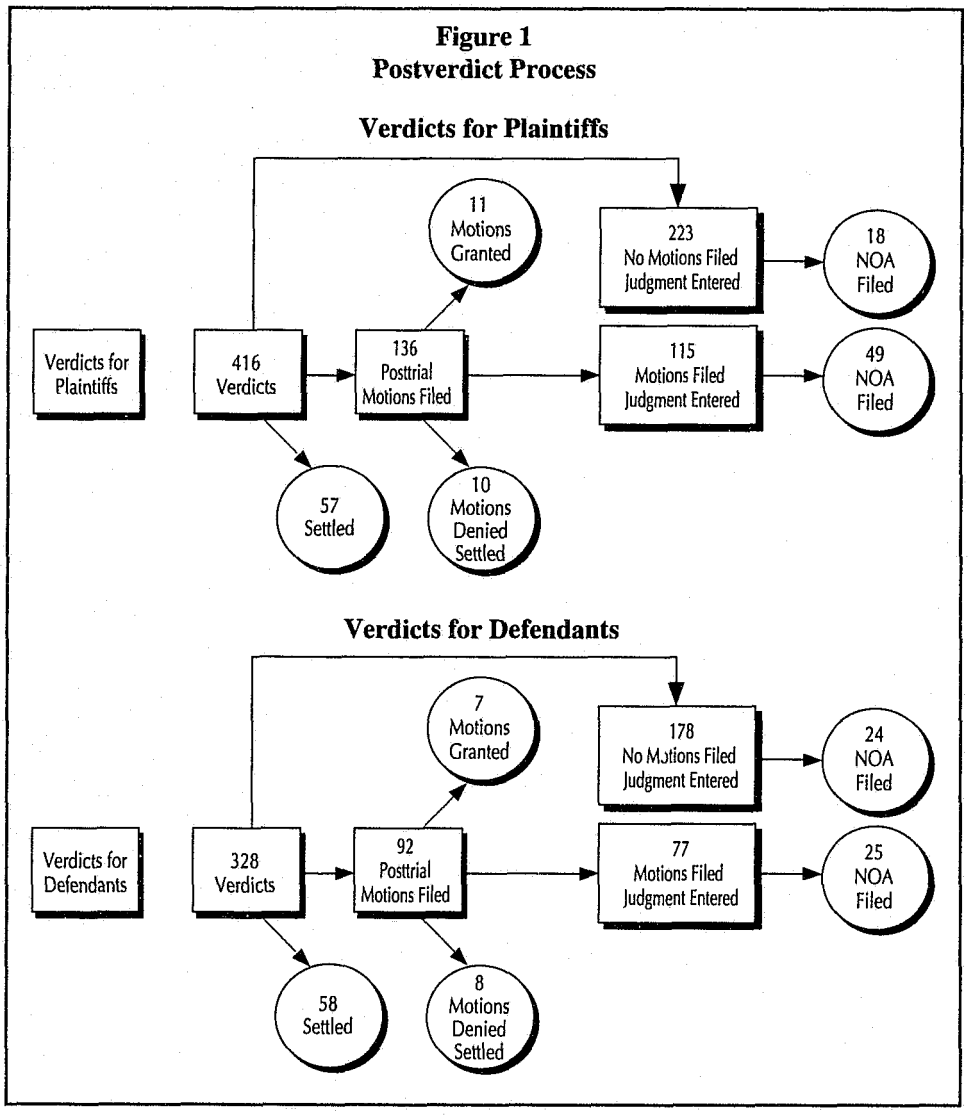
The standard is lower for a motion for new trial. Motions for new trial require that the verdict is against the great weight of the evidence. In such a case, the court need only try the case anew, not declare a winner and a loser. Motions for new trial may also be filed for nonevidentiary reasons, such as the opposing attorney's abuse of discretion, mistakes in the admission of evidence, and mistakes in charging the jury. A judge may enter an order for a new trial independently by reconsidering, for example, a ruling made on the admissibility of evidence or specific testimony. The situations leading to a motion for new trial may actually arise at any point during the trial, though a judge may wait until the jury renders a verdict to rule on the motion.

How often are each of these posttrial options used? The flow of cases following trial verdicts, distinguishing between plaintiff and defendant victories, is described in **Figure 1.** However, the discussion below focuses primarily on the 416 trials (56 percent) that resulted in a verdict for the plaintiff.

Motions were filed in 136 cases, but only 11 of these motions actually were granted. Only minor differences emerge when the cases involving successful motions are compared to the underlying distribution of cases: automobile, personal injury, and medical malpractice cases composed about one-third of each group, and individual vs. individual and individual vs. corporation were the prominent litigant pairings in both groups.

Apart from this very limited number of cases involving successful motions, there are basically three groups of cases: cases that settle (i.e., no judgment was entered) following the trial court verdict, cases that end following the entry of the final judgment, and cases where the judgment is entered and a notice of appeal is filed. The first group contains the

Figure 1
Postverdict Process



67 cases that agreed to settle—57 settlements occurred with no motion activity, and 10 cases settled following an unsuccessful motion. The second group of cases is the largest: In 65 percent, or 271, of the cases, the trial court judgment was entered and no appeal was filed, thereby closing these cases. The third group consists of 16 percent (67 cases) in which a notice of appeal was filed.

Clearly, there are a number of options if one hopes to modify a trial verdict. Motions are a means for quickly protesting a trial verdict, yet are rarely successful. Alterations were possible in nearly one-third of the verdicts in this sample through two other methods: the 67 cases that settled between the verdict and the entry of the judgment and the 67 cases where an appeal was filed (**Figure 1**). These two distinct posttrial options are the focus of

the remainder of this article. Why do cases settle after they have just completed the trial marathon? Are there distinctive differences in the attributes of cases that settle or are appealed relative to those that accept the ruling of the trial court?

Why Are Verdicts Likely to Be Challenged?

The literature on civil disputes suggests three basic circumstances in which posttrial activity is likely to occur: dissatisfaction over the size of the award; a concern with precedent, reputation, or future litigation; and the belief that reversible error occurred at the trial level. From a critical examination of the main theses in the literature, we have generated three organizing hypotheses that synthesize the interrelated effects of award size, precedent, and reversible error on posttrial negotiation and litigation.

First, the amount of the award is likely to influence the decision to appeal, especially if the award is based in part on payments (e.g., punitive damages) that do not have a clear relationship to the extent of injury. Because the appellate process consumes resources, an appeal becomes increasingly cost-effective as the size of the trial court judgment increases. In contrast, the factors leading to settlement after trial (e.g., judicial clarification of key issues) can occur in cases involving a wide range of money judgments because it is the resolution of the issues, not the stakes, that is paramount. Second, repeat players are more likely to be involved in posttrial litigation than individuals because of fuller access to resources and skilled legal advice. Third, jury trials are more likely to be appealed than bench trials, and longer trials are more likely to be appealed than shorter trials. The literature from which these hypotheses are extracted is described in greater detail below.

Size of the Award

When the losing defendant is dissatisfied over the amount awarded to the winning plaintiff, the defendant might seek a posttrial adjustment in hopes of minimizing the loss. Shanley and Peterson (1987) argue that appellate courts are most likely to modify awards that are much larger than average, particularly in those cases where the basis for the award is not clearly defined. Large awards are more closely examined for evidence of being capricious or for being the product of jury passion. Awards supported by well-defined economic losses (e.g., lost wages) are less likely to be modified than many personal injury awards based on the value of pain and suffering or other intangible factors. In addition, Shanley and Peterson assert that large punitive damage awards, which by their nature are imprecise, are more likely to be challenged and to be modified. The more easily losses are defined and calculated, the lower the chance of posttrial challenges and changes.[9] Yet, by

9 Broder (1986) also focused on the extent of award revisions. She analyzed 198 personal injury cases that resulted in jury verdicts of one million dollars or more and found that almost three-quarters of these million-dollar verdicts were later reduced, often substantially, with the size of the reduction ranging generally between 20 to 50 percent. Yet, the vast difference between these two studies in the percentage of altered jury verdicts is difficult to reconcile because of the very different mix of jury awards used in each study. In addition, previous studies consider only particular types of tort cases; they do not distinguish the method of posttrial adjustment pursued (i.e., negotiation, motion, or appeal), and they focus exclusively on cases resolved by jury trials. Hence, only the basic outline of the posttrial process has emerged in the literature.

focusing exclusively on the extent to which jury awards are modified following the appeal process, earlier research may have clouded the role of award size in the overall picture of posttrial choice.

Our contention is that the influence of absolute award size is salient in the decision of whether to appeal, but is of lesser relevance in the decision to negotiate. In the latter decision, other factors may be more prominent because posttrial settlement arises when the parties initially agree during the pretrial period that their particular case requires third-party review to achieve resolution. The combination of a narrow set of issues and the mutual agreement on the need for authoritative review lead to a choice of bench trial and a trial process of limited duration. The dynamics leading to short bench trials, moreover, can occur in cases involving either large or small amounts in controversy because it is the issues, not the stakes, that are the driving force. Once the verdict has been received, the losing party, especially a repeat player, may seek to retain the opportunity to litigate a related dispute in another forum at a later time. Hence, the losing party may seek to avoid the precedent-setting nature of a court-ordered judgment by offering concessions and seeking a negotiated settlement.

Concern for Precedent

A second reason for posttrial activity concerns disputes where one party is interested in the definition of the law, allaying damage to their reputation, or the likelihood of future disputes, rather than just the stakes in the current trial. The strategic advantages of repeat players, such as greater legal and monetary resources, may allow these litigants to press their cases longer and harder than one-shotters (Galanter, 1974). Perloff and Rubinfeld (1987) suggest that because corporate defendants are likely to be involved in litigation of the same type, they typically have more at stake in the outcome of current litigation than do individual plaintiffs. As a result, they will spend more time and resources than individual plaintiffs because the potential costs to the defendants exceed the stakes in the currently disputed case.[10] Do repeat players on the losing end of trial court verdicts uniformly try to regain advantages in the posttrial arena, or is there a more refined selection process?[11] What predictions about posttrial activity can be made based on the differing strategic goals and access to resources among litigants?

Galanter observes that repeat players, having litigated before, have developed a certain expertise and have ready access to specialists: "They enjoy economies of scale and have low start-up costs for any case" (1974: 88). Of course, the larger the judgment against them, the more likely the repeat player is to call upon this professional, albeit expensive, litigation unit and begin the appeal process. But it is not just absolute dollar amount that motivates

10 Given that resource expenditures will influence case outcomes, this notion suggests that institutional defendants (e.g., corporations, government entities) will have a greater probability of winning. This result is confirmed in Ostrom, Rottman, and Hanson, 1992.

11 Hypotheses about the selection process as it applies to the choice between settlement and trial at the trial court level have been advanced and some have been studied empirically. See Priest and Klein (1984); Wittman (1985, 1988); Priest (1980, 1985); Viscusi (1986).

appeal. Shanley and Peterson (1987) argue that tort cases are more likely to be appealed if the award is based on both specific dollar losses (e.g., the value of lost work time) and payment for pain and suffering, which is not easily reduced to a dollar value. The difficulties in estimating the value of pain and suffering create an opening for the defendant at the appellate level. But the factors influencing posttrial decision making by a repeat player with an interest in reputation or precedent will extend beyond any particular case. As an illustration, a defendant who wants to cultivate a reputation for tough bargaining will contest a trial verdict even when there is little chance of winning. Further, as Galanter (1974) notes, a repeat player can play for rules in addition to immediate gains. Because repeat players expect to litigate again, they selectively can choose which cases they regard as promising on appeal in order to help establish favorable legal rules. By influencing shifts in legal rules, repeat players gain an advantage in negotiating and settling future cases.

The strategies attributed to repeat players derive almost exclusively from a focus on the decision of whether to appeal. The desire to avoid the precedent-setting nature of court-ordered judgments is commonly expected to lead to an appeal. Yet, this idea overlooks the option of negotiation, which remains a way of avoiding the consequences of negative court judgments.

We hypothesize that posttrial settlement is a quicker and perhaps more effective way to avert the judgment. Additionally, the set of cases that travel the path of a direct appeal may be quite different from the set that seeks posttrial negotiation. The former is likely to be pursued in instances involving large awards that neither side is willing to negotiate. The opposing sides have distinctively different views of the strength of their positions, and the losing side has no option but to appeal and hope for a modification. In contrast, a settlement is likely to be pursued by a losing party in a narrowly drawn conflict where the scope of disagreement was restricted by a combination of agreements by both sides and concessions by one of the sides. Hence, the losing party is motivated to settle cases they do not expect to win on appeal, to avoid the setting of precedent, and to retain the opportunity to litigate the same or related disputes at a later time.

Reversible Error

The third general circumstance leading to posttrial activity is the belief that reversible error occurred at trial. Errors at the trial level are sufficient for reversing or modifying trial court decisions, regardless of the amount of compensatory damages or the long-run strategies of repeat players.[12] Errors may result from evidentiary questions raised during the examination of witnesses, in new areas of law and procedure, or through the judge's failure to follow established rules or procedures. Additionally, the nature of the errors may

12 A parallel study of criminal appeals in five state appellate courts found that objective case characteristics proved of no explanatory significance in accounting for why some trial court decisions were affirmed and others were modified (Chapper and Hanson, 1989). Variation in the types of offenses, sentence lengths, types of appellate attorneys, and underlying trial court proceedings failed to predict which cases were affirmed. Instead the issues on appeal appeared as a source of variation in outcomes with some issues having a much greater "success rate" than other issues.

Table 1
Profile of Plaintiff Awards

Variable	Mean	Standard Deviation	Range
Type of Tort			
Malpractice and Product Liability	.10	.30	0-1
Automobile Tort	.46	.50	0-1
Other Personal Injury	.33	.47	0-1
Other Tort (e.g., fraud and libel)	.10	.30	0-1
Party Configuration			
Individual v. Individual	.48	.50	0-1
Individual v. Corporation	.38	.49	0-1
Individual v. Government	.06	.25	0-1
Nonindividual v. Defendant	.08	.27	0-1
Type of Disposition (jury v. bench trial)	.83	.37	0-1
Size of Trial Court Award in Dollars	$153,945	$578,135	$0-7,000,000
Punitive Damages Granted or Awarded for Pain and Suffering (yes v. no)	.27	.45	0-1
Disposition Time (number of days from filing to adjudication)	732	476	48-2,645
Trial Time			
1-3 days	.57	.50	0-1
4-7 days	.27	.45	0-1
8+ days	.12	.33	0-1
(N=416)			

vary by the type of trial. Juries are often said to return inflated verdicts that are not supported by accurate estimates of economic loss. However, as with the type of tort, the influence of jury trials on the appeal rate is likely to be intertwined with other case characteristics. For example, it is likely that cases that take a longer time to be disposed of at trial are more likely to be appealed. The longer the trial, the greater the opportunity there is for the judge to make a mistake in the heat of battle (e.g., evidentiary questions raised during the examination of witnesses).

Comparison of Posttrial Hypotheses with the Empirical Results

We now explore whether the cases that settle or that are appealed vary systematically by the same group of factors that influence the verdicts and award size. The sample of cases is drawn from a regionally balanced set of courts and includes a wide variety of torts and litigants, although it is not a random sample of all claims from across the country.

The independent variables are listed in **Table 1.** The litigant-pairing variables distinguish between alternative party configurations, with the plaintiff listed first and the

defendant listed second. For example, "Individual v. Corporation" refers to a case involving an individual plaintiff and a corporate defendant. The relative importance of four groups of tort cases, which are classified by area of law, is examined through another set of variables as is the method of trial court disposition (bench v. jury trial) and whether the award includes punitive damages or an award for pain and suffering. Disposition time measures the elapsed number of days between the complaint and the trial verdict. Trial time is a dummy variable that controls for the differences in the length of the trial: short (1-3 days), medium (4-7 days), and long (8 or more days). The total amount awarded in the trial court rounds out the list of independent variables.

Specifying and Testing the Hypotheses

The hypotheses we formulated from our review of the literature and our understanding of the posttrial process are now tested statistically. Two quantitative models are designed to explain (a) why some cases settle and (b) why some cases appeal. Both models examine the relative effects of a set of independent variables on the likelihood of whether the cases will be settled or appealed. We first look at the extent to which the respective models fit the data and then examine factors important in shaping posttrial negotiation and litigation. Because the dependent variables involved in these models are dichotomous, the logit estimation procedure is appropriate. A brief overview of this technique and the overall significance of the models is provided in the Appendix.

The Individual Coefficients

Twelve coefficients (or quantitative measures of the effects of the hypothesized factors on the decisions to settle and to appeal) were estimated for each model (see **Table 2**). It is important to remember that due to the nonlinear nature of the model, the coefficients are more difficult to interpret than those from linear regression. Basically, the sign of the coefficient expresses the direction of effect (e.g., a negative sign means that the factor reduces the probability of settlement and a positive sign increases the probability of settlement). The larger the coefficient, the larger the effect of a particular factor. However, interpreting the magnitude of the coefficients is less straightforward. The change in the probability of settling or appealing a trial court verdict is not constant, but depends on all the relevant independent variables in concert.[13] Since the effect is not constant, assessing the relative effect of any particular independent variable requires some effort and technical analysis. The technique we use is the "derivative from zero."[14] The calculated derivative

13 In the dichotomous model under consideration, the threshold is set equal to zero. Consequently, the estimated model predicts participation in the posttrial arena if $y^* > 0$. The sum of y^* ($y^* = XB + e$) is a Z-score and represents the probability of a settlement or an appeal. y^* is a linear function of the exogenous variables and changes with each independent variable according to the sign and magnitude of each coefficient. However, the rate of change is not constant. The sign of the coefficient determines the direction of the effect, but the magnitude of the effect depends on the value of y^*, which in turn depends on the value of all relevant independent variables.

14 The derivative from zero is calculated in the following manner. First, all variables are set to zero. Second, the probability of participation is calculated when all variables are equal to zero. Third, the variable of interest is introduced, and the probability of participation is calculated, when all other variables are set equal to zero and

Table 2
Explaining the Decision to Settle and the Decision to Appeal

	Decision to Settle			Decision to Appeal		
Variable	**Beta Coefficient**	**Standard Error**	**Wald Significance**	**Beta Coefficient**	**Standard Error**	**Wald Significance**
Constant	-.289	1.32	.02	-3.80	2.17	.08
Type of Tort						
Malpractice and Products Liability	.11	.67	.87	.33	.65	.61
Automobile Tort	-.37	.50	.45	-1.16	.57	.04
Other Personal Injury	-.20	.49	.67	-.48	.54	.37
Party Configuration						
Individual v. Individual	-.48	.50	.33	-.80	.71	.26
Individual v. Corporation	-.55	.54	.31	-.59	.68	.38
Individual v. Government	-.58	.79	.46	.42	.79	.59
Type of Disposition (jury v. bench trial)	-.70	.37	.06	2.00	1.07	.06
Size of Trial Court Award in Dollars	-4.4E-07	5.72E-07	.44	1.88E-06	6.48E-07	.00
Punitive Damages Granted or Awarded for Pain and Suffering (yes v. no)	.62	.33	.06	.91	.37	.01
Disposition Time (from filing to adjudication)	.0008	.0003	.00	.0003	.0004	.44
Trial Time						
1-3 days	2.75	1.07	.01	-1.47	.46	.00
4-7 days	1.89	1.08	.08	-.95	.44	.02
Number of Observations	416			347		
-2 XLLR	312.4			245.5		
Goodness of Fit	369.6			282.2		

for a given factor can be interpreted as the change in the probability of either an appeal (or a settlement) brought about by the presence of any particular independent variable (see **Table 3**).

Evidence Concerning the Settlement Decision

Turning first to the cases that settled, **Tables 2** and **3** paint an interesting portrait of the settlement decision. Most of the literature on how civil litigation is resolved focuses on the

the variable of interest is at its full value. Fourth, the difference between the two probabilities gives the derivative from zero. An alternative calculation is the derivative from mean, which assumes all the exogenous variables are held at their mean value. Since the majority of independent variables are dichotomous (0 or 1), the mean represents a value that can never in fact hold. For this reason, the derivative from zero is used. A comparison of the results between the derivatives from zero and from mean shows a very strong similarity.

Table 3
Effects of Variables on the Likelihood of Settlement and Appeal: Derivative from Zero

	Derivative from Zero	
Type of Tort	**Settle**	**Appeal**
Malpractice and Product Liability	.03	.08
Automobile Tort	-.09	-.26
Other Personal Injury	-.05	-.12
Party Configuration		
Individual v. Individual	-.12	-.19
Individual v. Corporation	-.13	-.14
Individual v. Government	-.14	.10
Type of Disposition (jury v. bench trial)	-.17	.38
Size of Trial Court Award in Dollars	-.02	.08
Punitive Damages Granted or Awarded for Pain and Suffering (yes v. no)	.15	.21
Disposition Time (number of days from filing to adjudication)	.14	.05
Trial Time		
1-3 days	.44	-.31
4-7 days	.37	-.22

distinction between the vast majority of cases that settle before trial and the far smaller proportion that proceed to trial. The observed results in **Tables 2** and **3** show that settlement is relatively common even after the trial court has found in favor of the plaintiff. One might think that this practice arises because the trial court verdict involves defendants with insufficient resources or insurance to cover the full amount of the judgment. Additionally, defendants may be viewed as threatening the plaintiff with an appeal or motion in the hope of forcing the plaintiff to accept a preemptive reduction in the award. These sorts of explanations, however, are not confirmed by the empirical results.

There is no statistical difference between the type of tort, the litigant pairings, or the dollar amounts of the cases that settle and those where judgments are entered on the verdict. (A variable is assumed to be significant if the Wald significance level is less than .10.) Automobile torts are not significantly more likely to settle than medical malpractice cases; individuals suing individuals are not more likely to settle (or be appealed) than are individuals suing corporations; and cases involving small awards are not more likely to settle than those involving large awards (**Table 2**). This body of evidence supports our initial hypothesis that the powerful predictors of the size of the award at the trial level do not necessarily play a parallel role in the postverdict realm.

The factors that do make a statistically significant difference in whether cases settle are, instead, the set of factors that take into account the differences between trial and posttrial circumstances (**Table 2**). As we contended previously, the determining factors surrounding the decision to settle reflect whether the trial was held either before a jury or a judge, whether punitive damages or payment for pain and suffering were included in the final damage

award, the length of time from the filing of the complaint to the time of disposition, and the length of the trial. As expected, cases that settle after the trial court verdict are far more likely to have been disposed of by bench rather than jury trial.

How important is the effect of these significant variables on the decision to settle? We show the effect of each variable by measuring the change in the probability of a settlement directly related to the presence of a particular variable when all other variables are assumed to be zero (**Table 3**). Therefore, if the case was decided by a jury (and holding all other variables at zero), the probability of settlement is reduced by 17 percent. Additionally, cases that settle following the trial tend to emerge from trials of short duration: a third of the trials that culminated in a posttrial settlement lasted less than one day. Relative to a trial of eight days or more, the probability of settlement increases by 37 percent if the trial lasts four to seven days and increases by 47 percent if the trial lasts less than three days (**Table 3**). The image emerging from the data is one of losing defendants in a bench trial wishing to settle the case quickly and to prevent the verdict from being executed through a formal court order. This pattern suggests that the issues before the trial court were not complex liability issues or incalculable damage claims, but rather that the issues were well-defined, yet arguable, applications of settled law. Hence, these findings point to the importance of further research into the selection criteria underlying the choice between bench and jury trials and add a further note of caution to findings based exclusively on jury verdicts.

Evidence Concerning the Decision to Appeal

Table 2 also shows the extent to which cases that were appealed are similar to and different from those that were not appealed. The results offer an interesting contrast to the cases that settle. Four factors emerge as significant in predicting whether a case is appealed: the length of trial, the amount of damages awarded, whether the award included punitive damages or payment for pain and suffering, and the type of trial.[15] The longer the trial, the more likely the appeal. The prospect of a finding of procedural error in the trial verdict creates a strong foundation for appeal. This expectation is consistent with the result in **Table 3** that shows short trials (1-3 days) and medium-length trials (4-7 days) reduce the probability of an appeal by 31 percent and 22 percent, respectively. Additionally, the larger the award, the more likely the appeal, which is interpretable and consistent with previous research. Shanley and Peterson (1987) and Broder (1986) contend that large awards provide the motivation for appeals. Although cases where damage awards in excess of quarter of a million dollars are infrequent in the state courts (11 percent of the cases where a judgment is entered in the current sample), they comprise nearly one-third of the appealed cases. Again, the evidence confirms the hypothesized effect. As the size of the award increases, it becomes relatively less expensive to pursue the case to the next level.

15 While not significant, the signs on the type of tort support the view that particular types of cases are more likely than others to be appealed. Malpractice and products liability cases, often characterized as involving complex and evolving case law as well as high stakes, have a relatively greater probability (.08) of being appealed than other types of torts. In contrast, if the case is an automobile tort, the most common type of tort, the probability of appeal decreases by .26.

Furthermore, it may be financially advantageous to delay the payment of damages while the case is pending in the appellate court.

Cases involving punitive damages or payment for pain and suffering have a significantly greater likelihood of being appealed than those without such damages and payments. A number of reasons explain this result, including broad-based disagreement between the parties over whether these additions to compensatory damages are appropriate, lack of precision in the basis of these awards, and the defendant's keen interest in removing the taint accompanying these awards. These reasons are likely to apply for all levels of punitive damage and pain and suffering awards. Therefore, this factor is suitably measured in terms of whether such awards are made, not the size of the awards.[16] This interpretation is consistent with Shanley and Peterson (1987) who found that the final payments in cases involving punitive damages were considerably lower than cases where those damages were not involved. The difficulties of calculating, and hence, agreeing on these sorts of damages, heighten the prospects for appeal. This expectation is consistent with the observed result that the existence of punitive damages or an award for pain and suffering increases the probability of an appeal by 21 percent (**Table 3**).

The type of trial is clearly influential: disposition by jury trial increases the probability of appeal by 38 percent. This is consistent with the finding that parties choose judges, rather than juries, to dispose of cases involving identifiable issues that require third-party review. Those cases where the parties and the attorneys disagree on a range of issues, including the interpretation of laws and factual matters, are much more likely to be adjudicated by a jury trial. In these instances, there is the strong possibility that the trial may narrow, but not resolve, all of these issues. Hence, further litigation in the appellate court is the choice of one of the parties.

Discussion

The choice of settlement and the choice of appeal have both been examined statistically with seven variables drawn from extant theory and empirical research. Two variables (the type of tort and party configuration) are unrelated to either decision. Three other variables (the type of disposition, whether punitive damages are granted or pain and suffering awarded, and the length of trial) were significantly associated with both decisions, but, except for punitive damages/pain and suffering, in opposite ways. Finally, the total amount awarded affects the decision to appeal but does not influence the decision to settle, and the total elapsed time from filing to disposition affects the decision to settle but not the decision to appeal. Thus, among the variables considered in this analysis, a core of components relate to both the decisions to settle and to appeal, while some additional characteristics relate to only one or the other decision.

16 This interpretation is supported by alternative specifications of the model that specifically controlled for variation in the amount of punitive damages and the size of awards for pain and suffering. Taking into account the precise size of such awards provides no additional explanatory power over simply distinguishing whether punitive damages or an award for pain and suffering are present.

These results confirm our hypotheses. Award size is related to the decision to appeal, but is not a crucial determinant of the decision to settle. This result is likely for several reasons. As the size of the award increases, the appeal becomes more cost-effective in that the expected benefits outweigh the cost of additional litigation. Large awards are open to the argument on appeal that they are excessive. Finally, the insignificant effect of award size on settlement supports our contention that the trial option was initially sought in such cases because of unresolved and narrow legal issues—not the amount of damages involved.

We questioned the notion that repeat players were more likely to be involved in the posttrial process because of greater access to resources, legal expertise, and the potential for strategic long-run gains, even though previous research shows that verdicts against repeat players (e.g., corporate and government defendants) tend to involve higher damage awards than those involving individual defendants (Ostrom et al., 1992). We argue that higher awards do not automatically provide repeat players with an added incentive to appeal. Therefore, the finding that party configuration is statistically insignificant supports our contention that additional complexities preclude a clear-cut repeat player effect, particularly between the decisions of whether to appeal or settle. Without more complete knowledge of the issues involved in each case, it is impossible to differentiate those cases where the amount of damages is paramount (more likely to appeal) as opposed to the clarification of key legal issues (more likely to settle). Further, more refined case information is needed to control for those cases that are not appealed because of concern over the consequences of establishing an adverse precedent.[17]

As expected, the type and length of trial have pronounced effects on both the decision to settle and the decision to appeal. Cases that settle tend to follow short bench trials. In contrast, cases involving long jury trials have a much higher probability of being appealed. This suggests that distinctive differences underlie these posttrial options. We offer two possible interpretations here. The quick resolution of cases by bench trial suggests that the parties were not embroiled in a protracted conflict. Rather, the conflict revolved around a clearly defined set of issues that required third-party adjudication. Once the issues have received legal clarification, the losing party foregoes further litigation. By settling, the losing party avoids the precedent-setting nature of a court-ordered judgment. Alternatively, the appealed cases tended to involve large awards that neither side is willing to negotiate. The opposing sides have distinctively different views of the strength of their positions, and the losing side has no option but to appeal and hope for some sort of modification. The fact that the probability of appeal rises as the length of the jury trial increases suggests that one of the key elements of the appeal will involve assertions of reversible error in the trial court decision. As trial length increases, so does the potential for judicial error, or at least there are more possible points of law for the losing party to raise on appeal.

17 Shanley and Peterson (1987: 43) argue that corporate defendants involved in products liability cases "may face higher risks in appealing a case than defendants in other types of cases. Because the products in question are often mass produced, a loss on appeal could set a precedent that affects future litigation."

Conclusions

Posttrial change to the original trial court verdict was actively sought in nearly one-half of all trial verdicts in the 27 courts examined. Motions for a new trial or JNOV were filed following 136 of the verdicts, although less than 10 percent of that number were successful. The most prominent means of altering the trial verdict is through posttrial negotiation and settlement or appeal. This article has focused on the distinctive differences that underlie the decisions of whether to settle or appeal rather than accept the ruling of the trial court. By following cases beyond the trial court, several general conclusions emerge that not only shed light on distinguishing features of posttrial decision making but also cast light back to the trial process itself.

The fact that nearly one-half of the cases are challenged illustrates that the parties see the trial verdict as a malleable, not definitive, resolution. The differences in cases disposed of at trial is underscored in the range of events that follow the trial verdict. Negotiation and settlement clearly do not end when the trial begins or, for that matter, when the trial ends. Trial awards are modified in a substantial number of cases by settlement in lieu of further court action. Moreover, the factors important to understanding the trial verdict do not necessarily account for why some cases proceed into either the posttrial arena or the particular path that is followed. For example, the type of tort and the party configuration are critical to the size of the award, yet have minimal influence over the decisions to appeal or settle. Finally, the findings suggest that important differences exist between the cases that are resolved at trial and that these differences move to the forefront in explaining posttrial choices. In particular, the distinction between jury and bench trials helps to account for why some cases are settled and others appealed.

In addition to the examination of how posttrial choices vary by case characteristics, this article also raises a number of unanswered questions and suggestions for future research. Most prominent is what happens to the cases that are appealed?

Looking beyond the decision of whether to appeal, we can only peer into the appellate court process. As an initial observation, it seems noteworthy that approximately 40 percent of the tort cases on appeal are dismissed because of withdrawals by the appellant or voluntary settlements between the parties. Some of the settlements were encouraged, no doubt, by conferences intended to encourage negotiation. Other settlements were prompted by informal bargaining among the litigants in those courts without such court-sponsored conferences.[18]

This settlement pattern even among cases where the trial court judgments are challenged on appeal demonstrates that the legal process does not proceed automatically to an appellate court decision affirming or modifying a trial court verdict. Bargaining continues over the size of the award, the terms of the payment, and so forth in an appreciable

18 These data are consistent with the attrition rates found in previous research on courts of appeal. *See*, Chapper and Hanson (1990). The proportion of all civil appeals resolved without a court decision on the merits ranged from 37 to 48 percent across four selected intermediate appellate courts in Arizona, Florida, Maryland, and New Jersey.

proportion of cases. Hence, the modeling of the outcomes of the decided appeals needs to take into account that appellate court decisions reflect only a subset of all torts on appeal. Research concerning the finality of trial court verdicts in tort cases needs to address the question of whether particular cases "wash out." After taking the attrition process into account, what happens to the decided cases? Are some more likely to be affirmed than others? Finally, how are verdicts modified on appeal? When these questions are addressed, a more complete picture of tort litigation will emerge. **jsj**

APPENDIX

The logit technique assumes the existence of a latent variable (y*) that is related to the observable independent variables by the following process:

$$y^* = XB + e$$

where X is a (1xk) vector of variables and B is a (kx1) vector of parameters, and e is an independent stochastic component assumed to be normally distributed with a mean of zero and constant variance of s^{*2}.

In the logit model y* is completely unobservable. All that is observed is the dichotomous variable y, where

$$y = 1 \qquad \text{if } y^* > 0$$
$$y = 0 \qquad \text{if } y^* <= 0$$

For our purposes, y* can be thought of as an index of the propensity to engage in posttrial litigation and negotiation. The statistical model assumes that y* is a linear function of the vector X and the disturbance term e, where X is composed of measurable individual and ecological variables thought to influence the propensity to engage in posttrial activity, and e is assumed to capture the influence of both unmeasured determinants and stochastic factors.

Participation in posttrial activity is measured by y with the case being involved (i.e., y = 1) if the index of posttrial propensity (y*) exceeds zero. The variable y thus measures only whether the index for a particular case is above or below the zero threshold; it does not measure how close the case is to the threshold of choosing the posttrial option.

We begin by presenting the results from two separate logit models: one that examines the decision whether to settle the case following the trial and one that examines the decision whether to appeal. Two separate equations are used rather than a single trichotomous model (i.e, settle, appeal, no posttrial litigation) to bring out the very different blend of influences on the choice of settlement or appeal.[1]

1 Further, because the decisions to settle or appeal are mutually exclusive, there is no need to control for additional selection effects, such as through the procedure developed by Heckman. The decision of whether to settle is not acting as a selection equation that precedes the appeal/no appeal decision. For this reason, it is unlikely that serious "selection bias" is occurring in the estimation of the appeal/no appeal decision.

Overall fit of the models. The primary measures of goodness of fit are presented at the bottom of Table 2. The most frequently used indicator of goodness of fit in logit, -2xLLR, is a chi-square variate with N - p degrees of freedom, where N is the number of cases and p is the number of parameters estimated. Values of 312.4 and 245.5, respectively, for the settle and appeal models indicate a high level of significance.

A second measure is the goodness-of-fit statistic. This test of model fit compares the observed probabilities to those predicted by the model. This statistic also has a chi-square distribution and is strongly significant for both models.[2] This result leads to the rejection of the null hypothesis and indicates that the models fit the data well.

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2 The goodness-of-fit statistic is defined as Z2 = sum [Residuali2 / Pi(1-Pi)].