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THE PREDICTABILITY OF PUNITIVE DAMAGES

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ABSTRACT

Using one year of jury trial outcomes from 45 of the nation's most populous counties, this article shows a strong and statistically significant correlation between compensatory and punitive damages. These findings are replicated in 25 years of punitive damages awards from Cook County, Illinois, and California. In addition, we find no evidence that punitive damages awards are more likely when individuals sue businesses than when individuals sue individuals. With respect to award frequency, juries rarely award punitive damages and appear to be especially reluctant to do so in the areas of law that have captured the most attention, products liability and medical malpractice. Punitive damages are most frequently awarded in business/contract cases and intentional tort cases. The frequency-of-award findings are consistent with all major studies of punitive damages.

PUNITIVE damages occupy a prominent but unstable position on the American policy agenda. Efforts to curtail or eliminate them in tort have persisted for more than a decade. Simultaneously, however, punitive damages' reach has expanded. The Civil Rights Act of 1991 allowed women and men to obtain punitive damages for employment discrimination, a federal remedy previously available only to other victim groups,[1] and punitive

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[1] Theodore Eisenberg, *Civil Rights Legislation* 9 (4th ed 1996) (noting that, prior to the Civil Rights Act of 1991, punitive damages and jury trials were available to blacks, but not to women, under the Civil Rights Act of 1866).

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damages in business and employment law cases are of growing importance.[2]

Ambivalent policy reflects ambivalent knowledge. Evidence that punitive damages awards are infrequent has not alleviated concern about the seemingly random decisions that award them and set their level. The absence of a rational pattern of punitive damages awards supports arguments for their elimination or limitation. Concern about their unpredictable pattern reaches beyond self-interested business and tort reform coalitions. An editorial from a leading liberal newspaper presents one commonly held view: "Legislation is needed because punitive damages are wildly unpredictable, so arbitrary as to be unfair and are awarded without any guidance to juries, which simply pick numbers out of the air."[3] Academics regularly echo the theme that "punitive damages are out of control."[4] Congress,[5] the Supreme Court,[6] and state legislatures[7] have been active in the field.

Using one year of jury trial outcomes from 45 of the nation's most populous counties, this article shows that some of the gravest concerns about punitive damages, their unpredictability and lack of relationship to compensatory damages, are less warranted than is commonly believed. In fact, the correlation between compensatory and punitive damages may make punitive damages one of the more explicable features of the legal system. Furthermore, we find no evidence that punitive damages awards are more

[2] James N. Dertouzos, Elaine Holland, and Patricia Ebener, *The Legal and Economic Consequences of Wrongful Termination* (RAND, 1988); George L. Priest, *Punitive Damages and Enterprise Liability,* 56 U S Cal L Rev 123, 124 (1982). But see Lauren B. Edelman, Steven E. Abraham, and Howard Erlanger, *Professional Construction of Law: The Inflated Threat of Wrongful Discharge,* 26 L & Soc Rev 47 (1992).

[3] Editorial, *Trial Lawyers' Triumph,* Wash Post (March 19, 1996), 1996 WL 3069750.

[4] For example, John Jeffries, *A Comment on the Constitutionality of Punitive Damages,* 72 Va L Rev 139, 139 (1986). For agreement with Jeffries or recognition that his view is commonly held, see Robert D. Cooter, *Punitive Damages for Deterrence: When and How Much?* 40 Ala L Rev 1143, 1145–46 (1989); Dorsey D. Ellis, Jr., *Punitive Damages, Due Process, and the Jury,* 40 Ala L Rev 975, 975–76, 987–88 (1989) (noting the volatility and variance of awards); Dorsey D. Ellis, Jr., *Fairness and Efficiency in the Law of Punitive Damages,* 56 U S Cal L Rev 1, 55–60 (1982) (noting enormous variation in the ratio of punitive to compensatory damages); Malcolm E. Wheeler, *A Proposal for Further Common Law Development of the Use of Punitive Damages in Modern Product Liability Litigation,* 40 Ala L Rev 919, 940–41 (1989). See also Peter Huber, *No-Fault Punishment,* 40 Ala L Rev 1037, 1037 (1989) ("lottery-like stakes of punitive awards").

[5] Commonsense Product Liability Reform Act of 1996, HR 956, 104th Cong, 2d Sess (vetoed by President Clinton).

[6] *BMW of North America, Inc. v Gore,* 116 S Ct 1589 (1996); *TXO Production Corp. v Alliance Resources Corp.,* 509 US 443 (1993); *Pacific Mutual Life Ins. Co. v Haslip,* 499 US 1 (1991); *Browning-Ferris Industries of Vt., Inc. v Kelco Disposal, Inc.,* 492 US 257 (1989).

[7] *BMW of North America, Inc. v Gore,* 116 S Ct 1589, 1618–20 (1996) (appendix to opinion of J. Ginsburg, dissenting).

likely when individuals sue businesses than when individuals sue individuals.

Section I of this article sketches the factors that should shape the observed pattern of punitive damages awards. Section II considers the body of evidence about the frequency of punitive damages awards and explores the relationships between several factors and punitive damages awards. The factors explored include the subject area of the case, the size of any compensatory damages award, the nature of the defendant, and locale. Section III analyzes these influences using regression analysis to model the decision to award punitive damages and their level. Section IV considers possible uses of our findings and assesses the impact of systems that cap awards in light of the pattern of actual awards. We conclude in Section V by considering why the patterns of punitive damages awards have not been widely noted before.

This endeavor is limited in several ways. First, this study is not about the normative desirability of punitive damages. Our results have implications for punitive damages' probity because some criticisms of punitive damages depend on their misperceived frequency and randomness. Detecting explicable patterns of punitive damages awards can cast doubt on these criticisms without necessarily establishing that the concept of punitive damages, even if rationally applied, is sound.

Second, we do not account for the impact of punitive damages awards on cases that never reach trial. The possibility of punitive damages likely shapes the settlement process in which the bulk of cases terminate. Perhaps uncounted thousands of cases settle on terms different than those on which they would otherwise settle because of the possibility of punitive damages. But pretrial effects should reflect what juries have done in prior cases. An accurate description of the patterns of punitive damages awards should tighten their impact on cases that never reach trial. We cannot begin to get punitive damages' impact on nontrial settings right until we have some picture of their pattern in cases that do reach trial.

Third, our subject is of the mass of cases, not the few headline-grabbing awards that dominate the news. The data analyzed here do not appear to include the most extreme punitive damages cases. The absence of such cases in a sample as broad as ours suggests that the punitive damages cases emphasized in the media are newsworthy precisely because they are so rare and because they depart from an explicable underlying pattern of awards.

One definitional matter may clarify the discussion. We employ the terms "subject area" or "case category." By subject area or case category we mean the subject matter subgroups into which tort is often divided: products liability, medical malpractice, automobile, intentional tort, and others. The available data determine the subject areas analyzed here.

I. The Expected Pattern of Punitive Damages Awards

What should we expect the pattern of punitive damages awards to look like? It is helpful to separate their expected frequency from their expected size. We first discuss the likely influences on the frequency of awards and then examine the factors shaping the level of awards. Locale, which might influence both, is considered separately. Our sketch of the expected award pattern is admittedly informal. More formal analyses of punitive damages are contained in the law and economics literature.[8] With the exception of the influence of the defendant's wealth on award levels, the pattern of awards we expect is not materially different from that forecast by economic theorists. Our primary goal is to describe the awards pattern in a more complete manner than has heretofore been done. Since describing the pattern requires some decisions about what factors to analyze, we supply a modest structure to support our inquiries.

A. Frequency

The nature and purpose of punitive damages suggest that, in a well-functioning tort system, they will be rarely awarded in nearly all subject areas of tort but more frequently awarded in cases of intentional tort. Against this background of scarcity, the rate of punitive damages awards should vary depending on the subject area of a case.

Punitive awards' expected frequency depends on determining how often punitive damages are appropriate. Whatever their precise function—punishment, deterrence, or some related purpose[9]—punitive damages can potentially be awarded only in cases in which the defendant's behavior is qualitatively worse than in the mass of tort cases. Most tortfeasors are negligent, we suspect, not willful or reckless to the point of serious moral fault. Thus, the pool of cases in which punitive damages might be awarded should be a small subset of the mass of tort cases.

In this subset of serious tort cases, juries could conceivably award punitive damages. But even in such cases punitive damages awards are probably not automatic. Awarding punitive damages represents a pejorative judgment beyond that inherent in a defendant losing a tort case. It punishes wrongdoers without the stringent safeguards of a criminal process. Because of the severity of the judgment, jurors ought to apply demanding standards in deciding which behavior qualifies for punitive awards. Having already awarded compensatory damages, jurors have done rough justice between

[8] William M. Landes and Richard A. Posner, *The Economic Structure of Tort Law* (1987).

[9] For a review of the possible purposes of punitive damages, see Ellis (cited at note 4).

the parties. Finding the additional level of wrongful behavior that justifies a punitive award ought to be made with great confidence in the defendant's egregious wrongdoing. As in criminal law, jurors should be more willing to err on the side of allowing "guilty" tortfeasors to go free of punitive damages than they should be willing to err on the side of convicting "innocent" tortfeasors of the morally tainted behavior associated with punitive damages. This asymmetric attitude toward the risk of error could further depress the rate at which punitive damages are awarded.

Unlike criminal law, tort law does not build in a high burden of proof—beyond a reasonable doubt—to promote asymmetric errors. Other than the slight bias embodied in the preponderance-of-the-evidence standard, the tort system does not formally institutionalize asymmetry. In general, if the plaintiff establishes by a preponderance of the evidence the elements entitling it to punitive damages, the jury is free to award such damages. But the jury told that it may punish an egregious wrongdoer may well pause and demand greater certainty than that required by routine tort standards, before piling punishment on top of compensation. And legislatures or courts often require greater certainty by demanding "clear and convincing" proof of behavior before allowing a punitive award.[10]

Regardless of the level of proof, a case's subject area can be a proxy for the possible presence of behavior that would support a punitive damages award. Findings of liability in standard areas of tort law such as automobile accident cases, medical malpractice cases, and products liability cases do not automatically carry with them a finding of the willful or reckless misbehavior that supports punitive damages. Sometimes the defendant's behavior in these areas is so negligent or reckless as to suggest something akin to willfulness. But finding the defendant liable in these subject areas does not necessarily imply wrongful behavior that would qualify for punitive treatment.

Punitive award frequencies in other areas of tort law should be higher. Cases that involve intentional torts or fraudulent misbehavior include in the basic liability finding a level of malfeasance that should lead to higher rates of punitive damages awards.[11]

Thus, in most areas of tort law, we should expect punitive damages awards to be infrequent. In areas involving intentional misbehavior, awards should be more frequent. In all areas, juries, when in doubt, probably err on the side of not awarding punitive damages.

[10] Dan B. Dobbs, *Ending Punishment in "Punitive" Damages: Deterrence-Measured Remedies,* 40 Ala L Rev 831, 837 & note 11 (1989).

[11] For an economic justification of this result, see Landes and Posner, at 160 (cited at note 8).

B. Award Levels

Given a decision to award punitive damages, what should determine their level? The most important factors ought to be the harm caused, the egregiousness of the misbehavior, and the amount needed to accomplish the goals of punishment or deterrence.[12] We lack direct measures of the egregiousness of misbehavior, so our primary focus is on the other two factors.

Harm Caused. The punishment meted out in a punitive award ought to relate to the harm caused by the defendant, even if that harm has been reimbursed through a compensatory award. We punish attempts in criminal law less severely than successfully completed wrongful acts. Attempted murderers, though often no less morally culpable than successful murderers, receive less severe punishments. Using the level of harm caused to calibrate punitive damages should be distinguished from using the level of harm caused to determine compensatory damages. With respect to the law's compensatory function, compensatory damages exhaust the "harm measuring" needs of the law. The punishment function takes account of the harm caused for an arguably independent reason. We tend to regard behavior as worse when it causes more damage.

For our purposes, one need not agree that the harm caused should influence the level of the punitive award. Regardless of theoretical dictates, the impropriety of not linking punitive damage awards to harm caused is a major theme of tort reform. One persistent criticism of punitive damages award levels is their alleged lack of relationship to compensatory damages award levels.

In tort cases eligible for punitive damages, a convenient measure of the degree of harm caused by the defendant usually exists. The compensatory component of the damages award should be a measure of the harm the defendant has caused. If punishment should relate to harm, and not just to egregiousness of behavior, punitive damages ought to be correlated with compensatory damages.

Defendant's Financial Status. Harm caused is not the only feature we expect to influence the level of punitive damages. The punishment/deterrent rationale, when implemented through monetary sanctions, suggests fine-tuning to reflect the defendant's financial circumstances. A police officer who unlawfully beats a victim may be severely punished, and other police officers deterred, by a punitive award of $5,000. A multibillion dollar corporation may not even notice such an award. We thus expect the level of

[12] See, for example, David G. Owen, *The Moral Foundations of Punitive Damages,* 40 Ala L Rev 705, 731 (1989) (citing Restatement of Torts).

the award to reflect the defendant's financial situation.[13] Increased award levels against wealthier defendants, therefore, do not necessarily show bias against them.[14]

The relevance of the defendant's wealth, it should be noted, is not supported by legal economic theorists.[15] But they recognize a "modest plausibility"[16] to the wealth-based reasoning, acknowledge its possible theoretical fairness,[17] and, at the descriptive level, note that juries "rightly or wrongly" consider wealth relevant.[18] Fischel and Sykes suggest that the defendant's wealth could appropriately be taken into account in the case of individual defendants but not in the case of corporate defendants where the shareholders, who bear the cost of the damages, bear little responsibility for the wrongful act.[19]

Egregiousness of Misbehavior. Independent of the harm caused, the defendant's degree of misbehavior ought to influence the punitive award level.[20] It is possible to behave very badly and be fortunate enough to cause little harm. If egregious misbehavior is a proper influence on award levels, some cases with low compensatory awards should yield nontrivial punitive awards.[21]

We ought not expect to observe many such cases. Few cases may reach

[13] Jerry J. Phillips, *A Comment on Proposals for Determining Amounts of Punitive Awards,* 40 Ala L Rev 1117, 1119 (1989); Joan T. Schmit, S. Travis Pritchett, and Paige Fields, *Punitive Damages: Punishment or Further Compensation?* 55 J Risk Insurance 453, 464 (1988). See also David G. Owen, *Civil Punishment and the Public Good,* 56 U S Cal L Rev 103, 105 (1982) (distinguishing among types of defendants).

[14] For evidence that jurors are not biased against businesses, see Valerie Hans and William S. Lofquist, *Jurors' Judgments of Business Liability in Tort Cases: Implications for the Litigation Explosion Debate,* 26 L & Soc Rev 85 (1992).

[15] For example, *Kemezy v Peters,* 79 F3d 33 (7th Cir 1996) (C. J. Posner); Kenneth S. Abraham and John C. Jeffries, Jr., *Punitive Damages and the Rule of Law: The Role of Defendant's Wealth,* 18 J Legal Stud 415 (1989); Ellis, at 61–63 (cited at note 4). But see Jennifer H. Arlen, *Should Defendants' Wealth Matter?* 21 J. Legal Stud 413, 414 (1992) (wealth is relevant to deterrence for risk-averse individuals); *Note, The Use of Evidence of Wealth in Assessing Punitive Damages in New York:* Rupert v Sellers, 44 Albany L Rev 422 (1980). See also David G. Owen, *A Punitive Damages Overview: Functions, Problems and Reform,* 39 Vill L Rev 363, 385–87 (1994) (concluding that the role of the defendant's wealth is a difficult question).

[16] Abraham and Jeffries, at 421 (cited at note 15) (but rejecting the claim).

[17] Ellis, at 63 (cited at note 4).

[18] *Kemezy v Peters,* 79 F3d at 36 (C. J. Posner).

[19] Daniel R. Fischel and Alan O. Sykes, *Corporate Crime,* 25 J Legal Stud 319, 349 (1996).

[20] *BMW of North America, Inc., v Gore,* 116 S Ct 1589 (1996); *Day v Woodworth,* 13 Howard 363, 371, 54 US 363 (1852); David G. Owen, *A Punitive Damages Overview: Functions, Problems and Reform,* 39 Vill L Rev 363, 387 (1994).

[21] For the historical roots of awards in such cases, see Ellis, at 16–17 (cited at note 4).

trial in which punitive damages are awarded when compensatory damages are very low or equal to zero. These cases should be rare for two reasons. First, the absence of compensatory damages suggests a low level of measurable harm. This weakens the argument for punitive damages in the case. Second, attorneys and clients may be reluctant to press cases in which there is a real possibility of no compensatory damages. That juries may respond to egregious misbehavior by occasionally awarding punitive damages without awarding substantial compensatory damages is not a reason to rely on juries to do so in many cases. If the attorney were told in advance that there would be no compensatory award, he probably would not expect a substantial punitive award. Nevertheless, a few cases may be pressed primarily for redress of insult or other intangible injuries where behavior is outrageous but compensatory damages are small or nonexistent.

Given a decision to award punitive damages, the specific subject area of the case in which the award is given may be relatively uninfluential on the level of the award. As suggested above, case categories are useful proxies for possibly egregious misbehavior. Once egregious behavior is found, however, the importance of case category should diminish. Intentional or egregious wrongdoers are more serious wrongdoers whether they produce products, publish newspapers, harm patients, or defraud contractual partners. They are united more by the nature of their wrongdoing than by the subject area of their wrong. We thus expect the specific subject matter of a case to play less of a role in explaining the size of punitive damages awards than they play in explaining the frequency of awards.

These considerations generate conjectures about punitive damages award levels to accompany our predictions about award frequencies. In a well-functioning tort system, we would expect that (1) award levels should correlate with compensatory damages award levels except in the few cases where egregious misbehavior might trigger a punitive award in the absence of a substantial compensatory award, (2) holding constant the compensatory damages award level, the subject area involved should play a lesser role in shaping the level of award than in determining the award's existence, and (3) the award level should vary with the defendant's wealth.

C. Locale

One common observation about punitive damages awards is the substantial geographical variation in their pattern.[22] At first glance, the theoretical

[22] Bureau of Justice Statistics (BJS), *Special Report: Civil Justice Survey of State Courts, 1992: Tort Cases in Large Counties* 6 (1995); Stephen Daniels and Joanne Martin, *Civil Juries and the Politics of Reform* (Northwestern Univ. Press 1995); John Goerdt, Brian Ostrom, David Rottman, Robert LaFountain, and Neil Kander, *Litigation Dimensions: Torts and Contracts in Large Urban Courts,* 19 State Ct J 1 (1995); Erik Moller, *Trends in Civil Jury Ver-*

case for such variation is thin. One might hope that egregious tortious behavior in one locale would be dealt with in approximately the same manner as behavior in another locale.

Without necessarily defending substantial geographical effects, we do note their ubiquity. Variation in case outcomes, both in cases involving punitive damages and in other cases, may be a price we pay for having a large, federal system. For it is certainly not only in the area of punitive damages that the United States' tort system exhibits geographical variation in case processing. In tort itself, geographical variation exists in cases that do not involve punitive damages. Both win rates and award patterns exhibit substantial regional variation.[23]

And studies of other areas of law suggest that geographical variation is the rule, not the exception. Geographical variation is not limited to cases that emphasize the multistate character of our system with its accompanying variation in legal rules. Even in more homogeneous areas of law, geographical variation emerges. The outcome of civil rights trials, brought in federal courts as cases arising under federal question jurisdiction, exhibits wide geographical variation.[24] The rate at which bankruptcies are filed, the mode of bankruptcy filing, and the outcome of the bankruptcy process show strong geographical effects despite their shared underlying federal legal rules.[25] Additional studies suggest that geographical variation within a legal system is not limited to the United States. Countries thought of as being more homogeneous, with unified legal systems, such as Japan, Sweden, and Finland, exhibit geographical variation in the patterns of legal phenomena.[26]

The ubiquity of geographical variation could stem from several sources. Grouping data by locale, as well as by any other feature, may generate random fluctuations. But more is probably going on than just reshuffling num-

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dicts since 1985 (RAND, 1996); Brian Ostrom, David Rottman, and Roger Hanson, *What Are Tort Awards Really Like?* 14 L & Policy 77 (1992).

[23] BJS (cited at note 22); Daniels and Martin (cited at note 22); Goerdt et al. (cited at note 22); Moller (cited at note 22).

[24] Theodore Eisenberg, *Litigation Models and Trial Outcomes in Civil Rights and Prisoner Cases,* 77 Georgetown L J 1567, 1587–94 (1989).

[25] Teresa A. Sullivan, Elizabeth Warren, and Jay Lawrence Westbrook, *As We Forgive Our Debtors: Bankruptcy and Consumer Credit in America* 339–40 (1989); Teresa A. Sullivan, Elizabeth Warren, and Jay Lawrence Westbrook, *Consumer Debtors Ten Years Later: A Financial Comparison of Consumer Bankrupts 1981–1991,* 68 Am Bankr L J 121, 145–46 (1994).

[26] Theodore Eisenberg, *Konkurs eller Rekonstruktion* (SNS Förlag 1995), also published in English as *Creating an Effective Swedish Reconstruction Law* (SNS Occasional Paper No. 75, December 1995); Theodore Eisenberg and Shoichi Tagashira, *Should We Abolish Chapter 11? The Evidence from Japan,* 23 J Legal Stud 111 (1994). The Finnish results are based on preliminary findings in Stefan Sundgren's studies of Finnish bankruptcy law.

bers in ways that lead to spurious patterns. The mix of cases, economic conditions, the training of lawyers, the law as practiced, the backgrounds of juries and judges, and legal rules do vary by locale. It might be a more surprising result if punitive damages showed no local variation than if they did. Within limits, geographical variation in punitive damages awards more likely shows that punitive damages awards are embedded in a larger legal system in which such variation is the rule rather than that punitive damages are aberrational.

II. The Patterns of Punitive Damages Awards

The factors discussed in Section I generate specific predictions about the relationship between each factor and punitive damages awards. This part describes the patterns of punitive damages awards by isolating the relationship between each factor and punitive award frequencies and levels. Section III combines these factors in regression models.

A. Data Source and Summary Statistics

The most reliable information about jury trial results[27] ought to come from the courts themselves reporting the outcomes of cases. The Civil Trial Court Network (CTCN), a project of the National Center for State Courts (NCSC) and the Bureau of Justice Statistics (BJS), obtains its data directly from court clerks' offices. It covers state courts of general jurisdiction in a random sample consisting of 45 of the 75 most populous counties in the United States.[28] The 75 counties include approximately 33 percent of the 1990 U.S. population.[29] The CTCN jury trial data cover fiscal 1991–92 (July 1–June 30). The data about each case include the subject matter area, which party prevailed, the nature of the parties, and compensatory and puni-

[27] Although this study focuses on jury trials, it is worth noting that judge trials sometimes lead to punitive damages awards. *Telex v International Business Machines Corp.*, 510 F2d 894 (10th Cir), cert. dismissed, 423 US 802 (1975); *Culver v Fowler*, 862 F Supp 369, 373 (MD Ga 1994); *Busche v Bosman*, 474 F Supp 484, 487 (ED Wis 1979), aff'd, 649 F2d 509 (7th Cir), cert. denied, 454 US 897 (1981).

[28] For a complete description of the data, see Inter-University Consortium for Political and Social Research, *Civil Justice Survey of State Courts*, 1992: [United States], ICPSR 6587 (1st ICPSR ed April 1996). The BJS used a two-stage stratified sampling technique that is described in BJS (cited at note 22); Goerdt et al. (cited at note 22).

[29] Theodore Eisenberg, John Goerdt, Brian Ostrom, and David Rottman, *Litigation Outcomes in State and Federal Courts: A Statistical Portrait*, 19 Seattle L Rev 433, 434 (1996).

tive damage award levels.[30] Table 1 presents summary statistics of the variables used in this study.[31]

Table 1, Panel A, shows that the median punitive damage award, $50,000, is about the same as the median compensatory award, $49,000. Neither amount is strikingly high. But the much higher mean awards indicate the influence of high-end awards. The third numerical column of Table 1, Panel B, suggests the infrequency of punitive damages awards. For all case categories combined, punitive damages were awarded in 177, about 6 percent, of the jury trials at which plaintiffs prevailed. Since plaintiffs prevailed about half the time, punitive damages were awarded in about 3 percent of the jury trials. Of the 177 punitive damages awards, 4 percent were awarded in products liability and medical malpractice cases. Nearly half were awarded in contract-related tort litigation. And punitive awards were relatively frequent in areas involving intentional torts.

B. The Decision to Award Punitive Damages

All credible sources confirm the pattern evident in Table 1 of punitive damages awards' frequency. Punitive damage awards are rare, and they are especially rare in the areas that have captured the most attention, products liability and medical malpractice. They are most frequently awarded in business/contract cases and intentional tort cases.

Figure 1 combines the best available data on the rate of punitive damages awards in jury trials won by plaintiffs. The sources for Figure 1, Rand,[32] CTCN, and Daniels and Martin,[33] are broad-based, cover similar time periods, and include several case categories that are sufficiently narrowly de-

[30] Bureau of Justice Statistics, *Special Report: Civil Justice Survey of State Courts, 1992: Civil Jury Cases and Verdicts in Large Counties* (June 1992); Goerdt et al. (cited at note 22). The CTCN data-gathering instrument distinguished among several components of awards; ICPSR at 66 (cited at note 28). Not all courts reported awards broken down by these predefined components. The results reported here are based on the ICPSR variables named "jgencomp" and "jpundam," respectively. We have also analyzed the data using the final award, the variable "jfinawrd" in the ICPSR data. In using jfinawrd, we distinguished between punitive and nonpunitive awards by subtracting the punitive award from the final award and comparing that difference with the punitive award. The results do not materially differ from those reported here.

[31] The BJS study (cited at note 22); Goerdt et al. (cited at note 22), sampled cases in some large counties. Unless otherwise noted, unweighted data are used. No material change in the thrust of our results occurs if the data are weighted to reflect the sampling.

[32] Moller (cited at note 22).

[33] Daniels and Martin (cited at note 22).

TABLE I

SUMMARY STATISTICS OF JURY TRIAL OUTCOMES

	Mean	Median	*N*	
A. Award levels (in thousands):				
Compensatory damages	386	49	2,849	
Punitive damages	534	50	177	
	Proportion of Cases	Trials Won by Plaintiffs	Trial Wins with Punitive Award	Number of Trials
B. Trial outcomes and award frequencies:				
Plaintiff/defendant status dummy variables:				
Individual vs. individual	.387	.50	.06	2,340
Individual vs. business	.366	.51	.07	2,218
Business vs. business	.063	.59	.08	380
Other	.184	.40	.03	1,115
Case category dummy variables:				
Products liability	.031	.39	.03	186
Automobile tort	.321	.57	.02	1,945
Dangerous premises	.160	.41	.02	967
Intentional tort	.036	.42	.21	215
Medical malpractice	.114	.27	.03	692
Professional malpractice	.015	.50	.18	90
Slander/libel	.006	.44	.27	34
Toxic substance	.022	.72	.07	130
Other tort	.069	.46	.06	419
Contract fraud	.027	.57	.19	161
Contract other	.126	.63	.08	760
Employment contract	.028	.56	.24	171
Other (real estate, unknown)	.047	.42	.08	283
Totals		.49	.06	6,053

SOURCE.—Inter-University Consortium for Political and Social Research, *Civil Justice Survey of State Courts*, 1992: [United States] (ICPSR 6587).

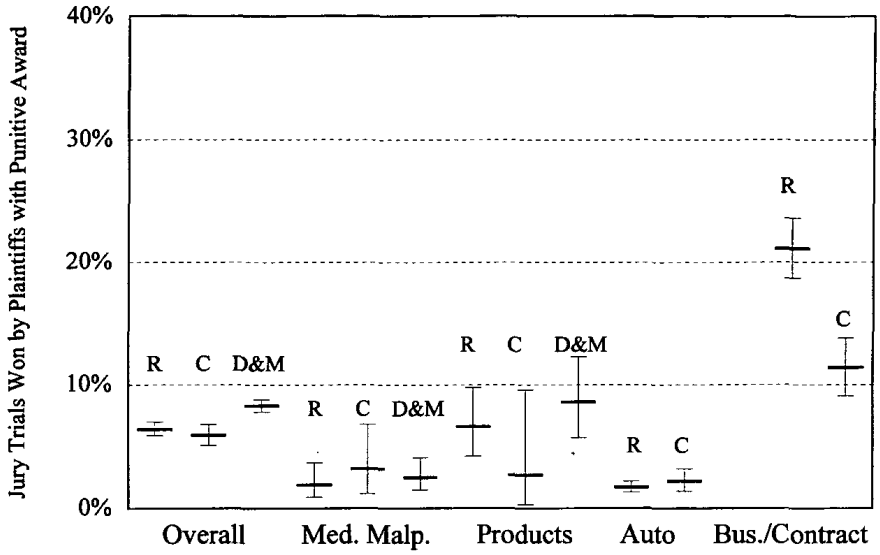

FIGURE 1.—Punitive damages award rates. Means and 95 percent confidence intervals of punitive damages award rates in jury trials won by plaintiffs. Sources.—Inter-University Consortium for Political and Social Research, *Civil Justice Survey of State Courts,* 1992: [United States] (ICPSR 6587) (*C*); Rand Institute for Civil Justice 1990–94 (*R*); Daniels and Martin 1988–90 (*D&M*).

fined to warrant direct comparison.[34] Figure 1 shows that all three sources report overall punitive damages award rates of less than 10 percent in successful jury trials. The 95 percent confidence intervals for the Rand and CTCN estimates overlap, and the Daniels and Martin estimates, while somewhat higher, are within a few percent of the other two estimates.

In medical malpractice cases, the 95 percent confidence intervals for all three sources overlap and show awards in less than 5 percent of successful jury trials. In products liability cases, all three estimates again overlap at under 10 percent, and rates under 5 percent are found in studies of published opinions.[35] The CTCN products liability mean is noticeably lower than the Rand and Daniels and Martin means. This may be because the

[34] See also James S. Kakalik, Elizabeth M. King, Michael Traynor, Patricia A. Ebener, and Larry Picus, *Costs and Compensation in Aviation Accident Litigation* 27 (RAND, 1988) ("punitive damages were not paid on any of the 2,198 closed [aviation accident] cases in our study; in two cases, they were awarded in trial but reversed on appeal").

[35] Theodore Eisenberg and James A. Henderson, Jr., *Products Liability Cases on Appeal: An Empirical Study,* 16 Just Sys J 117, 121 (1993) (3 percent of products liability opinions refer to punitive damages awards); Landes and Posner, at 302–6 (cited at note 8); William M. Landes and Richard A. Posner, *A Positive Economic Analysis of Products Liability,* 14 J Legal Stud 535, 564–65 (1985) (appellate opinion study of punitive damages observes, "The most striking feature of our sample is the relative insignificance of punitive damages").

CTCN estimate is limited to state court cases whereas the jury reporters used by Rand and Daniels and Martin include federal court verdicts. Since a substantial fraction of all products liability trials occur in federal court,[36] and since larger cases tend to be routed to federal court,[37] it may be that federal products cases would reveal higher punitive award rates than state cases. The larger cases may be those with the greatest possibility of punitive damages. Even so, at an absolute level, the three estimates are not far apart. And the available evidence from published opinions is that the federal experience on this issue is not distinct from the states' experience.[38]

In automobile cases, the Rand and CTCN means and 95 percent confidence intervals are both under 5 percent. Daniels and Martin do not separately report automobile cases.

Only in the business/contract cases do Rand and CTCN report noticeably different punitive damages award rates. (Daniels and Martin do not separately report these categories.) Even here Rand and CTCN agree on the most noteworthy features of this class of cases, their comparatively high rate of punitive damages awards and their status as the class of cases with the greatest rate of such awards. And explanations for the variance in rates exist. First, the Rand sample is not a random sample of jurisdictions and depends completely on jury verdict reporters.[39] Some of these reporters may underreport unsuccessful cases in these classes. Second, the case category we label "business/contract" is not very precisely defined, and different sources could plausibly treat its makeup differently.[40]

Despite the "business/contract" variation, Figure 1 reveals a consistent picture. Except in the "business/contract" cases, presumably dominated by

[36] Eisenberg et al. (cited at note 29).

[37] Id.

[38] Landes and Posner, at 302–6 (cited at note 8).

[39] Rand notes that, for San Francisco County, the jury verdict reporter used "appeared to underreport small automobile accident and business cases relative to higher-value verdicts." Moller, at 61 (cited at note 22).

[40] In one respect, Figure 1 overstates the rate of inter-subject-area variation in punitive damages award rates. The business/contract area has by far the highest rate of awards. But recall that the data sources are all limited to jury trials. In the business/contract area judge trials, not jury trials, dominate. The best available evidence is that less than half the contract trials are before juries, whereas 90 percent of some categories of tort trials are before juries. Kevin M. Clermont and Theodore Eisenberg, *Trial by Jury or Judge: Transcending Empiricism,* 77 Cornell L Rev 1124, 1141 (1992); Eisenberg et al., at 443 (Table 4) (cited at note 29). Excluding judge-tried cases, where the belief is that punitive damages are almost never awarded, only modestly inflates the rate of punitive damages awards in tort categories but dramatically inflates the rate of punitive damages awards in contracts cases. If we were to account for the rate of punitive damages awards in all trials, and not just jury trials, the rate in business/contract cases should be divided by at least two.

fraud and employment law issues, all award rate levels are likely less than 10 percent, and many are less than 5 percent. Fraudulent or related contractual misconduct or intentional misconduct dominate the class of cases in which punitive damages are awarded. A study of appellate opinions by Landes and Posner obtained similar results.[41]

In summary, punitive damages are most frequently awarded in the areas of law where breach of a legal duty suggests intentional or morally flawed behavior. In traditional tort areas where morally culpable conduct is not necessarily involved, including automobile, medical malpractice, and products liability cases, punitive damages awards are very rare.

C. Relationship to Compensatory Damages

Surprisingly, few relationships among legal variables are more robust than the relationship between compensatory and punitive damages awards. Given a decision to award punitive damages, independent sources suggest a substantial and statistically significant relationship between compensatory and punitive damage awards. One can explain much about the level of punitive damages from the level of compensatory damages.

We report here the relationship between compensatory and punitive damages from the CTCN trial court level. Before looking at the relationship between punitive and compensatory awards, we note that the distribution of punitive awards is skewed. Rescaling the awards to a logarithmic scale leads to a more symmetric and normal distribution to work with. Figure 2 presents a kernel density plot of the distribution of punitive damages awards.[42] The line superimposed on the figure is a normal distribution with mean and standard deviation set equal to the mean and standard deviation of the distribution of punitive awards. Figure 2 suggests that the logarithm of punitive damages awards is quite close to being normally distributed. We use this property to model punitive damages awards in Section III.

Figure 3, using logarithmic scales, presents the relationship between punitive and compensatory damages for 173 cases with punitive damages awards in 1991–92. Four cases with zero compensatory damages awards and substantial punitive damages awards are not shown. One of these trials

[41] Landes and Posner, at 184–85 (cited at note 8).

[42] The more traditional way of portraying univariate statistical distributions, the histogram, can be thought of as a kind of kernel density estimator. Kernel density estimates have the advantages of being smooth and of being independent of bin location, a choice that can profoundly shape the appearance of a histogram. For brief discussion of and references about kernel density estimation, see 2 Stata Corp., *Stata Statistical Software: Release 5.0,* at 288–305 (1997).

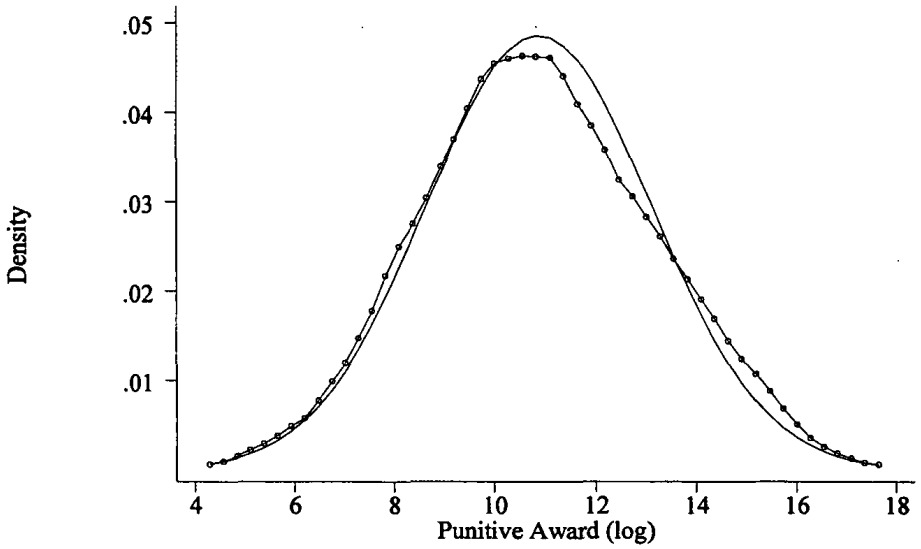

FIGURE 2.—Kernel density estimates of punitive damages awards distribution. Source.—Inter-University Consortium for Political and Social Research, *Civil Justice Survey of State Courts,* 1992: [United States] (ICPSR 6587).

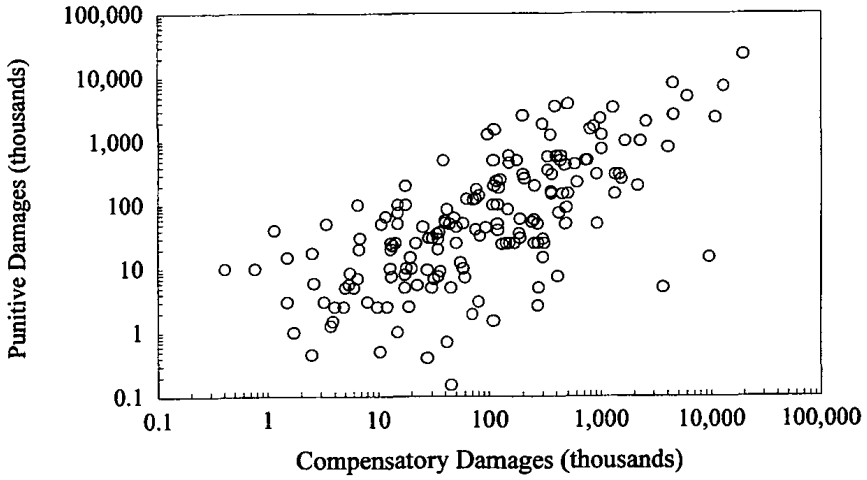

FIGURE 3.—Relationship between compensatory and punitive damages. Source.—Inter-University Consortium for Political and Social Research, *Civil Justice Survey of State Courts,* 1992: [United States] (ICPSR 6587).

TABLE 2

PUNITIVE DAMAGES AWARDS BY PLAINTIFF/DEFENDANT STATUS

Plaintiff/Defendant	Mean	Median	Mean of Logarithm	No. of Cases
Individual vs. individual	279,415	25,000	10.3	67
Individual vs. business	817,230	70,225	11.2	78
Business vs. business	515,666	52,777	11.6	18
F-test significance	.290		.018	

SOURCE.—Inter-University Consortium for Political and Social Research, *Civil Justice Survey of State Courts,* 1992: [United States] (ICPSR 6587).

appears to have been limited to the issue of punitive damages. The parties may have already settled on the amount of compensatory damages.[43]

Far from being randomly related, the punitive damages awards increase monotonically with compensatory damages in a statistically significant manner. The hypothesis that punitive damage awards are randomly plucked out of the air, and bear no relation to compensatory damages, can be firmly rejected.

Furthermore, as one might expect, the data suggest that cases pressed predominantly because of the egregiousness of the behavior, and not because of the harm caused, are rare. Cases with low or zero compensatory awards and substantial punitive awards comprise approximately 2 percent of the punitive awards.

D. The Defendant's Wealth

Under one view, punitive damages levels ought to reflect the defendant's financial status. Larger awards are needed to deter wealthier defendants. To test whether punitive damages correlate with defendant wealth requires financial data about the defendants in punitive damages cases, and we do not have the balance sheets of such defendants.

But we do have one, admittedly imperfect, proxy for wealth. That proxy is the defendant's status as individual or business. We suspect that businesses in litigation, especially those defending against actions requesting punitive damages, have, on average, more wealth or assets than individuals in litigation. We thus expect punitive damages awards against businesses to be higher than those against individuals.

Table 2 shows the mean punitive award by party status for the three com-

[43] Another zero compensatory damages case involved a finding that an employer had not discriminated but had unlawfully retaliated when plaintiff alleged discrimination. Since the plaintiff had not been a victim of discrimination, there may not have been any actual damages.

binations of parties that had nonnegligible numbers of punitive damages awards. It shows that mean punitive damages awards are in fact higher in cases involving business defendants than in cases involving individual defendants, a result confirmed by Rand's findings.[44] A study that assessed the relationship between defendants' assets and punitive damages also found some evidence that punitive awards positively correlate with assets.[45]

Some caution in interpreting the individual-business difference is in order. It may be that differences in treatment between individuals and businesses are not really a wealth effect. MacCoun presents evidence that, on issues other than punitive damages, jurors' decisions were insensitive to differences in perceived defendant wealth.[46] Jurors, however, did react differently to corporate and individual defendants.[47] We thus cannot eliminate the possibility that the wealth effect we observe is more properly attributable to the fact that business defendants can be corporations and individual defendants cannot be. Independent of wealth differences, jurors may react differently to commercial actors than to individuals.[48]

E. Locale

All data sources confirm geographical variation in punitive damage award patterns.[49] The CTCN data strongly support this finding. Locale influences both the frequency of punitive damages awards and their level. Table 3 shows the rate at which punitive damages are awarded for each county in the CTCN sample and the mean award for each county. The last row of the table reports significance levels for tests of the hypotheses that no differences exist across counties. For both the rate of awards and the level of the award, the intercounty differences are highly statistically significant.[50]

The frequency of awards varies from 0 percent in 13 counties[51] to 27 per-

[44] Mark Peterson, Syam Sarma, and Michael Shanley, *Punitive Damages: Empirical Findings,* 49–50 (RAND, 1987).

[45] Schmit et al. (cited at note 13).

[46] Robert J. MacCoun, *Differential Treatment of Corporate Defendants by Juries: An Examination of the "Deep-Pockets" Hypothesis,* 30 L & Soc Rev 121, 140 (1996).

[47] Id.

[48] Id.

[49] Daniels and Martin (cited at note 22); Moller (cited at note 22).

[50] Table 3 is based on BJS (cited at note 22); Goerdt et al. (cited at note 22), which use weights to account for sampling some locales.

[51] Four of those 0 percent counties are in Massachusetts, which allows punitive damages awards only under narrow circumstances. Goerdt et al., at 47 (cited at note 22). In the models of whether a punitive award was granted, reported in Table 4 below, we have run, but do not report here, variations in which the Massachusetts counties were excluded. Excluding them had no material effect on the regression results but would slightly increase the overall rate at which punitive awards are made.

cent of plaintiff-winner jury trials in San Francisco.[52] A cluster of three Texas counties all have high punitive damages award rates.

Although Rand and Daniels and Martin sampled different mixes of jurisdictions for different years than did the CTCN, the pattern of punitive damages awards rates for jointly sampled counties is, with few exceptions, similar to the CTCN rates. For example, each of those sources shows Texas counties to be among the counties most frequently awarding punitive damages.[53]

III. Modeling the Influences on Punitive Damages

Section II explored influences on punitive damages in isolation from each other. Such an approach is subject to an important limitation. Influences might interact in a way that masks their import. If, for example, both case category and compensatory award level correlate with whether punitive

[52] Table 3 shows a 26 percent rate of punitive damages awards for Fulton County, Georgia. But the CTCN data probably overstate the rate at which punitives are awarded in Fulton County. There are two state courts of general jurisdiction in Fulton County, and CTCN obtained data only from one of them, the Circuit Court. JAS Publications, a jury verdict reporting publisher that publishes the Georgia Trial Reporter, has kindly furnished us with their aggregate data for 1991 and 1992 for the counties covered by their reporting services that are also covered by the CTCN data, including Fulton County. For calendar years 1991 and 1992 combined, JAS Publications reports that there were a total of 426 jury trial verdicts in Fulton County, of which 147 were defense verdicts. Punitive damages were awarded in 35 of the jury trials. Letter to Theodore Eisenberg from Erik R. Albrektson. Since CTCN used a 1991–92 fiscal year, and not a calendar year, the JAS data are not directly comparable with the CTCN data. As a reasonable approximation of the fiscal 1991–92 experience, we divide by two the JAS data for the calendar years 1991 and 1992 combined. This leads to an estimate of 213 Fulton County jury trial verdicts of which 73.5 were defense verdicts, and in 17.5 of which punitive damages were awarded. For the 1991–92 fiscal year, CTCN found 16 Fulton County jury trials with punitive damages compared with the JAS-based estimate of 17.5. Thus, although CTCN's data are limited to one of the two courts of general jurisdiction, the data do not appear to materially understate the absolute number of punitive awards for 1991–92. The CTCN data do appear, however, to overstate the rate at which punitives were awarded in Fulton County.

[53] Daniels and Martin, at 216 (cited at note 22) (high punitive damages award rates in six Texas jurisdictions); Moller, at 54 (cited at note 22) (high rate for Harris County, Texas). The major difference between the CTCN data and the sources based on jury verdict reporters is the substantially lower rate of punitive damages awards shown for San Francisco. Id. For possible biases in the San Francisco data, see note 39. Notable differences also exist between the Maricopa County rate in the CTCN data and Daniels and Martin. Daniels and Martin, at 215 (cited at note 22). JAS Publications (see note 52), covers seven counties included in the CTCN data: Fulton, Oakland, Wayne, Cuyahoga, Franklin, Middlesex, and Suffolk. For each county other than Fulton County, the CTCN data appear to be either more comprehensive or as comprehensive as the JAS data. In no county other than Fulton County does an estimate of the number of punitive awards for fiscal 1991–92 based on the JAS calendar year data differ by more than one from the number of punitive awards detected by CTCN for fiscal 1991–92. Compare Table 3 with Letter to Theodore Eisenberg from Erik R. Albrektson. For Fulton County the difference in estimates is 1.5 punitive awards. Id.

TABLE 3

PUNITIVE DAMAGES AWARDS AS PERCENT OF TRIAL VICTORIES

		PLAINTIFF WINNERS		PUNITIVE DAMAGES		
COUNTY	*N* JURY TRIALS	*N*	Percent of Jury Trials	*N*	Percent of Winners	Mean
Maricopa, AZ	145	92	63.4	1	1	50,000
Pima, AZ	78	39	50	3	8	69,167
Alameda, CA	89	43	48.3	2	5	39,988
Contra Costa, CA	68	30	44.1	1	3	25,000
Fresno, CA	87	47	54	3	6	360,333
Los Angeles, CA	602	305	50.8	36	12	1,103,935
Orange, CA	281	115	40.9	9	8	418,176
San Bernardino, CA	75	28	37.3	0	0	N.A.
San Francisco, CA	126	64	50.8	17	27	303,750
Santa Clara, CA	107	49	45.8	2	4	250,000
Ventura, CA	78	34	43.6	0	0	N.A.
Fairfield, CT	54	29	53.7	0	0	N.A.
Hartford, CT	61	32	52.5	1	3	65,450
Dade, FL	360	159	44.2	3	2	570,000
Orange, FL	83	52	62.7	3	6	3,921
Palm Beach, FL	259	166	64.1	1	1	395
Fulton, GA	120	62	51.7	16	26	162,710
Honolulu, HI	57	21	36.8	1	5	150,000
Cook, IL	600	347	57.8	5	1	9,000
DuPage, IL	82	37	45.1	2	5	51,500
Marion, IN	27	15	55.6	0	0	N.A.

Jefferson, KY	99	61	61.6	8	13	19,893
Essex, MA	76	23	30.3	0	0	N.A.
Middlesex, MA	82	28	34.1	0	0	N.A.
Norfolk, MA	62	31	50	0	0	N.A.
Suffolk, MA	114	40	35.1	1	3	3,000
Worcester, MA	53	20	37.7	0	0	N.A.
Oakland, MI	119	55	46.2	0	0	N.A.
Wayne, MI	242	123	50.8	1	1	3,000
Hennepin, MN	208	103	49.5	4	4	31,768
St. Louis, MO	235	107	45.5	6	6	106,500
Bergen, NJ	115	58	50.4	3	5	198,333
Essex, NJ	158	70	44.3	0	0	N.A.
Middlesex, NJ	140	56	40	0	0	N.A.
New York, NY	600	363	60.4	9	2	940,792
Cuyahoga, OH	266	161	60.5	3	2	21,967
Franklin, OH	119	65	54.6	2	3	25,000
Allegheny, PA	111	53	47.7	0	0	N.A.
Philadelphia, PA	618	356	57.6	6	2	16,817
Bexar, TX	262	121	46.2	10	8	81,550
Dallas, TX	261	129	49.4	29	22	3,996,995
Harris, TX	632	260	41.1	44	17	870,114
Fairfax, VA	161	85	52.8	7	8	25,000
King, WA	131	74	56.5	N.A.	N.A.	N.A.
Milwaukee, WI	116	51	44	2	4	162,500
Significance					.000	.000

SOURCE.—Inter-University Consortium for Political and Social Research, *Civil Justice Survey of State Courts,* 1992: [United States] (ICPSR 6587).

damages are awarded, studying these influences in isolation may not reveal their true impact. This section uses regression analysis to explore the influences on punitive damages award patterns.

It is important to distinguish between the likelihood of a punitive damages award and the size of the award, conditional on there being an award. Modeling when a punitive award will be granted is awkward because they are so rarely granted and because our data do not include information about the degree of misbehavior in individual cases. Forecasting the size of the punitive damages award, given an award's existence, is more promising. The compensatory award provides an important index of the damage done, even if not of the egregiousness of the behavior. In general, the size of the punitive award is quite explicable, as legal damages run, from the size of the compensatory award.

A. The Decision to Award Punitive Damages

Table 4 presents the results of logistic regression analyses in which the dichotomous outcome—whether or not punitive damages were awarded—is modeled as a function of (1) the size of the compensatory damages award, (2) case categories, (3) plaintiff and defendant status, and (4) locale. The cases analyzed consist of those in which plaintiffs won after jury trial. The two numerical columns in the table each represent a model. Robust standard errors are employed.[54] The first model uses dummy variables (not reported here) for each county. The second accounts for the county-level clustered nature of the sample.[55] For our purposes, the results are not materially different.

Table 4 suggests that case categories significantly correlate with whether punitive damages are awarded. Products liability and medical malpractice are among the least likely classes of cases to result in punitive damages awards. All but one or two of the case category coefficients are positive, suggesting that the reference category, products liability, is relatively unlikely to lead to punitive awards. The coefficients for medical malpractice cases, automobile cases, and premises liability cases differ insignificantly from products liability cases. Thus, the traditional areas of negligence/strict liability tort correspond weakly with the presence of punitive damages awards. And intentional tort categories tend to correspond with awards of

[54] Peter J. Huber, *The Behavior of Maximum Likelihood Estimates under Non-Standard Conditions,* 1 Proceedings Fifth Berkeley Symposium Mathematical Stat Probability 221 (1967); Halbert White, *A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity,* 48 Econometrica 817 (1980).

[55] See 2 Stata Corp., at 369 (cited at note 42).

TABLE 4

LOGISTIC REGRESSION RESULTS

Variable	Unclustered	Clustered
Compensatory damages (log)	.051	.053
	(.049)	(.049)
Plaintiff/defendant status dummy variables:		
Individual vs. individual (reference)	. . .	. . .
Individual vs. business	−.023	−.021
	(.207)	(.196)
Business vs. business	−.416	−.205
	(.332)	(.289)
Other	−.919**	−.951**
	(.333)	(.330)
Case category dummy variables:		
Products liability (reference)	. . .	. . .
Automobile tort	−.083	−.178
	(.806)	(.618)
Dangerous premises	.000	−.208
	(.845)	(.615)
Intentional tort	2.418**	2.400***
	(.828)	(.506)
Medical malpractice	.888	.473
	(.887)	(.660)
Professional malpractice	1.847*	2.095***
	(.860)	(.568)
Slander/libel	3.049**	2.656**
	(1.038)	(.854)
Toxic substance	1.395	1.010
	(.923)	(.740)
Other tort	1.215	.974
	(.828)	(.698)
Contract fraud	2.039**	2.252***
	(.820)	(.603)
Contract other	1.253	1.349*
	(.793)	(.581)
Employment contract	2.626**	2.482***
	(.811)	(.527)
Other (real estate, unknown)	1.418	1.586**
	(.872)	(.574)
Constant	−5.901***	−4.100***
	(1.482)	(.782)
Model significance	.000	.000
Pseudo r-squared	.228	.124
Number of cases	2,479[a]	2,849

SOURCE.—Inter-University Consortium for Political and Social Research, *Civil Justice Survey of State Courts,* 1992: [United States] (ICPSR 6587).

NOTE.—Dependent variable = presence of punitive award in jury trial won by plaintiff. Robust standard errors are in parentheses.

[a] Unclustered model excludes sites where model perfectly predicts no punitive award.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

punitive damages. Case categories behave as expected. We can reject the hypotheses that whether an award is given is independent of case category.

Case categories contain information about the quality of misbehavior. Compensatory damage awards do not. Table 4 further shows that one cannot reject the hypothesis that the decision whether to award punitive damages is independent of the level of compensatory damages. This is consistent with juries' deciding whether to award punitive damages in response to the perceived quality of misbehavior, as reflected by case category, not to the level of harm, as measured by compensatory damages.

With respect to plaintiff and defendant status, the only significant effect is the difference between the reference category—individual plaintiff suing individual defendant—and the amorphous category comprising "other" plaintiff-defendant combinations. Perhaps most noteworthy is the insignificance of the coefficient for individuals suing businesses. Controlling for case category, locale, and compensatory award level, we cannot reject the hypothesis that punitive damages awards are no more likely when individuals sue businesses than when individuals sue individuals.

The empirical tests of the model confirm all predictions about the influences on the frequency of punitive damage awards. But they also suggest a difficulty in predicting, based on available data, in precisely which cases punitive damages will be awarded. That is, the model confirms the expected relationships but still leaves us unable to predict accurately precisely when punitive damages will be awarded.

This is not surprising because nothing in our frequency model, other than case category dummy variables, accounts for the within-subject-area seriousness of the defendant's misbehavior. Access to data that usefully measured the degree of the defendant's misbehavior should substantially improve the model's explanatory power. In studies that do have access to independent assessments of the defendant's behavior, the legal system responds to different levels of misbehavior. Those who behaved the worst and caused the most harm are the most likely to lose and pay the most damages.[56] An analysis of medical malpractice punitive damages cases found that "punitive damages were awarded in only the most egregious cases involving healthcare practitioners" and that it "was uncommon to find punitive damage awards for inadvertence or mistake, however serious the conse-

[56] Patricia M. Danzon, *Medicql Malpractice: Theory, Evidence, and Public Policy,* 40–42 (1985); Henry S. Farber and Michelle J. White, *Medical Malpractice: An Empirical Examination of the Litigation Process,* 22 RAND J Econ 199 (1991); Frank A. Sloan and Chee Ruey Hsieh, *Variability in Medical Malpractice Payments: Is the Compensation System Fair?* 24 L & Soc Rev 997, 1019 (1990) ("In general, the results are consistent with the notion that claimants who have incurred higher losses receive more compensation").

quences."[57] An analysis of 13 appellate accident cases in which punitive damages were awarded concluded that in "all but two of the thirteen accident cases, the evidence of gross negligence or recklessness is plain."[58] In the day-to-day practice of law, the parties will have access to some such information. The results shown in Table 4 thus understate the predictability of when punitive damages will be awarded.

B. The Level of Punitive Damages Awards

Table 5 presents the results of regression analyses of the size of punitive damages awards.[59] The universe of cases consists of those in which some punitive damages award is made to plaintiffs. The size of the award is again modeled as a function of (1) the size of the compensatory damages award, (2) case categories, (3) plaintiff and defendant status, and (4) locale. Each numerical column in the table represents a distinct model. Modeling awards levels is complicated by a group of four punitive damages cases for which there is no compensatory damages award. We use a dummy variable coded as 1 for these four cases and 0 otherwise.[60] The first model uses dummy variables (not reported here) for each county. The second and third models account for county-level clustering. The third model omits the dummy variables for case categories.

Contrary to popular and even judicial[61] belief, after controlling for other factors, the level of punitive damages awarded is strongly and significantly correlated with the level of compensatory damages awarded. We have explored this relationship using several sets of independent variables and various regression techniques. The connection to compensatory damages is highly robust and survives when we account for selectivity and endogene-

[57] Michael Rustad and Thomas Koenig, *Reconceptualizing Punitive Damages in Medical Malpractice: Targeting Amoral Corporations, Not "Moral Monsters,"* 47 Rutgers L Rev 975, 1027, 1030 n168 (1995).

[58] Landes and Posner, at 185 (cited at note 8).

[59] The use of a logarithmic transformation of the dependent variable is supported by the distribution of punitive damages awards; see Figure 2 above. The joint log transformation used here is in fact not too different from the optimal two-sided transformation which yields an additive and variance stabilized regression model. See Robert Tibshirani, *Estimating Transformations for Regression via Additivity and Variance Stabilization,* 83 J Am Stat Association 394–405 (1988). Residual analysis confirms the appropriateness of the model used.

[60] Other ways of dealing with the zero compensatory awards are to exclude them or to use robust regression methods that fit the best line to the mass of data and reduce the importance attached to these statistical outliers. All of these techniques lead to essentially the same results.

[61] See *Devlin v. Kearney Mesa AMC/Jeep/Renault,* 202 Cal Rptr 204, 204 (Ct App 1984) ("the formula [for determining punitive damages] does not exist").

TABLE 5

REGRESSION RESULTS

Variable	Unclustered	Clustered	Clustered
Compensatory damages (log)	.670***	.699***	.729***
	(.075)	(.061)	(.053)
Dummy variable for zero compensatory award	7.529***	7.939***	8.568***
	(1.022)	(.778)	(.631)
Plaintiff/defendant status dummy variables:			
Individual vs. individual (reference)	. . .	. . .	. . .
Individual vs. business	.637*	.661*	.635*
	(.322)	(.326)	(.320)
Business vs. business	.539	.467	.224
	(.488)	(.461)	(.379)
Other	.261	.528	.309
	(.399)	(.408)	(.438)
Case category dummy variables:			
Products liability (reference)	. . .	. . .	. . .
Automobile tort	.373	.306	. . .
	(.787)	(.450)	
Dangerous premises	.580	.511	. . .
	(.855)	(.744)	
Intentional tort	.973	1.029	. . .
	(.789)	(.543)	
Medical malpractice	−.097	.248	. . .
	(.979)	(.753)	
Professional malpractice	.838	.886	. . .
	(.848)	(.688)	
Slander/libel	−.223	.171	. . .
	(.803)	(.571)	
Toxic substance	1.707	1.898**	. . .
	(.979)	(.578)	
Other tort	1.154	.983*	. . .
	(.920)	(.431)	
Contract fraud	.754	.713	. . .
	(.843)	(.787)	
Contract other	.296	.253	. . .
	(.793)	(.691)	
Employment contract	1.394	1.253	. . .
	(.814)	(.672)	
Other (real estate, unknown)	1.045	1.002	. . .
	(.820)	(.852)	
Constant	4.143***	1.857*	2.272***
	(1.046)	(.807)	(.566)
Model significance	.000	.000	.000
Adjusted r-squared	.466	.467	.464
Number of cases	177	177	177

SOURCE.—Inter-University Consortium for Political and Social Research, *Civil Justice Survey of State Courts,* 1992: [United States] (ICPSR 6587).

NOTE.—Dependent variable = logarithm of punitive damages award. Robust standard errors are in parentheses.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

ity.[62] The simple bivariate story in Figure 3 is confirmed. Far from picking numbers out of the air, jurors and judges across dozens of jurisdictions and many case categories determine punitive damages award levels with a startling consistency.

This result may surprise both defenders and critics of punitive damages. Much of the recent debate about award levels focuses on whether the frequent appellate reductions of punitive damages are a sufficient check. Defenders claim that posttrial and appellate reductions impose a rationality on award levels while critics assert such review is insufficient.[63] Our data, which consist of judgments entered by judges after jury verdicts, suggest an essential rationality and connection to compensatory damages *at the trial court level.*

Furthermore, we find, albeit in a less robust result, that jurors may add to the punitive award when the defendant is a business compared to when the defendant is an individual, even at constant levels of compensatory damages. If one believes that businesses are, on average, wealthier than individuals, this is to be expected. We interpret this result as suggesting that jurors believe wealthier defendants require higher awards to achieve the same level of punishment or deterrence achieved by lower awards against poorer defendants. But note that this treatment of business defendants does not extend to the decision whether to award punitive damages, as suggested by Table 4.

The results shown in Table 5 also suggest the diminished importance of case category once the decision to award punitive damages has been reached. Case categories play a less substantial role in explaining the level of punitive damages awards than they played in explaining the decision to award punitive damages. Thus, roughly speaking, the decision to award punitive damages represents jurors' judgment that the defendant's behavior has crossed an extreme threshold. Once that threshold is crossed, neither case category nor locale matter to the extent they did in deciding whether to award punitive damages. The model reported in the third column of Table 5 suggests that little explanatory power is lost if one simply ignores case category and locale.

[62] We accounted for selectivity by using a Heckman model in which the decision to award punitive damages is estimated jointly with the level of damages for those cases in which punitive damages are awarded. No material differences from the models reported in Table 5 resulted. We tested for endogeneity using two-stage least squares regression.

[63] Compare Marc Galanter and David Luban, *Poetic Justice: Punitive Damages and Legal Pluralism,* 42 Am U L Rev 1393, 1408–09 (1993), with Victor E. Schwartz and Mark A. Behrens, *Punitive Damages Reform—State Legislatures Can and Should Meet the Challenge Issued by the Supreme Court of the United States in Haslip,* 42 Am U L Rev 1365, 1371 (1993).

One concern about modeling punitive damages as a function of compensatory damages is that the two awards come from a common source, the same jury. The same jury that goes crazily overboard in awarding punitive damages may have gone crazy in its measure of compensatory damages. The strong relationship between the two kinds of awards may simply reveal a kind of consistent within-case craziness.

But even if all we have shown is that within-case consistency exists, that would advance our knowledge of punitive damages award patterns. The claim that punitive damages awards are absurd is often a claim that they bear no relationship to compensatory damages. That assertion can be conclusively rejected.

How good are the models of punitive damages at explaining award levels? Comparisons with other studies should be viewed with caution because of different methodologies, differences in the available explanatory variables, and different classes of cases being covered. But such comparisons can provide a sense of whether punitive damages award levels are plainly less explicable than compensatory award levels. Table 5 suggests that models using compensatory damages explain about 47 percent of the variance in punitive damages awards. Efforts to model compensatory awards do not regularly achieve this level of explanatory power.[64] In one respect, therefore, punitive damages awards levels may be more predictable than compensatory damages award levels.

C. Is There a Formula for Determining Punitive Damages?

The surprising explicability of punitive damages led us to examine the relationship between compensatory and punitive damages in another data set. The Rand Institute for Civil Justice has made publicly available its detailed data from Cook County and California jury verdict reporters for the years 1960–84.[65] These data include the level of compensatory and punitive damages. Figures in the Appendix plot the relationship between compensatory and punitive damages for the Cook County and California data sets.

The similarity between the two Rand-data scatterplots and the CTCN

[64] James S. Kakalik, Patricia A. Ebener, William L. F. Felstiner, Gus W. Haggstrom, and Michael G. Shanley, *Variation in Asbestos Litigation Compensation and Expenses* 56 (RAND, 1984) (model of logarithm of compensation paid to plaintiffs in asbestos cases results in an adjusted *r*-squared of .34); Sloan and Hsieh, at 1020–23 (cited at note 56) (models of medical malpractice award levels using dozens of variables achieve adjusted *r*-squareds ranging from .22 to .51; models limited to jury verdicts do not exceed .47). See also Danzon, at 40 (cited at note 56) (models explain 40 percent of the observed variation in shadow verdicts); Patricia M. Danzon and Lee A. Lillard, *Settlement Out of Court: The Disposition of Medical Malpractice Claims,* 12 J Legal Stud 345, 355–57 (1983) (modeling medical malpractice verdicts). For a model of punitive damages as a function of compensatory damages with even greater reported explanatory power, see Schmit et al. (cited at note 13).

[65] The data are available to its members through the Inter-University Consortium for Political and Social Research at the University of Michigan (ICPSR 6232).

TABLE 6

ROBUST REGRESSION RESULTS

Data Set	Coefficient for Logarithm of Compensatory Damages	Constant	*N*
CTCN 1991–92	.782	2.094	173
	(.059)	(.679)	
Rand Cook County	.819	1.879	208
	(.044)	(.478)	
Rand California	.810	2.382	616
	(.033)	(.366)	

SOURCES.—Inter-University Consortium for Political and Social Research, *Civil Justice Survey of State Courts*, 1992: [United States] (ICPSR 6587); Inter-University Consortium for Political and Social Research, *Jury Verdicts Database for Cook County, Illinois, and All Counties in California*, 1960–1984 (ICPSR 6232).

NOTE.—Dependent variable = logarithm of punitive damages. Standard errors are in parentheses.

data in Figure 3 suggests pushing the analysis one step further. We used robust regression to model the logarithm of punitive damages as a function of the logarithm of compensatory damages.[66] Table 6 presents the regression results for the three data sets.

Table 6 shows that both the slope and intercept for each data set are close to those in the other data sets. All slopes and intercepts lie within each other's 95 percent confidence intervals, and all are highly statistically significant. We cannot reject the hypothesis that the same line best models the relationship between compensatory and punitive damages in all three data sets! It is as if there is a single coefficient, approximately equal to .8, that captures the relationship between compensatory and punitive damages that transcends both time and place. Figure 4 plots the three lines represented in Table 6. One can barely distinguish the lines. In a study of 1978–82 published opinions, Schmit et al. also found a strong and statistically significant relationship between compensatory and punitive damages, although they explored functional forms different from those reported here.[67]

Given the similarity of results across the data sets, we offer the following formula, derived from the CTCN results reported in Table 6, for the mean punitive award given a compensatory award:

[66] Robust regression allows us to deal with the obvious outlier problem in the data. We exclude the few cases with no compensatory damages award, but their inclusion would make little difference. Classical least squares is robustized by, instead of minimizing a sum of squares, minimizing a sum of a less rapidly increasing function. Peter J. Huber, *Robust Statistics* (1981). The net effect is that outliers are down weighted. Various robust estimators were applied to this regression model, and all yielded essentially identical estimates. Note that this model does not account for clustering.

[67] Schmit et al. (cited at note 13).

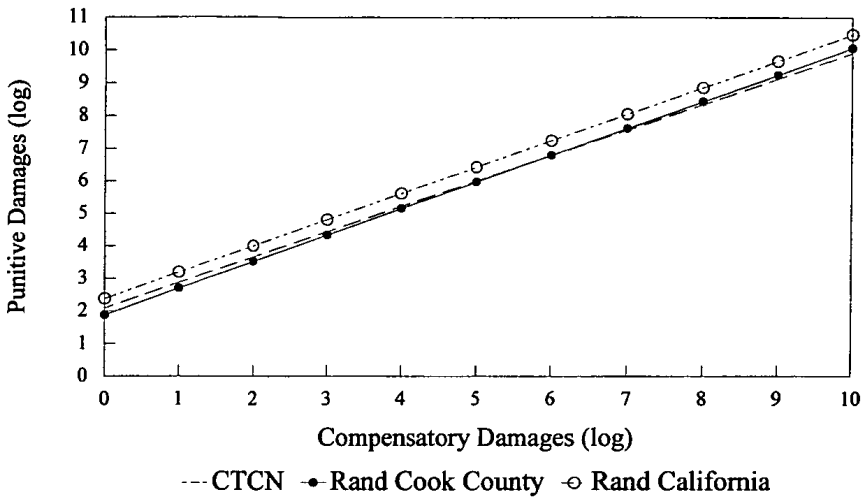

FIGURE 4.—Relationship between compensatory and punitive damages. Best-fitting lines based on robust regression results. Sources.—Inter-University Consortium for Political and Social Research, *Civil Justice Survey of State Courts,* 1992: [United States] (ICPSR 6587); Inter-University Consortium for Political and Social Research, *Jury Verdicts Database for Cook County, Illinois, and all Counties in California,* 1960–1984 (ICPSR 6232).

$$\text{Punitive award} = 8.117 \times \text{Compensatory award}^{.782}.$$

This formula corresponds to the line that best fits the CTCN data and does not capture the spread in the data, which we discuss below.

IV. Using the Pattern of Awards and the Impact of Caps on Punitive Damages

The consistent pattern of punitive damages awards raises the possibility that judges or policy makers could use past awards to assess future awards. The regularity also raises the question whether efforts to cap awards would lead to either a different or a more coherent pattern of awards.

A. Using the Pattern of Awards to Assess Future Awards

Since the vast majority of punitive damages awards fits a regular and sober pattern, one could use that pattern to identify awards that, in light of historical practice, are questionable. The premises underlying such use would be: (1) the present system usually leads to reasonable results, (2) a few outlying awards (not in the CTCN data) should be reeled in, and (3) it is sensible to define outlying awards by reference to the results of the mass of cases. That mass shows sufficient regularity to consider using it rather

than a hypothetically constructed limit on awards.[68] The mechanics of implementing such a system would have to allow for changes over time and perhaps local variations, considerations not addressed here.

Some uncertainty in the level of punitive damages is acceptable[69] and, in the view of some, desirable.[70] Using the mass of awards allows us to check specific awards for their consistency with the larger pattern while allowing for variation of punitives at different compensatory award levels. How much variation to allow is a question of judgment and policy. We illustrate here the results of a system in which punitive awards would fall within two standard deviations of the mean predicted award, given a known compensatory award.

Using the regression results reported in Table 6, one can construct upper and lower limits on the predicted punitive damages award, given a compensatory award. The upper and lower limits on punitive awards are defined by the curves on either side of the best-fitting robust regression line. The curves provide boundaries for all awards within two standard deviations of the best-fitting line. Awards falling above or below these new lines could be used by legislatures to construct caps on awards that more closely reflect actual practice than would an arbitrarily chosen multiplier or constant, or could be used by judges to trigger enhanced review.

Figure 5 reproduces the scatterplot from Figure 3, but now superimposing lines representing the 95 percent upper and lower confidence limits, corresponding to two standard deviations, for the predicted levels of punitive damages. The Appendix contains similar figures for Rand's Cook County and California data. Thus, for example, for compensatory damage awards of $1 million, the CTCN sample shown in Figure 5 suggests that the mean predicted punitive award is $400,000, and that 95 percent of punitive damage awards should be expected to lie between $15,000 and $10.7 million.

In the CTCN sample, all of the punitive awards are within the limits defined by two standard deviations above the predicted line, and the great ma-

[68] See *United States Sentencing Guidelines* [hereafter U.S.S.G.], ch. 1, pt. A, The Basic Approach (Policy Statement) (Sentencing Commission took an empirical approach "that used as a starting point data estimating pre-guidelines sentencing practice"); David C. Baldus, John C. MacQueen, and George Woodworth, *Additur/Remittitur Review: An Empirically Based Methodology for the Comparative Review of General Damages Awards for Pain, Suffering, and Loss of Enjoyment of Life,* in Larry Kramer, ed, *Reforming the Civil Justice System* 386 (1996).

[69] For an economic analysis suggesting that the computation of punitive damages need not be exact to achieve meaningful deterrence, see Robert D. Cooter, *Economic Analysis of Punitive Damages,* 56 U S Cal L Rev 79, 98 (1982). See generally Louis Kaplow and Steven Shavell, *Accuracy in the Assessment of Damages,* 39 J Law & Econ 191 (1996) (suggesting that parties sometimes have an excessive incentive to invest in demonstrating accurate damage levels).

[70] *Palmer v A. H. Robins Co.,* 684 P2d 187, 218 (Colo 1984) (en banc).

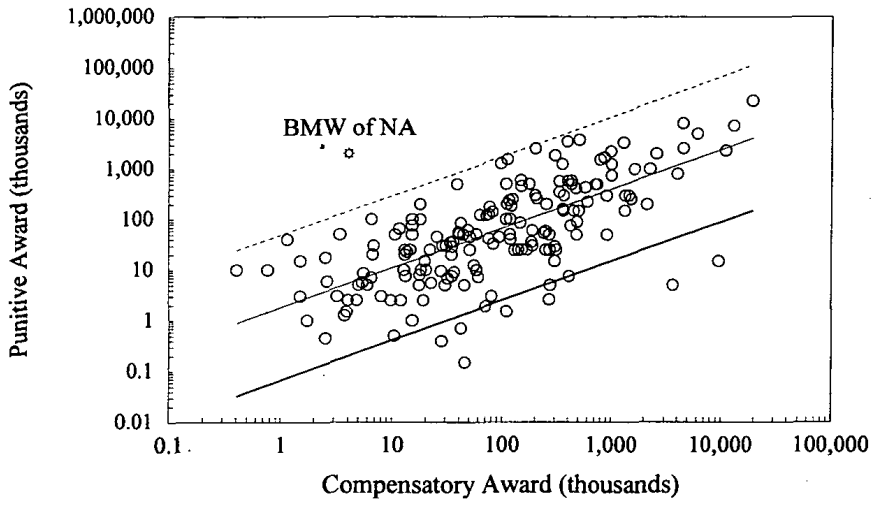

FIGURE 5.—Relationship between compensatory and punitive damages. Upper and lower 95 percent prediction bands. Source.—Inter-University Consortium for Political and Social Research, *Civil Justice Survey of State Courts,* 1992: [United States] (ICPSR 6587).

jority of awards are within the limit defined by two standard deviations below the predicted line. The least explicable set of punitive awards are inexplicable relative to other awards because they are too low, not too high. Apparently when jurors depart from regularity, they are digging for punitive damages awards in the ground, not plucking them out of the air. Or perhaps they wish to send the defendant a message without feeling the need to impose a larger award. Factors such as the defendant's preexisting financial difficulty might provide reasons for granting a punitive award but keeping the amount low.[71]

One small group of cases does not fit easily into this scheme—those with very low or zero compensatory awards. Here, as discussed above, the award pattern is consistent with egregious misbehavior, hence a punitive award, in which insubstantial harm occurred, hence a small or zero compensatory award. There are few such awards, at most three in the CTCN sample, and all of them involve contract fraud or employment contract claims. In addition, the California and Cook County data show some low compensatory, high punitive award cases. The great bulk of these seem to be in the contract area as well.

Finally, Figure 5 also suggests that the award overturned by the Supreme Court in *BMW of North America, Inc. v Gore,*[72] was quite unusual. It stands

[71] Compare U.S.S.G. §§ 8C2.2, 8C2.3 (adjusting organizational fines based on inability to pay).

[72] *BMW of North America, Inc. v Gore,* 116 S Ct 1589 (1996).

well above the upper 95 percent prediction band. Whether or not the Supreme Court should be entering this field, it at least chose to intervene in a case that was literally "off the charts," and its decision received reasonably widespread editorial approval.[73]

B. The Effect of Caps on Awards

Although the upper and lower limit lines in Figure 5 could be used to assess awards, these limits are not in the form traditionally associated with limits on punitive damages. A tendency exists to state limits on punitive damages awards in terms of multiples of compensatory awards or in absolute amounts. For example, the Civil Rights Act of 1991 caps compensatory plus punitive awards in Title VII employment discrimination cases at $50,000–$300,000, depending on the size of the employer.[74] The Commonsense Product Liability Reform Act of 1996, vetoed by President Clinton, would have limited punitive damages to the greater of twice compensatory damages or $250,000,[75] with judicial discretion to increase the award in egregious cases.[76]

Because the log-log relationship between compensatory and punitive awards is not linear, absolute caps or simple multiplier caps do not match the existing pattern of awards very well. Nor do they impose obvious order where there was none before. To illustrate the effect of existing capping methods we explore what effect the vetoed 1996 act would have had on the CTCN punitive awards, assuming initially that all the CTCN awards would have been subject to the 1996 act's limits.

Figure 6 shows, in the area enclosed by the oval, the 1991–92 CTCN awards that would have been affected by the vetoed 1996 act if they were all subject to the act. The act's limits would have a quirky effect on award patterns. Sixteen awards, less than 10 percent of punitive damages awards, would be affected. (If one adjusted for inflation, a few additional awards might be affected.) This seems like a modest effect. On the other hand, the effect seems rather arbitrary. For, within the pattern of punitive awards, the affected awards are hardly unusual. All are less than two standard deviations above the predicted amount of awards.

Of course the 1996 act would not have had even such a modest effect. It applied only to products liability cases. Since punitive damages are rarely

[73] *High Court's Decision on Punitive Damages Generally Well Received by Nation's Major Newspapers,* West's Legal News, 1996 WL 41081 (July 24, 1996) (report surveying 31 newspaper editorials).

[74] Civil Rights Act, 42 USC § 1981a(b)(3).

[75] Commonsense Product Liability Reform Act of 1996, HR 956, 104th Cong, 2d Sess § 108(b)(1).

[76] Id. § 108(b)(3).

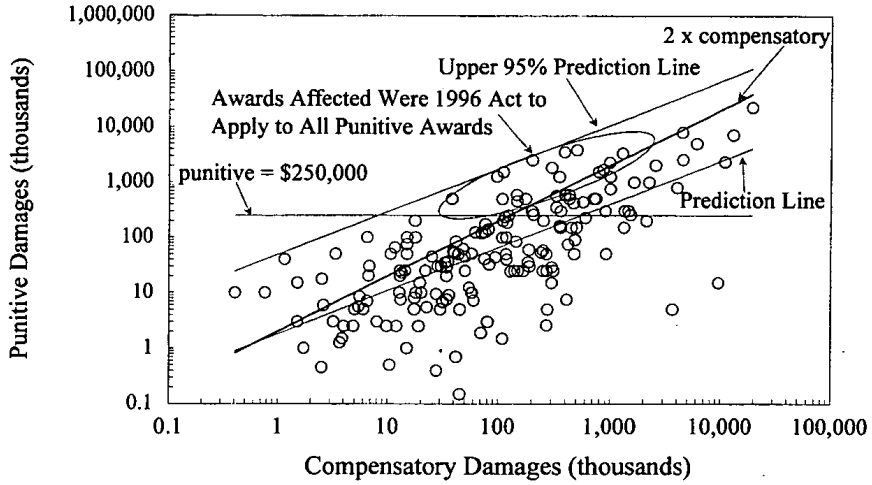

FIGURE 6.—Punitive damages awards and the vetoed 1996 act. Source.—Inter-University Consortium for Political and Social Research, *Civil Justice Survey of State Courts,* 1992: [United States] (ICPSR 6587).

awarded in products liability cases, the act's effect probably would have bordered on the trivial, at least as measured by the number of cases affected. Indeed, for the 1 year and 45 large courts studied here, the 1996 act would not have affected a single products liability punitive damages award. For the 25 years covered by the Rand California and Cook County data, the 1996 act would have affected six products liability awards and no medical malpractice awards. One of the affected products liability awards would fall above the upper 95 percent confidence line generated by the CTCN data.

But the sentiment for some kind of caps is broad,[77] though it is recognized that legislative caps can be arbitrary.[78] If caps are to be thought of in terms of multipliers, the multiple cannot be a constant if we are to maintain the essence of the historical pattern of punitive awards. Rather, the log-log correlation between compensatory and punitive damages requires different multiples for different levels of compensatory awards. Table 7 presents the maximum multiples for several levels of compensatory awards that would keep punitive awards within the upper 95 percent prediction line in Figure 5. Table 7 shows that higher multiples are needed for lower awards. At the $10,000 compensatory level, a multiple of 30 would keep all punitive awards within the upper 95 percent boundary. At the $10 million compen-

[77] For example, Owen, at 388 (cited at note 20).

[78] Dobbs, at 834 (cited at note 10).

TABLE 7

MAXIMUM MULTIPLES OF COMPENSATORY DAMAGES

Compensatory Award	Maximum Multiple	Compensatory Award	Maximum Multiple
<10,000	42.0	600,000	12.0
10,000	30.0	700,000	11.5
20,000	25.7	800,000	11.3
30,000	22.8	900,000	11.0
40,000	21.5	1,000,000	10.4
50,000	20.5	2,000,000	9.4
60,000	19.7	3,000,000	8.8
70,000	19.0	4,000,000	8.0
80,000	18.5	5,000,000	7.8
90,000	17.9	6,000,000	7.4
100,000	16.9	10,000,000	6.7
200,000	15.2	11,000,000	6.5
300,000	14.0	13,000,000	6.3
400,000	13.1	20,000,000	5.8
500,000	12.5		

satory level, a 6.7 multiple is needed. Rounding of compensatory awards leads to minor deviations from Figure 5.

C. *The Range of Possible Punitive Awards*

Even if punitive awards are not randomly related to the size of compensatory awards, Figure 5 and Table 7 show that, for a given level of compensatory award, the possible range of punitive awards is, in absolute terms, broad. For example, for a $500,000 compensatory award, the lower 95 percent limit on punitive awards is less than $10,000 and the upper 95 percent limit is $6.5 million.

What should we expect or hope that the range would be? One possible basis for comparison is the range of possible fines for organizations under the Federal Sentencing Guidelines. Consider two hypothetical federal criminal convictions for a fraud or deceit type offense with the fraud involving just over $500,000. In Case A, assume that there was more than one victim and that the behavior involved a reckless risk of serious bodily injury. In Case B, assume that neither aggravating factor was present. Under the sentencing guidelines, the base fine for Case A is $650,000 and for Case B is $175,000.[79] These base fines are then subject to adjustment based on a cul-

[79] U.S.S.G. § 2F1.1 states that the base offense level for crimes involving fraud and deceit is six. For cases involving more than $500,000, the guidelines require adding 10 to the base offense level. Id. § 2F1.1(b)(1)(K). Thus, for both Cases A and B the base offense level is 16. The presence in Case A of more than one victim and of the risk of serious bodily injury

pability score.[80] For example, if the defendant had more than 5,000 employees and high-level officials were involved in the crime, the culpability score substantially increases.[81] If the defendant engaged in a certain ameliorative behavior, such as cooperating with the government, the culpability score can substantially decrease.[82] These culpability scores are used to specify permissible multipliers that courts may apply to the base fines. If one assumes that Case A, our more serious case, also involved a large company and high-level management participation, the court would be authorized to multiply the base fine of $650,000 by two to four, yielding a maximum fine in Case A of $2.6 million.[83] If one assumes that, in Case B, the defendant engaged in ameliorative conduct, the base fine could be divided by as much as 20,[84] yielding a minimum fine in Case B of about $8,000.

Thus, for convictions of crimes of fraud or deceit involving amounts of about $500,000, variation in facts about the crimes and the defendants could lead to an observed set of punishments ranging from $8,000 to $2.6 million. This is before the judge exercises any power to adjust the fines upwardly or downwardly as further authorized by the sentencing guidelines[85] and does not account for other methods of measuring the proper fine.[86] Actual practice under the guidelines confirms a wide array of fines for organizational fraud.[87]

For purposes of illustration, we have constructed the sentencing examples to maximize the range of possible fines under the sentencing guidelines. But the examples suggest why we might observe a broad range of punitive awards at given levels of compensatory awards. Our sentencing examples are limited to one class of crimes, those involving fraud or deceit. Yet even as limited by the guidelines, the law allows for a broad range of awards. The CTCN data might be expected to produce a broader range of awards in part because different substantive areas of law are involved, ranging from products liability to auto accidents to fraud. The data are not limited to a single kind of "crime."

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increases the level for Case A to 20. Id. § 2F1.1(b)(2), (4). For an offense level of 16, the base fine is $175,000 and, for a level of 20, the base fine is $650,000. Id. § 8C2.4(d).

[80] Id. § 8C2.5.

[81] Id. § 8C2.5(b)(1).

[82] Id. § 8C2.5(f), (g).

[83] Id. §§ 8C2.5, 8C2.6.

[84] Id. §§ 8C2.5, 8C2.6.

[85] Id. §§ 8C4.1 to 8C4.11.

[86] Id. § 8C2.4 (authorizing fine based on pecuniary gain to defendant or pecuniary loss caused by the defendant).

[87] United States Sentencing Commission, *Annual Report* 131 (1994) (table 61 shows that, in fiscal year 1994, 35 organizations were sentenced for fraud offenses, 21 were fined, the mean fine was $979,627, and the median fine was $18,000).

The organizational sentencing guidelines, which try to supply a systematic methodology for computing monetary sanctions for wrongful behavior, suggest that a broad range of monetary sanctions may be acceptable if the range stems from variations in underlying wrongful behavior and other relevant circumstances.[88] Until we know more about the details of the misbehavior in punitive cases, it is premature to regard the wide range of awards as evidence of a malfunctioning system. The range may reflect an array of factors similar to those that determine corporate fines under the sentencing guidelines. The range may also reflect societal ambivalence about how to punish corporations.[89] In this perspective, the range of punitive awards for a fixed level of compensatory awards is not as striking as it first appears. Whether the observed variation in punitive awards stems from responses to variations in the underlying behavior and culpability of the defendants cannot be determined from our data.

V. Conclusion

It is easier to predict when punitive damages will not be awarded than when they will be. Unless the case involves an intentional tort or a business-related tort (such as employment claims), punitive damages will almost never be awarded. If we are correct that jurors have an asymmetric attitude toward erroneously awarding and denying punitive damages, it is likely that many defendants against whom a punitive damages award would be proper escape without their imposition. But many criminals are not caught. This does not argue for eliminating criminal sanctions. When punitive damages are awarded, their level is largely a function of the compensatory award.

How can perceptions of patterns of punitive damages awards differ so from the reality? Three factors are worth noting. First, until the recent CTCN and other data were available, it was not possible reliably to detect some of the punitive damages award patterns stressed here.[90] Patterns cannot emerge until basic unbiased information about a phenomenon is available.

Second, the award frequency and award level patterns have features that complicate their detection. The strong correlation between compensatory

[88] Compare *Koon v United States*, 116 S Ct 2034 (1996) (case addressing when, for individuals, district judge may depart from the sentencing range specified in the guidelines to account for factors not reflected in the guidelines).

[89] V. S. Khanna, *Corporate Criminal Liability: What Purpose Does It Serve?* 109 Harv L Rev 1477 (1996).

[90] For earlier hints of these patterns, see Peterson, Sarma, and Shanley, at 60 (cited at note 44); Schmit et al. (cited at note 13).

and punitive damages emerges only when award amounts are stated in terms of logarithms. The need for this transformation does not reduce the relationship's importance or the relationship's suggestion of the system's consistency. But it makes the relationship hard to detect through casual observation. Award amounts are made and are reported in untransformed dollars and are thought of in such terms. Only a large-scale statistical analysis could be expected to detect and confirm the relationship.

Third, with respect to the varying rate of punitive damages awards across case categories, the limits of human inference undoubtedly play a role. The existence of punitive damages awards significantly correlates with case category but, in absolute terms, the correlations are low. Humans are not very good at detecting fairly small but significant correlations.[91] Thus, the satisfying difference between the rate at which punitive damages are awarded in intentional tort and other cases may be beyond the grasp of casual observation.

Finally, our findings have implications for assessing time trends in punitive damages awards. Other studies suggest that the infrequency of punitive damages awards makes it difficult for significant time trends to emerge. Both Rand and Daniels and Martin indicate that claims of time trends, such as those of a nationwide increase in the rates of punitive damages awards, are difficult to support.[92] If we are correct that punitive damages are fundamentally linked to compensatory damages, one cannot fully assess a time trend in the level of punitive damages awards without also accounting for time trends in compensatory damages.

[91] Richard Nisbett and Lee Ross, *Human Inference: Strategies and Shortcomings of Social Judgment* 90–112 (1980).

[92] Daniels and Martin, at 222–37 (cited at note 22); Moller, at 34 (cited at note 22).

APPENDIX

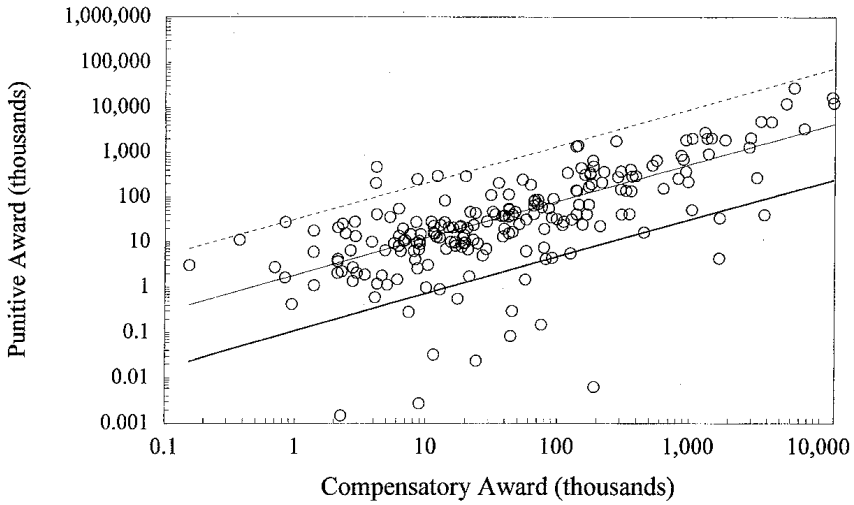

FIGURE A1.—Relationship between compensatory and punitive damages, Cook County, Illinois. Upper and lower 95 percent prediction bands. Source.—Inter-University Consortium for Political and Social Research, *Jury Verdicts Database for Cook County, Illinois, and All Counties in California,* 1960–1984 (ICPSR 6232).

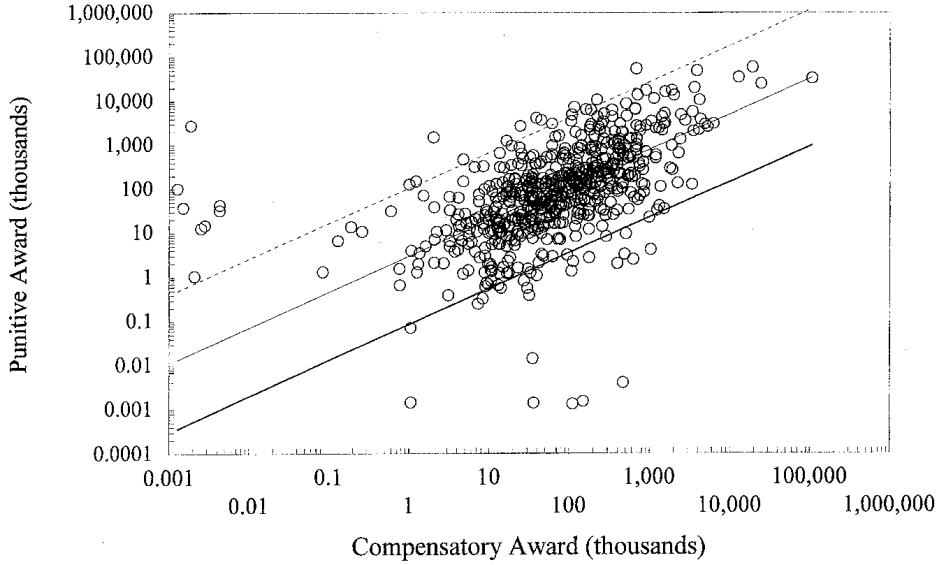

FIGURE A2.—Relationship between compensatory and punitive damages, California. Upper and lower 95 percent prediction bands. Source.—Inter-University Consortium for Political and Social Research, *Jury Verdicts Database for Cook County, Illinois, and All Counties in California,* 1960–1984 (ICPSR 6232).